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## Vicarious Race-Based Stress: How Widely Publicized Racism Injures and Cultural Coping Resources Protect

Jasmine Ferrill

FLORIDA STATE UNIVERSITY  
COLLEGE OF HUMAN SCIENCES

VICARIOUS RACE-BASED STRESS:  
HOW WIDELY PUBLICIZED RACISM INJURES  
AND CULTURAL COPING RESOURCES PROTECT

By

JASMINE FERRILL

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Jasmine Ferrill defended this dissertation on June 5, 2020.

The members of the supervisory committee were:

Melina Gonzales Backen  
Professor Directing Dissertation

Felecia Jordan Jackson  
University Representative

Lenore McWey  
Committee Member

Penny Ralston  
Committee Member

The Graduate School has verified and approved the above-named committee members, and certifies that the dissertation has been approved in accordance with university requirements.

I want to dedicate this dissertation to the Black Women, Men, and children who have had their lives viciously taken at the hands of white supremacy. Both filmed and unknown, my Black Sisters and Brothers have endured violence, abuse, and systematic disenfranchisement for hundreds of years. This dissertation is for all of us striving to not only survive but prosper in the face of considerable adversity.

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## TABLE OF CONTENTS

List of Tables .....	vii
List of Figures.....	viii
Abstract.....	ix
1. INTRODUCTION .....	1
2. LITERATURE REVIEW .....	11
3. METHODS .....	39
4. RESULTS .....	60
5. DISCUSSION AND CONCLUSION .....	78
APPENDICES .....	95
A. TABLES .....	95
B. FIGURES.....	110
C. FSU INSTITUTIONAL REVIEW BOARD APPROVAL .....	121
D. INFORMED CONSENT .....	123
E. INSTRUMENT .....	127
References .....	137
Biographical Sketch.....	150

## LIST OF TABLES

1	Demographic Information (N=231) .....	95
2	Correlations, Means, Standard Deviations, and Empirical Ranges for Study Variables.....	99
3	Three-Factor Structure of Vicarious Race-Based Stress: EFA With Geomin Rotation (N=192) .....	100
4	Five-Factor Structure of the Vicarious Race-Based Stress- Specific SIRRS: EFA With Geomin Rotation (N = 185) .....	101
5	Confirmatory Factor Analyses for Vicarious Race-Based Stress and Intimate Partner Support (N = 192) .....	103
6	Summary of Parameter Additions to Measurement Models .....	106
7	Summary of Parameter Additions to Baseline Models .....	106
8	Fit Indices and Standardized Coefficients for All Models .....	107

## LIST OF FIGURES

1	A Conceptual Model of the Proposed Relationships Between Study Variables .....	110
2	Measurement Model .....	111
3	Baseline Structural Model .....	112
4	Latent Interaction Structural Model .....	113
5	Scree Plot for Vicarious Race-Based Stress .....	114
6	Scree Plot for Vicarious Race-Based Intimate Partner Support .....	114
7	Confirmatory Factor Analysis for Vicarious Race-Based Stress .....	115
8	Confirmatory Factor Analysis for Intimate Partner Support .....	116
9	Latent Interaction Structural Model with Public Regard .....	117
10	Latent Interaction Structural Model with Centrality .....	118
11	Latent Interaction Structural Model with Private Regard. ....	119
12	Interaction Showing the Moderating Effect of Spousal Support on Discrimination and Racial Trauma in the Model with Public Regard. ....	120

## ABSTRACT

Widely publicized acts of racism put African Americans at risk for vicariously experiencing the consequences of these racially motivated acts of aggression and violence. Technological advances and increased access to media outlets create an atmosphere saturated with exposure to violence against Black people at the hands of non-Blacks. From murders of unarmed Black people at the hands of police streamed on Facebook timelines, hashtags on Twitter calling for justice after months of inaction, to turning on the evening news and seeing a picture of the latest victim, these indirect encounters with racism can seem inescapable. While the negative effects of perceived racial discrimination, an interpersonal experience of racism, are well documented, the consequences of this vicarious race-based stress are understudied. Racial discrimination has almost unanimously been described as a stressor resulting in negative mental health and interpersonal outcomes for those impacted. Given the much more pervasive nature of vicarious race-based stress when compared to racial discrimination, further investigation into its function in the lives of African Americans is imperative. Therefore, the current study aimed to develop and provide preliminary psychometric information for the first known measure of vicarious race-based stress (VSRB-ER). This novel measure was then used to explore the influence of vicarious race-based stress and racial discrimination on the mental health (i.e. depression) and interpersonal functioning (i.e. relationship quality) of African American adults. A growing body of literature suggests that racial trauma may also be a consequence of encounters with racial stressors. Thus, racial trauma was explored as a mediator for these associations. Despite the significant racial stressors and trauma African Americans encounter, they consistently demonstrate the ability to be resilient. To this point, racial identity and intimate partner support were explored for protective functions. A vicarious race-based stress specific measure of

intimate partner support was also created to measure the influence of support when faced with racial stressors. Exploratory and confirmatory factor analyses were employed to determine the reliability and validity of the novel measures. Structural equation models were estimated to explore the associations between vicarious race-based stress, racial discrimination, and mental health, and interpersonal outcomes along with the mediating influence of racial trauma. Latent moderated structural equations (LMS) were employed to determine the moderating influences of racial identity and intimate partner support. Findings demonstrated adequate reliability and validity of the measure of vicarious race-based stress (VSRB-ER). Evidence of the negative consequences of both vicarious race-based stress and perceived racial discrimination on depression was found. Racial trauma was also found to mediate these relationships. No associations between vicarious race-based stress or racial discrimination and relationship quality were found. However, racial identity and intimate partner support demonstrated positive influences on mental health and relationship outcomes. Neither racial identity nor intimate partner support moderated the associations between the racial stressors and outcomes. Finally, contrary to expectations, intimate partner support was associated with increased racial trauma symptoms as more racial discrimination was experienced. Implications of the findings for clinicians were discussed. Future directions for researchers in light of the limitations and strengths of the current study were also provided.

# CHAPTER 1

## INTRODUCTION

Racism has historically plagued the lives of African Americans living in the United States resulting in numerous negative mental health and interpersonal outcomes (Doyle & Molix, 2014a; Kwate & Goodman, 2015; Molina, 2016; McNeil et al., 2014; Rucker et al., 2014; Trail et al., 2012; Schmitt et al., 2014). While other marginalized groups certainly experience racial discrimination, Bryant and colleague's (2010) conceptual framework suggests that "because institutional practices result in the systematic subordination and devaluation of [African Americans specifically], the nature, extent, and intensity of racial discrimination [African Americans] experience may differ from that experienced by other racial or ethnic minorities" (p. 162-163). For instance, African Americans report significantly more experiences of racial discrimination compared to other racial minority groups (Chou, Asnaani, & Hofmann, 2012) and describe it as stressful (Utsey & Chae, 2002).

In addition to racial discrimination, an emerging area of focus on vicarious race-based stress is becoming increasingly relevant. Macro-stressors, termed vicarious race-based stressors for the purpose of this paper, are large-scale system related stressors that produce indirect exposure to the stress associated with the event (Williams & Mohammed, 2009; Williams & Mohammed, 2013). Vicarious race-based stress, specifically, describes intentional, racially motivated actions committed against people of color. Both non-verbal or verbal, these acts are pervasive and destructive, often traumatic events, that produce debilitating results in those that are targeted (Donovan et al., 2013; Osanloo et al., 2016). The impact of these events extends beyond those directly involved producing a vicarious experience for anyone that is a witness in

the moment, via media outlets, or word of mouth. These traumatic, debilitating, mean-spirited events are characterized by having an “extreme, overwhelming, and horrific” impact on the individual and other observers (Williams & Mohammed, 2009). For example, exposure to widely publicized, race-related traumatic events such as police brutality, the Case of the Jena Six, Trayvon Martin shooting, and lack of response following Hurricane Katrina represent such stressors. These traumatic stressors, or vicarious race-based stress, can have long-lasting deleterious psychological and interpersonal effects (Richman & Jonassaint, 2008; Williams & Mohammed, 2009; Williams & Mohammed, 2013).

While the implications of perceived racial discrimination have been well documented, little is known about vicarious race-based stress. Reviews of the racial discrimination literature identify a knowledge gap that fails to distinguish everyday experiences of discrimination from larger scale traumas and the long-lasting negative effects of such traumas (Kirknis et al, 2018; Williams & Mohammed, 2009). Further, delving deeper into racial discrimination in such a nuanced way (i.e. focusing on vicarious race-based stress) is becoming increasingly necessary given the current climate of the United States. In the past, exposure to vicarious race-based stress such as witnessing videos of police brutality were isolated, limited experiences. One of the first highly publicized examples was the beating of Rodney King in 1991. A bystander filmed King’s arrest for alleged speeding during which he was repeatedly beaten, tasered, and kicked by Los Angeles Police Officers. The video was sent to a local news outlet and soon spread throughout the country. In today’s society, technological advances and access to media outlets have significantly increased the amount of visual records being produced. Further, instances of police brutality have remained disturbingly high. In 2015, police officers killed at least 104 unarmed Black people which is five times the rate of the killings of unarmed White people

(MappingPoliceViolence.org, 2018). This inequality is only exacerbated by the fact that Blacks represent 13% of the population but 36% of the unarmed killings, which is likely higher due to underreporting and missing information (MappingPoliceViolence.org, 2018). Examples of highly publicized killings of unarmed Black people by police include that of Gregory Hill Jr. (January 2014), Eric Garner (July 2014), Michael Brown (August 2014), Laquan McDonald (October 2014), Tamir Rice (November 2014), Anthony Hill (March 2015), Walker Scott (April 2015), Freddie Gray (April 2015), Sandra Bland (July 2015), Greg Gunn (February 2016), Alton Sterling (July 2016), Philando Castile (July 2016), Korryn Gaines (August 2016), Keith Lamont Scott (September 2016), Armando Frank (October 2017), Stephon Clark (March 2018), Antwon Rose (June 2018), Jeffrey Dennis (August 2018), Botham Jean (September 2018), Eric Logan (June 2019), Miles Hall (June 2019), Christopher Whitfield (October 2019), Ariane McCree (November 2019), Michael Dean (December 2019), Jamee Johnson (December 2019), William Howard Green (January 2020), Darius Tarver (February 2020), Breonna Taylor (March 2020), and Steven Demarco Taylor (April 2020). In addition to violence incited by the police, civilians have also been involved in highly publicized violence against Blacks. The murders of Emmitt Till in 1941, Trayvon Martin in 2012, Markeis McGlockton (July 2018), Tyrique Hudson (April 2019), Atatiana Jefferson (October 2019), and Ahmaud Arbery (February 2020) illustrate that news coverage is not limited to those in law enforcement. A less violent, yet pervasive demonstration of racial discrimination involves the calling of police on Black people who are not committing crimes. Such instances include sitting in Starbucks, shopping at CVS, mowing lawns, staying at an Airbnb, napping on a couch in a college dorm, having a cookout in a public park, or a child selling water in front of her home. At first glance these events may not seem traumatic, however, once one considers the consequences of interactions with police for other

innocent, unarmed Blacks, it becomes apparent that any engagement with police may put a Black person at risk for violence. Increased access to technology coupled with the persistent violence committed against Black individuals creates a pervasive, often unavoidable exposure to vicarious race-based stress. While one can infer that vicarious race-based stress and racial discrimination may initially produce similar outcomes, it is important to examine vicarious race-based stress specifically due to its pervasive nature.

Research has demonstrated that the consequences of racial discrimination may vary as a result of perceived pervasiveness (Bryant-Davis & Ocampo, 2005; Schmitt, Branscombe, Postmes, & Garcia, 2014). The more pervasive, or systemic and occurring across contexts, an individual appraises the discrimination to be, the more negative the consequences the individual will face. In fact, previous studies have examined the impact of several forms of indirect exposure to racist-incidents including witnessing police brutality (Alang et al., 2017; Bor et al., 2018; Helms et al., 2010; Thynes et al., 2019), racism directed at faculty and graduate students (Truong et al., 2016), and unspecified, general “hearing about someone else’s experience of discrimination or prejudice” (Alvarez & Juang, 2006, p. 482). These studies provide evidence of the deleterious effects of vicarious race-based stress on the individual including anxiety (Bryant-Davis et al., 2017; Harrell, 2000), depressive symptoms (Bor et al., 20018; Tynes et al., 2019; Williams et al., 2018b), anger (Alang et al., 2017; Truong et al., 2016; Williams et al., 2018c), and trauma (Tynes et al., 2019; Williams et al., 2018b; Williams et al., 2018c). Thus, due to the fact that vicarious race-based stress is more pervasive by nature and thus more likely to produce consequences beyond those of racial discrimination, it is imperative to regard them as a unique experience warranting further investigation. Given the limited literature available focusing on

vicarious race-based stress, a review of perceived racial discrimination will be provided in its place.

While vicarious race-based stress is more of an indirect experience, perceived racial discrimination, on the other hand, is characterized by an individual's personal experience of interactions, behaviors, or practices that are appraised as unfair, implying inferiority, or communicating negative attitudes based on the individual's membership in a particular racial group (Ajrouch et al., 2010; Barksdale, Farrug, & Harkness, 2009; Gaylord-Harden & Cunningham, 2009; Siddiqui, 2013; Williams & Mohammed, 2009). Encounters with perceived racial discrimination are prevalent in the African American community. In fact, researchers have demonstrated that upwards of 90% of African Americans reported experiencing encounters with discrimination and some degree of stress as a result (Beagan et al., 2012; Bowen-Reid & Harrell, 2002). This is particularly salient for the African American community given their disproportionate experience with negative mental health indicators when compared to other minority groups, which may be due in part to the stress associated with experiences of discrimination. According to the U.S. Department of Health and Human Services Office of Minority Health (2017), African Americans are 20% more likely to experience serious mental health problems than the general population. Unsurprisingly, across the breadth of research of racial discrimination and mental health, researchers have almost unanimously agreed that greater or more frequent experiences with discrimination are associated with poorer psychological outcomes. In fact, greater exposure to perceived racial discrimination is related to higher levels of psychological distress (Ajouch et al., 2010; Donovan, Galban, Grace, Bennett, & Felicié, 2012; Lincoln & Chae, 2010; Szymanski & Obiri, 2010; Williams & Mohammed, 2009), depressive symptomology (Hudson, Neighbors, Geronimus, & Jackson, 2016; Ikram, Snijder,

Fassaert, Schene, Kunst, & Stronks, 2014; McNeil et al., 2014), and anger (Barksdale, Farrug, & Harkness, 2009; Terrell, Miller, & Foster, 2006). The increase in depressive symptoms not only occurs immediately following the discriminatory experience, but also persists days after exposure (Torres & Ong, 2010). Similarly, reactivity to the stressor of discrimination, has long-term effects on both psychological functioning and physical health outcomes (Bowen-Reid & Harrell, 2002; Clark, 2006). This is particularly true for anger responses that have been associated with increased cardiac risk due to the stress produced (Bowen-Reid & Harrell, 2002; Brondolo, 2009; Williams & Mohammed, 2009). Given the extensive agreement regarding discrimination's impact on mental health, one can infer that vicarious race-based stress, an indirect yet potentially more severe form of racial discrimination due to its repeated, pervasive, and seemingly inescapable nature (Schmitt et al., 2014), may operate similarly if not produce greater negative consequences. Further investigation into the matter would significantly contribute to the field given the increasing relevancy of widely publicized, traumatic racial stressors.

In addition to the numerous effects on the individual, perceived racial discrimination also demonstrates risk for the interpersonal functioning of those affected. Bryant and colleague's (2010) Model of African American Martial Outcomes suggests that intimate relationships are embedded within one's context. The stress associated with the context (i.e. perceived racial discrimination) "spills over" into the relationship. For instance, increases in an individual's experience of perceived racial discrimination are associated with lower relationship quality ratings (Doyle & Molix, 2014b; Trail et al., 2012; Siddiqui, 2013), lower satisfaction (Lincoln & Chae, 2010), and increased relationship strain (Doyle & Molix, 2014a). This experience of discrimination is especially salient for African American's given their disproportionate

experiences of lower marital quality and divorce when compared to White couples even when controlling for socioeconomic status (e.g., level of education, income) (Bryant et al., 2010). Unfortunately, no known study has investigated the impact of vicarious race-based stress, specifically, on interpersonal functioning.

Despite the significant stress associated with perceived racial discrimination, those who experience it can be resilient. Bryant and colleagues (2010) identified individual characteristics and psychosocial resources that function to promote this resiliency. Researchers have identified racial identity (Holder, Jackson, Ponterotto, 2015; Kelly & Floyd, 2001; Lee & Ahn, 2013; Trail et al., 2012) and intimate partner support (Ajrouch et al., 2010; Chung & Epstein, 2014; Lincoln & Chae, 2010; McNeil et al., 2014) as protective factors when considering the negative effects of perceived racial discrimination on mental health and interpersonal outcomes. Racial identity is defined as the relationship an individual has with their race when considering its value and influence on their identity (Brittian et al., 2013; Pieterse & Carter, 2010; Sellers & Shelton, 2003). For instance, the more central race is to an individual's identity the less stressful experiences of discrimination will be. This relationship was demonstrated with psychological distress (Ajrouch et al., 2010; Burrow & Ong, 2010; Franklin-Jackson & Carter, 2007; Lee & Ahn, 2013; Lincoln & Chae, 2010; Murry et al., 2001; Pieterse & Carter, 2010; Szymanski & Obiri, 2010; Williams & Mohammed, 2009), depression (Franklin-Jackson & Carter, 2007; Pascoe & Smart Richman, 2009), depressive symptomology (Hudson, Neighbors, Geronimus, & Jackson, 2016; Ikram, Snijder, Fassaert, Schene, Kunst, & Stronks, 2014; McNeil et al., 2014), and odds of experiencing depression (Hudson et al., 2016). Thus, racial identity can operate as a protective factor when considering the impact and negative consequences of racial discrimination.

Further, aspects of romantic relationships such as intimate partner support (Ajouch et al., 2010; Holder et al., 2015; McNeil et al., 2014) and marital satisfaction (Lincoln & Chae, 2010) have been found to buffer the effects of perceived racial discrimination on psychological distress including depression. Researchers infer that intimate partner support may foster validation of one's experience following a shared perception of a discriminatory occurrence. This relationship is reflective of a conceptual framework of African American's outcomes (Bryant et.al, 2010) that suggests consequences of stress are a function of available resources and couple interactions.

Given the injurious nature of racial discrimination on individual's mental health and interpersonal functioning, one would expect an expansive availability of literature on the subject. This, however, is not the case when considering interpersonal factors, such as intimate partner support and relationship quality, specifically. Research examining the relationship between racial discrimination and African American interpersonal outcomes is limited with no known study addressing the phenomenon of vicarious race-based stress. Thus, the purpose of the current study is to fill this gap by investigating how vicarious race-based stress, specifically, affects the quality of African American romantic relationships. Further, how vicarious race-based stress affects mental health outcomes will be assessed. The function of racial identity and intimate partner support as protective factors will also be explored. Due to the scarcity of literature involving vicarious race-based stress in African American adults, a review of perceived racial discrimination will be discussed to provide foundational insight into the experience of African Americans with racism.

## **Theory**

Given the numerous demonstrated consequences of perceived racial discrimination for the psychological and interpersonal functioning of African Americans, a correspondingly

comprehensive theoretical model is essential to fully understanding these relationships. Informed by the family stress perspectives (Turner & Turner, 2005) and stress process perspectives (Pearlin, 1999; Pearlin, Lieberman, Menaghan, & Mullan, 1981; Pearlin & Skaff, 1996; Thoits, 2006), Bryant and colleagues (2010) provide a foundational conceptualization of this phenomenon. The Model of African American Marital Outcomes (Bryant et al., 2010) pays special attention to contextual and cultural factors unique to the experiences of African Americans. They postulate that these factors (e.g. racial identity, intimate partner support, etc.) are associated with well-being and operate as mediators or moderators for the association between stressors and well-being (Bryant et al., 2010). The model takes into account stressors such as racial discrimination or vicarious race-based stress, individual characteristics and psychosocial resources, and couple interactions all in relation to relationship quality and stability. The model suggests that stressors influence individual characteristics and resources which in turn impact interpersonal outcomes. Additionally, couple interactions may mediate or moderate these outcomes (Bryant et al., 2010). For example, per this conceptualization, an African American individual experiencing high levels of vicarious race-based stress with high levels of racial identification may experience greater relationship quality compared to those who identify less with their race. In this example, racial identity functioned as a resource that protected or moderated the negative impact of the stressor on relationship outcomes. Bryant and colleagues (2010) describe racial identity as a characteristic significant to African Americans that often operates as a protective factor when encountering minority stress such as racial discrimination or vicarious race-based stress. Providing support to one's partner represents an additional resource African Americans may access when faced with vicarious race-based stress. Thus, exploring

these interactions in African Americans and their relation to discrimination and vicarious race-based stress is imperative.

## CHAPTER 2

### LITERATURE REVIEW

#### Racial Discrimination

In an effort to increase understanding of the experience of African American populations, researchers have examined the role of perceived racial discrimination. Although only a single aspect of racism, the complexities of perceived racial discrimination have contributed a significant body of information to the field. Experiences of perceived racial discrimination are a result of a subjective experience during which an individual defines what is discriminatory based on the meaning ascribed to the event (Ajrouch et al., 2010; Holder & Ponterotto, 2015; Lewis-Coles & Constantine, 2006). Racial discrimination is characterized by an individual's personal experience of interactions, behaviors, or practices that are perceived as unfair, implying inferiority, or communicating negative attitudes based on the individual's membership to a particular racial group (Barksdale, Farrug, & Harkness, 2009; Gaylord-Harden & Cunningham, 2009; Siddiqui, 2013).

The prevalence of racial discrimination within the African American community persists across samples of college students to mid-life couples and between genders. Research has consistently demonstrated high rates of experiences of perceived racial discrimination such that at least 95% of those sampled reported having an encounter with a racial discriminatory event within the last year (Bowen-Reid & Harrell, 2002; Prelow, Mosher, & Bowman, 2006). Ninety-three percent of a sample of women aged 40-65 years old reported that these racist experiences had a high or very high impact on their racial group. Sixty-five percent described this as having a high or very high impact on themselves (Beagan, Etowa, & Bernard, 2012). Furthermore, when faced with these experiences, nearly 90% of African Americans aged 25-65+ from a national

survey attributed the occurrence of the discrimination to their race or ethnicity (Kessler, Mickelson, & Williams, 1999). An individual appraising an event as discriminatory and also identifying race as the underlying motivation for the event reflects a crucial process that explains both the experience and impact of discrimination (Clark et al., 1999). Although such data has yet to be disseminated pertaining to vicarious race-based stress specifically, one may surmise that a similar process of appraisal, attribution, and consequence may occur. Further, studies such as the present are necessary to determine the extent to which vicarious race-based stress functions similarly or has a greater impact on the individual.

Not surprising, given its deleterious nature, researchers have almost unanimously conceptualized racial discrimination as a stressor (Ajrouch et al., 2010; Bowen-Reid & Harrell, 2002; Brondolo, 2009; Bryant et al., 2010; Bhugra & Ayonrinde, 2001, Clark, et al. 1999; Doyle & Molix, 2014a; Harrell, 2000; Landrine & Klonoff, 1996; Lewis-Coles & Constantine, 2006; Williams, 2009). A review of the literature suggests that racial discrimination, specifically, may be unique when compared to other stressors due to its more systemic and seemingly inescapable nature (Williams, 2009). Lincoln and Chae (2010) have even gone as far to describe perceived racial discrimination as “one of the most endemic and enduring stressors facing African Americans” (p. 1084). Other researchers have demonstrated the extent of this perceived racial discrimination – stress relationship with 97.4% of Black undergraduate students (Bowen-Reid & Harrell, 2002) and 99.4% of Black students, faculty, and staff recruited from a large university (Landrine & Klonoff, 1996) reporting their encounters with racial discrimination as stressful. Similarly, in a sample of 1555 African American college students, more than 25% reported being “extremely distressed” or “quite a bit” distressed by experiences of discrimination (Chao, Mallinckrodt, & Wei, 2012). The biopsychosocial model provides insight into the complex

process of how racial discrimination impacts the individual (Clark et al., 1999). “The principal tenet of this model is that the perception of an environmental stimulus as discriminatory results in exaggerated psychological and physiological stress responses that are influenced by constitutional factors, sociodemographic factors, psychological and behavioral factors, and coping responses” (Clark et al., 1999, p. 806). In other words, exposure to racial discrimination produces stress that is a result of an interaction between an individual’s appraisal process and coping responses. Thus, the impact of the discriminatory events is a byproduct of this subjective process which leads to the event being experienced as a complex stressor. It is also reasonable to infer that vicarious race-based stress would be appraised as equally, if not more stressful, due to its intense nature.

Interestingly, research has demonstrated that individuals more readily perceive racial discrimination directed at members of their group rather than their own personal experiences (Taylor, Wright, Moghaddam, & Lalonde, 1990). For example, in a study of 254 college-aged Asian American individuals, 99% reported experiencing vicarious racism, or the “observation of a racist incident,” within the past 5 years (Alvarez & Juang, 2006). In fact, this was the most common form of racism reported in the sample followed by 90% experiencing direct racism (Alvarez & Juang, 2006). Similarly, Truong and colleagues (2016) explored the experiences of vicarious racism of 26 graduate students of color. All of the participants reported “observed racism,” which involved witnessing or hearing stories about racism targeting their faculty and peers (Truong et al., 2016). Theorized to be a coping strategy that attempts to distance the individual from the event, this vicarious experience of discrimination may also have an adverse effect on the individual (Harrell, 2000; Helms et al., 2010). Witnessing “large-scale system-related stressors” or vicarious race-based stress, such as police brutality in the media, exposes the

individual to the stressor and puts him or her at risk for experiencing the adverse effects associated with the stress (Harrell, 2000; Williams, 2009). This race related stress is insidious to the point that vicarious racism coupled with the awareness of the possibility of experiencing the incident personally, can generate stress that compounds other daily stressors (Harrell, 2000). Unfortunately, the extent of the stress does not end there. Research has also demonstrated that the act of doubting the validity of one's experiences and perceptions as a result of other's resistance to accept them as truth produces an additional layer of stress (Pierce, 1995 as cited in Harrell, 2000). This is often the case following incidents of police violence where groups such as "Blue Lives Matter" or "All Lives Matter" argue that the widely publicized incident of violence against an unarmed African American was not racially motivated and presents alternative explanations, usually resulting in the vilifying of the victim. This consistent, invalidating response to traumatic and often violent vicarious race-based stress experienced by African Americans represents yet another link between discrimination and stress. Unfortunately, this stress does not exist in isolation. Instead, stress in one domain of a person's life can instigate disruptions in other areas (Lincoln & Chae, 2010; McNeil et al., 2014). The stress of both perceived racial discrimination and indirect experiences such as vicarious race-based stress, have implications for African American's mental health and interpersonal relationships. To explore these associations, the current study has created the first known measure of vicarious race-based stress and seeks to determine if the instrument is both a reliable and valid measure of this construct (Research Question (RQ) 1).

## Consequences of Racial Discrimination

### Mental Health

#### *Depression*

A limited body of literature has explored the consequences of vicarious race-based stress on the mental health of African Americans. A 2018 study of 103,720 participants researchers demonstrated the negative effects of exposure to police killings of unarmed African Americans on the mental health of those living in the state where the murder occurred (Bor et al., 2018). Exposure was defined to include vicarious encounters such as word of mouth or various media outlets within the preceding 3 months. Results showed that more exposure to police killings were associated with increased poor mental health days. Further, Tynes and colleagues (2019) found that viewing traumatic events online (TEO) increased depressive symptoms in a sample of African American and Latinx/Hispanic adolescents. Seeing a video of a Black person being shot by police or images of immigrant children being detained are examples of the TEO assessed in the study. These studies provide foundational evidence of the association between vicarious race-based encounters and depression. The current study aims to address this limitation and contribute to the field by providing further evidence of this association. Due to the dearth of literature available, a review of racial discrimination, a related, potentially less severe manifestation of racism, is provided.

Researchers have almost unanimously agreed that greater or more frequent experiences with racial discrimination are associated with poorer psychological outcomes. In an attempt to explain this relationship, Donovan and colleagues (2012) surmised that experiences of discrimination may be related to depression via “internalized feelings of upset” (p. 194) though they suggest further research is needed to fully understand the relationship. To illustrate its prevalence,

Pascoe and Richman's (2009) review found evidence that racial discrimination was significantly related to negative mental health outcomes including depressive symptoms and psychological distress among others. In fact, 90% of the 500 studies sampled demonstrated that higher levels of racial discrimination were associated with more negative mental health status (Pascoe & Richman, 2009). Depression specifically emerged as one negative mental health factor manifesting in several forms, including depression in general (Bhugra & Ayonrinde, 2001; Carter, 2007; Hudson et al., 2016; Pieterse et al., 2012; Schmitt et al., 2014; Shulz et al., 2006; Watkins et al., 2006), depressive symptoms (Burrow & Ong, 2010; Donovan, Galban, Grace, Bennett, & Felicié, 2012; McNeil et al., 2014; Walker et al., 2014), and major depressive disorder (Ikram, et al., 2014; Kessler et al., 1999; Molina & James, 2016).

More specifically, experiences of racial discrimination have been identified as a risk factor for depression. For example, in a nationally representative sample of 2,137 African Americans with an average age of 42.5 years-old, researchers found that racial discrimination was associated with increased chances of experiencing depression (Hudson, et al., 2016). A meta-analysis of 66 studies found similar results such that a strong link between perceived racism and depression existed (Pieterse et al., 2012). Schmitt and colleagues (2014) also contributed to this literature with a review that found that racial discrimination had a stronger relationship with negative outcomes, such as depression, than with positive outcomes. This relationship between racial discrimination and depressive symptoms is consistent across samples of college students, graduate students, and adults. Donovan and colleagues (2012) demonstrated in a sample of 187 female undergraduate students that measures of racial discrimination were positively and significantly related to depressive symptoms. In a study of 487 engaged or married African American couples, both men and women saw a significant and positive relationship between

perceived racial discrimination and depressive symptoms (McNeil et al., 2014). Walker and colleagues (2014) found similar results using a sample of 249 African American adults such that greater perceptions of discrimination were associated with greater depressive symptoms. This relationship persists when examining both daily and lifetime experiences of discrimination. In a sample of 174 African American doctoral and graduate students, participants reported experiencing depressive symptoms when encountering daily racial discrimination (Burrow & Ong, 2010). A 2012 study of 674 African American men demonstrated that the more participants experienced everyday discrimination, the more depressive symptoms they faced (Hammond, 2012). Finally, Kessler and colleagues (1999) found that some aspects of day to day discrimination and lifetime racial discrimination were significantly associated with Major Depression. Comparably, in a sample of 4,988 African Americans and Afro-Caribbeans, everyday discrimination was associated with an increased risk of having experienced Major Depressive Disorder within the year prior to the study (Molina & James, 2016).

Due to the fact that experiences of racial discrimination can vary across the lifespan, Shulz and colleagues (2006) conducted a longitudinal study with a sample of 343 African Americans. It was demonstrated that changes in discrimination over time were associated with changes in depressive symptoms even when controlling for age, income, and education (Shulz et al., 2006). This expansion on cross-sectional data only further reinforces the conceptualization of racial discrimination as a significant and negative phenomenon that characterizes the African American experience.

While there is considerable consistency regarding racial discrimination as it relates to depression, some studies vary when considering gender differences. For instance, in a review of 105 studies, Carter and colleagues (2017) found gender differences in the impact of racial

discrimination with men being more affected than women. Further, some studies found no relationship between experiences of discrimination and depression in a sample of mid to later life African American women (Beagan et al., 2012) and 91 female college students (West et al., 2010) or depressive symptoms in a national sample of 1,271 African American men (Watkins et al., 2011). A longitudinal study with 103 African Americans an average age of 41.88 years old also found no relationship (Kwate & Goodman, 2015). Researchers explained this lack of relationship by concluding that participants may have developed strong coping skills in the face of discrimination that buffered negative outcomes. For women specifically, the expectation that one must always adhere to the “strong Black woman” rhetoric may prohibit them from acknowledging and accepting their experiences of depression (Nicolaidis, et al., 2010).

Informed by this literature, the current study aims to examine how vicarious race-based stress and perceived racial discrimination are related to mental health outcomes (RQ2).

Hypotheses are congruent with previous findings in that 2a) Vicarious race-based stress will demonstrate a significant and positive association with depressive symptoms, and 2d) Racial discrimination will be positively associated with depressive symptoms.

### **Romantic Relationship Quality**

The Model of African American Marital Outcomes (Bryant et al., 2010) theorizes that the interactions of a couple are influenced by the stressors they each experience individually. As previously discussed, perceived racial discrimination operates as a significant stressor in the lives of African Americans (Bryant et al., 2010; Clark, et al. 1999; Doyle & Molix, 2014a; Harrell et al., 2000; Landrine & Klonoff, 1996; Williams & Mohammed, 2009). Vicarious race-based stress is also a significant stressor that while not widely documented, can be presumed to behave in similar if not more intense ways than racial discrimination. Consequently, these stressors have

implications for the interactions of couples and their resulting outcomes. For instance, racial discrimination has been demonstrated to affect interactions such that expressions of verbal (Trail, Goff, Bradbury, & Karney, 2012), psychological, and physical aggression (Lavner et al., 2018) increase as discrimination increases under certain circumstances. In a sample of 330 Latino newlyweds, when a husband with low racial identity experienced discrimination, he engaged in more verbally aggressive behaviors with his wife per her report (Trail et al., 2012). In a similar vein, in a sample of 344 African American couples, men who experienced greater levels of racial discrimination reported greater levels of psychological aggression (Lavner et al., 2018). Further, women's self-reported level of physical aggression increased as they experienced discrimination. This is consistent with the researchers' conclusions that racial discrimination is related to higher levels of negative functioning (e.g. increased aggression) rather than decreased levels of positive functioning (Lavner et al., 2018). These findings can further be explained by the biopsychosocial model (Clark et al., 1999), which details that "perceptions of racism that engender anger may lead to coping responses that include anger suppression, hostility, aggression, [or] verbal expression of the anger..." (p. 811). As mentioned previously, stressors from the individual's context can "spill over" into the couple relationship even if they manifest in an angry or aggressive response (Bryant et al., 2010). These negative interactions expectedly have consequences for relationship outcomes. According to the Model of African American Martial Outcomes (Bryant et al., 2010), individuals who are affected by stressors outside of the couple dyad (e.g. racial discrimination or vicarious race-based stress) may engage with their partners in maladaptive ways (e.g. aggression, less support) and these behaviors may moderate the association between the stressors and relationship outcomes.

In addition to its detrimental effect on couple's interactions, perceived racial discrimination has been demonstrated to negatively impact a variety of dimensions of romantic relationships including strain, satisfaction, and quality. For example, in a sample of 592 mid to late life African Americans, Doyle and Molix (2014a) found that perceived racial discrimination was positively related to relationship strain such that discrimination predicted increased relationship strain. In Lavner and colleague's (2018) study, men who experienced more discrimination reported higher levels of relationship instability. Further, couples who reported more internalized racism (Taylor, 1990) or unfair treatment (Lincoln & Chae, 2010) also reported lower levels of marital satisfaction. This was true for both husbands and wives. The effects of discrimination can also be seen within the relationship between partners. For instance, partner effects were demonstrated such that the more wives experienced perceived racial discrimination, the lower their husbands rated the quality of the marriage (Trail et al., 2012). Increases in an individual's experience of perceived racial discrimination are also associated with lower relationship quality ratings (Doyle & Molix, 2014b; Murry et al., 2001; Trail et al., 2012).

With 630 racial minority participants currently in a romantic relationship or married, Doyle and Molix (2014b) found that both everyday discrimination and lifetime discrimination negatively predicted relationship quality. Murry and colleagues (2001) employed a sample of 386 women who were either married or cohabiting. Analyses revealed that the quality of the women's couple relationship was poorer for women who experienced discrimination (Murry et al., 2001). A positive association was also identified between psychological distress and relationship quality; however, this link was stronger for women who reported more experiences with discrimination. Similarly, the more that both husbands and wives perceived that they were discriminated against, the lower they rated the quality of their marriage in a study of Latino

newlyweds (Trail et al., 2012). These relationships are suggestive of the spillover effect which posits that stressors experienced outside of the dyad can also impact the dyad itself (Lincoln & Chae, 2010). This may be due in part to increased stress levels experienced by the individual, decreased self-image (Carter, 2007), or impaired interactions between the couple as detailed above (Doyle & Molix, 2014b). Gender differences also emerged in the association between perceived racial discrimination and relationship quality. This association was only significant for men and not women in a sample of 30 African American couples who completed a 3-week daily diary study (Siddiqui, 2013). These findings support the view that stressors external to couples can affect relationship outcomes. In contrast, some studies have demonstrated no relationship between racial discrimination and certain relationship outcomes. Lavner and colleagues (2018) found no significant relationships between discrimination and relationship satisfaction for neither men nor women. The mixed findings may be explained by moderating factors such as the low-income status of the participants (Lavner et al., 2018), racial identity and intimate partner support. Despite these mixed findings, one may postulate that vicarious race-based stress also produces negative interpersonal outcomes due to its pervasive and traumatic nature (Williams & Mohammed, 2009; Harrell, 2000) and the resulting stress experienced by the individual.

Informed by this literature, the current study aimed to examine how vicarious race-based stress and perceived racial discrimination are related to interpersonal outcomes (RQ2).

Hypotheses are congruent with previous findings in that 2b) Vicarious race-based stress will demonstrate a significant and negative association with relationship quality; and 2e) Racial discrimination will be negatively associated with relationship quality.

## Mediators

### Racial Trauma

Given the numerous negative mental health consequences of race-related stress, a growing body of literature suggests that these stressors may contribute to racial trauma (Bryant-Davis & Ocampo, 2005; Bryant-Davis et al., 2017; Carter, 2007; Carter et al., 2019; Kirknis et al., 2018; Tynes et al 2019; Williams et al, 2018c). Researchers theorize that the stress experienced as a result of encounters with racism, including vicarious race-based stress and racial discrimination, produces psychological, behavioral, and emotional injuries that mirror those associated with other forms of trauma (Bryant-Davis & Ocampo, 2005; Carter, 2007; Carter et al., 2019). In fact, the symptoms of racial-based trauma produce a unique pattern of responses that extend beyond those of general trauma and post-traumatic stress disorder (PTSD) (Bryant-Davis & Ocampo, 2005; Carter et al., 2019; Williams et al, 2018c). The Race Based Traumatic Stress Injury model (Carter, 2007) provides a conceptual framework that illustrates the connection of racism and racial trauma.

Racial trauma describes the psychological impact of encounters with negative race-related experiences that exceed an individual's ability to cope resulting in compromised mental, interpersonal, or physical well-being (Bryant-Davis & Ocampo, 2005; Carter, 2007; Williams et al., 2018c). These negative race-related experiences, or racist incidents, are racially motivated verbal or physical assaults that threaten the livelihood and functioning of those targeted and can be direct or indirect (Bryant-Davis & Ocampo, 2005; Carter, 2007). Consistent with models of racism and general trauma, racial trauma is comprised of several key components that distinguish it from non-traumatic race-based stress. Specifically, the racist incidents must be appraised or perceived to be racially motivated, negative, and stressful (Carter, 2007; Carter & Sant-Barket,

2015; Clark et al., 1999). Additionally, the racist incidents must be out of the targeted individual's control and occur suddenly and unexpectedly (Carter, 2007; Carter & Sant-Barket, 2015). Finally, racial trauma is characterized by the emotional pain and distress it causes. Manifestations of the pain must include some aspects of intrusion, avoidance, or arousal but may also include other reactions (Carter, 2007; Carter & Sant-Barket, 2015). These criteria are not exclusive to direct encounters with racist incidents. Indirect exposure to racism, or vicarious race-based stress, can also contribute to the development of racial trauma (Bryant-Davis & Ocampo, 2005; Carter, 2007; Harrell, 2000; Helms et al., 2012; Williams et al., 2018c). While it does not include racial stressors specifically, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) describes that witnessing or learning about stressors that happened to another person meets the criteria for PTSD (American Psychiatric Association, 2013). This also includes repeated exposure to details surrounding the event. Recurring media coverage of racially motivated assaults on African Americans meets these criteria.

In a study of 123 Black/African American and biracial African American college students, researchers demonstrated that everyday discrimination, major experiences of discrimination, general racial discrimination, and racial microaggressions significantly contribute to racial trauma symptoms (Williams et al., 2018c). Interestingly, each form of discrimination maintained a significant association with trauma even when controlling for the others. This suggests, that they each uniquely contribute to trauma symptoms. Similarly, in a sample of 289 Black, Asian, and White undergraduate students, perceived racial discrimination was significantly and positively associated with trauma-related symptoms for the Black students (Pieterse et al., 2010). As previously discussed, trauma responses may also be a result of vicarious exposure to racism. In a study of 302 African American and Latinx/Hispanic

adolescents between the ages of 11 and 19 years old, Tynes and colleagues (2019) examined the impact of viewing traumatic events online (TEO) over the past year on depressive symptoms and PTSD symptoms. Results found that viewing TEO was significantly and positively associated with both depressive and PTSD symptoms. Informed by this literature, the current study aims to examine how vicarious race-based stress and perceived racial discrimination are related to racial trauma (RQ2). Hypotheses are congruent with previous findings in that 2c) Vicarious race-based stress will demonstrate a significant and positive association with racial trauma; and 2f) Racial discrimination will be positively associated with racial trauma.

As previously mentioned, the Race Based Traumatic Stress Injury model (Carter, 2007) suggests that traumatic responses to racist injuries manifest in “symptom clusters” with avoidance, intrusion, and arousal as the primary responses, but note that other reactions are possible. Aymer’s 2016 case study of a sixteen-year-old African American male, Jamal, illustrated such consequences of race-based stress. In this case, the young man was racially profiled, manhandled, and arrested by police while driving to therapy for no apparent reason other than enforcing “stop-and-frisk.” This interaction caused him to miss the next 5 weeks of therapy due to his fear, or avoidance, of encountering the police again. Jamal was also experiencing intrusive thoughts, nightmares, flashbacks and irritability which were confirmed to be symptoms of trauma by a psychiatric evaluation (Aymer, 2016). These intrusive thoughts may have been amplified by the exposure to vicarious race-based stress via media outlets, which serve as constant reminders of the threat to oneself and others (Tynes et al., 2019). Further, Bryant-Davis and Ocampo (2005) conceptualized racial trauma by highlighting parallels of encounters with racism and rape and domestic violence. They discuss an avoidance response to racism that involves an individual attributing their traumatic experience to anything but their

race. In a sample of 421 participants, Carter and colleagues (2019) found that intrusion, avoidance, and anger were associated with a past encounter with racism. Further, low self-esteem, hypervigilance, and depression demonstrated the strongest associations. They posit that the internalization of the negative emotional reactions to the encounters with racism is reflective of depression, a common response to trauma (Carter et al., 2019).

Thus, informed by this literature, the current study aims to examine if racial trauma mediates the association between vicarious race-based stress and mental health and couple outcomes (RQ3 and RQ4). Hypotheses are congruent with previous findings in that 3a) Racial trauma will mediate the association between vicarious race-based stress and depressive symptoms; 3b) Racial trauma will mediate the association between vicarious race-based stress and relationship quality; 4a) Racial trauma will mediate the association between discrimination and depressive symptoms; and 4b) Racial trauma will mediate the association between discrimination and relationship quality.

### **Protective Factors/Moderators**

#### **Racial Identity**

Despite the deleterious nature of discrimination, African Americans possess resources that are able to protect against its negative consequences for the individual and the couple alike. Consistent with the Model of African American Martial Outcomes (Bryant et al., 2010), individuals bring unique preexisting characteristics into couple relationships that affect the dynamic in a variety of ways. One such resource is racial identity which is defined as the significance and meaning an individual attributes to his or her racial background and how this

informs understanding of the self (Pieterse & Carter, 2010; Sellers, Smith, Shelton, Rowley, & Chavous, 1998).

Sellers and colleagues (1998) developed the Multidimensional Model of Racial Identity (MMRI) to assist in further understanding the complexity of racial identity and how it manifests. Their model consists of four dimensions that reflect both the significance and meaning ascribed to race for the individual. These dimensions include racial salience, centrality, ideology, and racial regard (Sellers, Smith, Shelton, Rowley, & Chavous, 1998). Salience and centrality reflect the level of significance of race, while ideology and regard pertain to the meaning assigned. Racial salience focuses on a specific moment or situation and uses that information to determine how relevant race is to self-concept at that specific time. Given its dependency on context, racial salience is fluid, varying from person to person as well as from situation to situation for an individual. Centrality concerns the degree to which an individual considers race to be a defining characteristic of his or her identity. Unlike salience, centrality is not dependent upon context causing it to remain relatively consistent overtime. This dimension is reflective of a hierarchy of different identities and the extent to which an individual would define them as a core part of the self. For example, a Christian African American mother may define her gender as being most central to her identity while her race may be further down the hierarchy. Further, racial regard entails how positively or negatively an individual feels towards African Americans and consists of private and public components. Private regard concerns how an individual feels about being African American in addition to views of other African Americans. Public regard, on the other hand, involves how the individual believes others view African Americans. Finally, ideology “is composed of the individual’s beliefs, opinions, and attitudes with respect to the way she or he feels that the members of the race should act” (Sellers, Smith, Shelton, Rowley, & Chavous,

1998, p. 27). Sellers and colleagues assert that these four dimensions should not be considered to encompass racial identity as a whole. Instead the dimensions are fluid, interacting elements that represent components of racial identity. Thus, the focus of the current study is on the centrality and regard dimensions of the MMRI. These dimensions are particularly relevant as they address both the significance and meaning of race. They also have the potential to shape the appraisal and impact of racial discrimination and vicarious race-based stress alike (Sellers, Rowley, Chavous, Shelton, & Smith, 1997).

### ***Protective Factor for Mental Health***

As demonstrated by the complexity of the MMRI, African American racial identity is heterogeneous in nature and may also have a positive effect on mental health. In fact, several scholars demonstrated that more positive feelings about one's racial identity was linked to better mental health (Brittian et al., 2013; McClain et al., 2016; Williams et al., 2012). The positive effects of racial identity persist when considering racial discrimination. For instance, feeling positive about being African American is related to decreased depressive symptoms (Brittian et al., 2013; Bynum et al., 2008; Hunter & Joseph, 2010; Pascoe & Smart Richman, 2009) and psychological distress (Banks & Kohn-Wood, 2007; Franklin, 2007; Hunter & Joseph, 2010; Jones, Lee, Gaskin, & Neblett, 2014; Lee, 2013; Pieterse, 2010) when faced with discrimination. The protective effects of racial identity are evident when considering racial centrality specifically. For instance, researchers have demonstrated that increased consideration of race as central to one's identity was associated with lower levels of psychological distress when facing discrimination (Franklin & Carter, 2007; Lee & Ahn, 2013). This association may be due to increased confidence which combats more negative reactions and emotions (Rucker et al., 2014). Similarly, Jones and colleagues (2014) demonstrated a link between private regard and lack of

fear in response to subtle discrimination. They suggest that this relationship exists due to preparedness for a discriminatory situation and ability to cope. In a similar vein, others propose that feeling good about one's racial identity may equate to greater self-esteem, assignment of responsibility onto social injustice instead of the self, and in turn, less internalization of the stress associated with the discriminatory events (Jones et al., 2014; Lee & Ahn, 2013; Pascoe & Richman, 2009). In terms of public regard, on the other hand, researchers propose that feeling as though others view African Americans favorably may empower the individual to dismiss the discriminatory event as isolated or even go as far as to deny that it occurred due to incongruency with views (Jones et al., 2014). In sum, being able to feel connected to one's race and identify positive aspects of the group function as resources and protects against the negative effects of discrimination. Given the pervasive and inescapable nature of vicarious race-based stress, specifically, preparedness coupled with the external attribution of responsibility may be even more necessary when considering race-based stressors beyond racial discrimination.

Despite ample research that depicts a significant relationship between racial identity and mental health, an additional body of literature has found no relationship at all. In a review of the literature, Pascoe and Richman (2009) found that group identification did not significantly affect 71% of the relationships between discrimination and mental health. Further, neither racial centrality (McClain et al., 2016) nor private regard (Bynum et al., 2008) displayed a significant relationship with mental health in samples of 218 Black college students and 107 African American males aged 18-19 respectively. The discrepancies throughout the literature only further support increased attention to examine how racial identity impacts the relationship between mental health and discrimination and vicarious race-based stress alike. Further, research is

needed to determine which aspects of racial identity are related to these racial stressors and how they function in relation to mental health and interpersonal outcomes.

Informed by this literature, the current study aimed to examine how racial identity moderates the association between vicarious race-based stress and perceived racial discrimination and mental health outcomes (RQ5 and RQ6). Hypotheses are congruent with previous findings in that 5a) stronger racial identity will weaken the positive association between vicarious race-based stress and depressive symptoms; 6a) stronger racial identity will weaken the positive association between racial discrimination and depressive symptoms; 5c) stronger racial identity will weaken the positive association between vicarious race-based stress and relationship quality; 6c) stronger racial identity will weaken the positive association between racial discrimination and relationship quality; 5e) stronger racial identity will weaken the positive association between vicarious race-based stress and racial trauma; and 6e) stronger racial identity will weaken the positive association between racial discrimination and racial trauma.

### **Intimate Partner Support**

Finally, the Model of African American Martial Outcomes (Bryant et al., 2010) suggests a link between interactions following a stressful event and overall relationship quality. While intimate partner support has been operationalized in a variety of ways, several themes are evident when reviewing previous literature on the matter. For instance, some studies highlight the function of emotional support (Ajrouch et al., 2010; Chung & Epstein, 2014) while others emphasize the coping assistance provided (Brondolo et al., 2009; Clark, 2003; Pascoe & Smart Richman, 2009), and yet others explore communication (Ajrouch et al., 2010; Brondolo et al., 2009; McNeil et al., 2014), connectedness (Brondolo, 2009) and affirmation (Doyle & Molix, 2014c). For the purposes of this study, intimate partner support will be defined as the perceived

availability of a partner with whom one can communicate intimate and vulnerable experiences and receive emotional support in the form of coping assistance, connectedness, and validation. This form of support is reflective of both dating and marital relationships. These kinds of interactions may be instrumental in buffering the negative effects of stressors such as discrimination or vicarious race-based stress on the individual and couple and also providing reassurance that the stressor is a shared experience (Brondolo et al., 2009). To this point, researchers have demonstrated the protective qualities of support in samples of African American college students, women, and couples. A review of literature extending beyond romantic relationships will be provided due to the dearth of information on African Americans specifically.

In a daily diary study of 51 African American college students, Swim and colleagues (2003) found that when encountering racist incidents, the majority of the participants sought support from those close to them. Further, almost all participants reported that discussing the encounters was helpful (Swim et al., 2003). In semi-structured interviews of 10 African American senior-level corporate professionals, a theme of accessing support systems to cope following racial microaggressions was identified (Holder et al., 2015). The women reported that this support provided validation that they were not alone in their experiences in addition to helping them avoid internalizing the negative messages they received (Holder et al., 2015). While the participants in these studies did not report on a romantic relationship specifically, their experiences inform further research into the support seeking behaviors of those experiencing discrimination and vicarious race-based stress.

Within the context of a couple relationship, intimate partner support, has been demonstrated to have protective functions when facing discrimination (Ajouch et al., 2010;

Brondolo et al., 2009; Doyle & Molix, 2014c; Holder et al., 2015; McNeil et al., 2014). For instance, in a study of 487 married or engaged African American couples, men who reported lower levels of intimate partner support experienced more depressive symptoms when experiencing more perceived racial discrimination (McNeil et al., 2014). No relationship existed for men with high levels of intimate partner support. This suggests that intimate partner support operates as a protective factor for men who experience discrimination. Contrarily, no buffering effects between perceived racial discrimination and depression for women were found. Men also reported receiving higher levels of intimate partner support than women, which may have influenced this relationship (McNeil et al., 2014). Lincoln and Chae (2010) found similar results in a sample of mid-life African Americans. Marital satisfaction or having a positive marriage as a source of support, buffered the negative effect of perceived racial discrimination experienced as unfair treatment on mental health, specifically psychological distress (Lincoln & Chae, 2010). Grewern and colleagues (2005) purport that the social support present in higher quality marriages may have “stress buffering effects” which may further explain these relationships.

Further, stressors such as discrimination or vicarious race-based stress may draw individuals in a romantic relationship closer to one another as an adaptive response which is consistent with the Model of African American Marital Outcomes (Bryant et al., 2010). This was the case in Cowdery et al.’s (2009) interview of 15 Black couples. The partners in this study pulled together in an effort to protect each other and their families from racism (Cowdery et al., 2009). Similarly, Clavél, et al. (2017) suggest that “a person experiencing external, large-scale stress may divert coping resources directly toward supporting a partner rather than exhausting coping resources on the stressor itself. Over time, this pattern may lead to increased supportiveness between partners facing ongoing stressors that bear down on them from the

outside world” (p. 1052). In other words, when faced with pervasive stressors such as vicarious race-based stress, individuals unite to support one another which increases the level of intimate partner support they both receive and give. Further, couples may engage in “person-oriented coping” by making efforts to protect others who are also at risk for experiencing the same stressor (Clavél, et al., 2017). Such is the case with African Americans, who both have increased chances of experiencing discrimination or vicarious race-based stress when compared to Whites and other minorities. For example, both African American men and women who experienced more discrimination at Time 1 engaged in more supportive behaviors at Time 2 (Clavél, et al., 2017). Partner effects were also found such that when either partner, male or female, experienced more discrimination at Time 1, his or her partner was more supportive at Time 2. The researchers theorize that the shared experience of discrimination coupled with the vulnerability of one’s partner to also experience discrimination inspires “partner-directed coping” which involves providing support, protection, and care (Clavél, et al., 2017).

Other studies have found no significant relationship between intimate partner support and buffering effects on discrimination. For women specifically, no moderation was found for intimate partner support on the relationship between discrimination and depression (McNeil et al., 2014). A review of the literature found that three prior studies examining the protective function of social support on the discrimination and distress relationship also found no significant results (Brondolo et al., 2009). These varied findings may be attributed to other sources of support such as faith groups (McNeil et al., 2014) or methodological variations such as the measurement of support (Brondolo et al., 2009).

Informed by this literature, the current study aimed to examine if intimate partner support moderates the associations between vicarious race-based stress and perceived racial

discrimination and mental health outcomes (RQ5 and RQ6). Hypotheses are congruent with previous findings in that 5b) more intimate partner support will weaken the positive association between vicarious race-based stress and depressive symptoms; 6b) more intimate partner support will weaken the positive association between racial discrimination and depressive symptoms; 5d) more intimate partner support will weaken the positive association between vicarious race-based stress and relationship quality; 6d) more intimate partner support will weaken the positive association between racial discrimination and relationship quality; 5f) more intimate partner support will weaken the positive association between vicarious race-based stress and racial trauma; and 6f) more intimate partner support will weaken the positive association between racial discrimination and racial trauma.

### **Current Study**

The existing body of literature provides consistent evidence of the harmful consequences of racial stressors on both the psychological and interpersonal functioning of African Americans. However, minimal research examines the impact of witnessing widely publicized, racially motivated acts of aggression targeting African Americans and the resulting vicarious experience of the stress associated with the events. Thus, the purpose of the current study was to expand the scope of research on racism by operationalizing the experience of vicarious race-based stress (VRBS) and developing a scale to measure the emotional response to this stressor. Additionally, this study aimed to explore the associations between vicarious race-based stress and both mental health (i.e. depression) and interpersonal outcomes (i.e. relationship quality). The current study was also interested in the mechanisms that may explain the association between vicarious race-based stress and outcomes (i.e. racial trauma). Finally, a strength-based approach was employed to account for the resiliency of the African American community. This approach involved

exploring the protective function of cultural coping assets (i.e. racial identity and intimate partner support). Because there was no known measure of intimate partner support specific to encounters with vicarious race-based stress at the time of the current study, an additional aim involved modifying an existing scale to reflect vicarious race-based stress.

### **Summary of Research Questions and Hypotheses**

#### **Research Question 1**

The first research question seeks to examine the reliability and validity of the newly developed measure of emotional reactions to vicarious race-based stress. Research Question 1 asks: Is the Vicarious Race-Based Stress-Emotional Response (VRBS-ER) instrument both a reliable and valid measure of pervasive, vicarious experiences of racism? Due to the exploratory nature of scale development, no hypothesis was formed related to this question.

#### **Research Question 2**

The second research question aims to examine how vicarious race-based stress and perceived racial discrimination are related to outcomes. Research Question 2 asks: how are vicarious race-based stress and racial discrimination related to depressive symptoms, relationship quality, and racial trauma? Hypotheses are congruent with previous findings in that both racial stressors are hypothesized to be positively associated with depressive symptoms and racial trauma. Researchers consistently find that greater perceived racial discrimination results in more depressive symptoms (Carter et al., 2017; Ikram et al., 2014; Schmit et al., 2014; Walker et al., 2014) and more racial trauma symptoms (Carter et al., 2019; Kirknis et al., 2018; Williams et al., 2018c). Similarly, a growing body of researchers have suggested that vicarious experiences of racism are associated with negative affect (i.e. depression, anxiety, hostility) (Mason et al., 2017), poorer mental health (Bor et al., 2018), emotional reactions (Alang et al., 2017; Harrell,

2000), and racial trauma symptoms (Bryant-Davis et al., 2017; Helms et al., 2010). Further, both racial stressors are hypothesized to be negatively associated with relationship quality. This is congruent with findings that increased experiences of perceived racial discrimination are associated with lower relationship quality ratings (Doyle & Molix, 2014b; Trail et al., 2012). While no known study has examined the association between vicarious race-based stress and relationship quality, one can surmise that the association will be similar to that of racial discrimination, if not more, due to its more pervasive nature. Specific hypotheses are as follows:

***Hypothesis 2a:*** Vicarious race-based stress will be positively associated with depressive symptoms.

***Hypothesis 2b:*** Vicarious race-based stress will be negatively associated with relationship quality.

***Hypothesis 2c:*** Vicarious race-based stress will be positively associated with racial trauma.

***Hypothesis 2d:*** Racial discrimination will be positively associated with depressive symptoms.

***Hypothesis 2e:*** Racial discrimination will be negatively associated with relationship quality.

***Hypothesis 2f:*** Racial discrimination will be positively associated with racial trauma.

### **Research Questions 3 and 4**

The third and fourth research questions seek to examine the function of racial trauma as it relates to racial stressors and mental health and interpersonal outcomes. Research Question 3 asks: Does racial trauma mediate the association between vicarious race-based stress and mental health and couple outcomes? Research Question 4 asks: Does racial trauma mediate the

association between discrimination and mental health and couple outcomes? Hypotheses reflect previous literature that indicates direct associations from vicarious racism and racial discrimination to racial trauma, as previously discussed, and from racial trauma to depressive symptoms (Turner & Richardson, 2016; Williams et al., 2018b). Specific hypotheses are as follows:

***Hypothesis 3a:*** Racial trauma will mediate the association between vicarious race-based stress and depressive symptoms.

***Hypothesis 3b:*** Racial trauma will mediate the association between vicarious race-based stress and relationship quality.

***Hypothesis 4a:*** Racial trauma will mediate the association between discrimination and depressive symptoms.

***Hypothesis 4b:*** Racial trauma will mediate the association between discrimination and relationship quality.

### **Research Questions 5 and 6**

The fifth and sixth research questions seek to examine the protective function of racial identity and vicarious race-based stress specific intimate partner support. Research Question 5 asks: Do cultural coping assets (e.g. racial identity, intimate partner support) moderate the association between vicarious race-based stress and mental health / couple outcomes? Research Questions 6 asks: Do cultural coping assets (e.g. racial identity, intimate partner support) moderate the association between discrimination and mental health / couple outcomes? Hypotheses are that both racial identity and intimate partner support will buffer the negative associations between racial stressors and outcomes. These hypotheses are congruent with previous research that suggests stronger racial identity was associated with lower levels of

psychological distress when facing discrimination (Franklin & Carter, 2007; Lee & Ahn, 2013). Similarly, intimate partner support, has demonstrated protective functions when individuals face racial discrimination (Doyle & Molix, 2013; Holder et al., 2015; McNeil et al., 2014). Specific hypotheses are as follows:

***Hypothesis 5a:*** Racial identity will weaken the positive association between vicarious race-based stress and depressive symptoms.

***Hypothesis 5b:*** Intimate partner support will weaken the positive association between vicarious race-based stress and depressive symptoms.

***Hypothesis 5c:*** Racial identity will weaken the positive association between vicarious race-based stress and relationship quality.

***Hypothesis 5d:*** Intimate partner support will weaken the positive association between vicarious race-based stress and relationship quality.

***Hypothesis 5e:*** Racial identity will weaken the positive association between vicarious race-based stress and racial trauma.

***Hypothesis 5f:*** Intimate partner support will weaken the positive association between discrimination and racial trauma.

***Hypothesis 6a:*** Racial identity will weaken the positive association between vicarious race-based stress and depressive symptoms.

***Hypothesis 6b:*** Intimate partner support will weaken the positive association between vicarious race-based stress and depressive symptoms.

***Hypothesis 6c:*** Racial identity will weaken the positive association between vicarious race-based stress and relationship quality.

***Hypothesis 6d:*** Intimate partner support will weaken the positive association between vicarious race-based stress and relationship quality.

***Hypothesis 6e:*** Racial identity will weaken the positive association between vicarious race-based stress and racial trauma.

***Hypothesis 6f:*** Intimate partner support will weaken the positive association between discrimination and racial trauma.

## **CHAPTER 3**

### **METHODS**

#### **Procedure**

Upon obtaining IRB approval, the researcher recruited participants from a variety of sources. Presidents and leaders of predominately Black organizations such as the National Black Graduate Student Association, National Black Doctoral Student Network, Black Greek Letter Organizations (e.g. Alpha Kappa Alpha Sorority, Inc) and local churches were contacted and informed of the current study. The contact person was instructed to disseminate the request for participation to members of their organizations. Participants were also recruited via social media posts, word of mouth, and snowball sampling.

Potential participants were provided with a link to study materials on Qualtrics.com. Included in the materials was information about the study and its purpose, explanation of the participant's role, risks and benefits of participation, incentives, and dissemination plans. Consent for participation was also explained and collected. Participants were informed that survey responses are confidential and not linked to identifying information such as first or last name. In order to ensure confidentiality, each individual was assigned a randomly generated identification number upon providing informed consent for participation. Individuals were then redirected to a separate URL that prompted them to enter their unique identification number and begin the survey. This process removed connections between participant's data and identifying information. Finally, participants were invited to provide an e-mail address to receive a virtual \$5 Target gift card.

## Participants

Individuals were considered for inclusion in the current study if they met the following criteria. Participants must have identified as African American and been at least 18 years of age. They must also have identified as heterosexual and been involved in a committed romantic relationship that had endured for a minimum of 6 months prior to involvement with the current study. Individuals that were dating, cohabitating, or married met the inclusion criteria.

Individuals who did not identify as African American or who reported being in interracial relationships were not eligible for the study. While mixed-raced individuals who identify as African American were included, those who identify as African, Afro-Caribbean, Afro-Latino, etc. were not included. Given the historical context of racism in the United States, Blacks who are not African American may not share similar experiences. Those who are immigrants, are in interracial or same sex relationships were not included in the sample due to the additional forms of discrimination, beyond race, that they may face given their group membership.

The final sample was 231 African American adults who were in romantic relationships for 6 months or more. Four hundred and forty-two individuals completed informed consent and 255 began the study. Twenty-four participants were removed from the sample due to low completion rate (i.e. <17%). One hundred and fifty-six participants opted to receive the incentive and were sent an electronic Target gift card.

Demographic information for the sample is shown in Table 1. Participants in the study were predominately female (66.7%) and between the ages of 20 to 29 (43.3%) and 30 to 39 (39.8%). Age ranged from 18 to 64 years old with a mean age of 46 years ( $SD = 9.09$ ). The sample was highly educated. Two-hundred and seventeen, or roughly 94%, attended at least some college with the majority (31.2%) having earned a bachelor's degree. Over half (66.2%)

reported being employed full-time. Nearly half the sample had an annual income between \$30,000 and \$59,999 (45.8%) with a range of less than \$10,000 (12.1%) to more than \$150,000 (2.6%). Participants were from all over the United States with Florida (18.6%), Virginia (11.3%), and Georgia (9.1%) having the most and North Dakota (.4%), Oklahoma (.4%), and Vermont (.4%) having the least with all less than 1% representation. Christianity (73.6%) was the most reported religious orientation followed by Spiritual (28%). Roughly half of the sample had no children (48.9%) with a mean of 1.09 children ( $SD = 1.47$ ) and a range of 0 to 10 for those that did have children. All participants confirmed identifying as heterosexual and in a committed, heterosexual romantic relationship. Relationship duration ranged from 6 months to over 34 years with a mean of roughly 7- and one-half years ( $SD = 7$  years). Less than 5% of the sample reported a relationship length of 6 months to less than one year (4.8%), nearly half reported a relationship between 1-5 years (45.8%), nearly one third reported 6-10 years (29.1%), 14.2% reported between 10-20 years, and 6.1% reported a relationship length of over 20 years. Table 1 reports detailed demographic information.

## Measures

### Experiences with Racism

Experiences with racism, termed perceived racial discrimination for the purposes of the current study, was measured using the Index of Race- Related Stress—Brief Version (IRRS-B; Utsey, 1999). The IRRS-B is a 22-item measure of the frequency of exposure and reaction to racist situations using a 5-point scale: 0 = *This has never happened to me*; 1 = *This event happened, but did not bother me*; 2 = *This event happened and I was slightly upset*; 3 = *This event happened and I was upset*; 4 = *This event happened and I was extremely upset*. The IRRS-B measures three types of racism including “cultural racism —stress related to the denigration

of one's culture, institutional racism — stress related to racism embedded in institutional policies and practices, and individual racism — racism experienced interpersonally” (Utsey, Bolden, Lanier & Williams, 2007, p. 82). Sample items include: “You were the victim of a crime and the police treated you as if you should just accept it as part of being Black,” “You were passed over for an important project although you were more qualified and competent than the White/non-Black person given the task,” and “You were treated with less respect and courtesy than Whites and other non-Blacks while in a store, restaurant, or other business establishment.” The subscales demonstrated Cronbach's alphas of .78 for cultural racism, .69 for institutional racism, and .78 for individual racism respectively (Utsey, 1999). Global racism can also be determined by taking the sum of all 22-items in the measure.

To create this observed variable, all 22 items were summed so that greater numbers reflected more race-related stress, or racial discrimination. The mean score was 48.47 ( $SD=16.04$ ) with a range of 6 to 83. The measure had good reliability in the current sample ( $\alpha = .87$ ). The IRRS-B has demonstrated reliability in other studies as well. For example, in a sample of 242 Black college students, Bentley-Edwards (2014) found the cultural racism ( $\alpha = .86$ ), institutional racism ( $\alpha = .69$ ) and individual racism ( $\alpha = .81$ ) subscales to be reliable. Similarly, a study employing 140 African Americans ranging in age from 17 to 58 years of age demonstrated the same with cultural racism ( $\alpha = .83$ ) and individual racism ( $\alpha = .84$ ) (Johnson & Arbona, 2006). Finally, a study of 284 African American adults ranging in age from 18 to 70 also demonstrated internal consistency in the cultural racism ( $\alpha = .84$ ), institutional racism ( $\alpha = .69$ ) and individual racism ( $\alpha = .69$ ) subscales (Lewis-Coles & Constantine, 2006).

## **Vicarious Race-Based Stress**

The absence of an existing measure prompted the researcher to develop the first known assessment of Vicarious Race-Based Stress. The 36-item set of questions and response options utilized were based on theory, similar constructs, and existing instruments as recommended by scale development scholars (Taherdoost, 2016). The following aspects of exposure to vicarious race-based stress are measured: frequency, location, type, and emotional response. For the purposes of the current study, only the emotional reaction to vicarious race-based stress was included in models and analyses. This domain of vicarious race-based stress or Vicarious Race-Based Stress-Emotional Response (VRBS-ER), consisted of 16-items. Participants responded to the prompt “keeping the event(s) you witnessed in mind, please rate the degree to which you experienced the following reactions” using a 5-point scale ranging from 0 (*none*) to 4 (*a lot*). Example reactions include stressed, paranoid, enraged, powerless, and isolated.

Factor analyses and reliability analyses were conducted to identify the final items to be included. The resulting 14 items were summed such that greater numbers signified a greater reaction to vicarious race-based stress. The mean score was 42.66 ( $SD= 12.71$ ) with a range of 14 to 70. The measure had good reliability in the current sample ( $\alpha = .92$ ).

## **Racial Trauma**

Racial trauma was measured using the Trauma Symptoms of Discrimination Scale (TSDS; Williams, Printz, & DeLapp, 2018c) and consists of 21 questions that assess anxiety-related trauma responses to experiences of discrimination. The scale was developed based on symptoms commonly experienced with Post-Traumatic Stress Disorder (PTSD) and center reactions to discrimination, specifically, including “avoidance, negative cognitions, social fears, and worries about the future.” Sample items include “Due to past experiences of discrimination, I

often avoid certain activities in which I am the center of attention (i.e., parties, meetings, answering questions in class),” “Due to past experiences of discrimination, I feel the world is an unsafe place,” “Due to past experiences of discrimination, fear of social situation causes me a lot of problems in my daily functioning,” and “Due to past experiences of discrimination, I often feel afraid as if something awful might happen.” Responses are rated on a 4-point scale ranging from 1 (*never*) to 4 (*often*). The scale demonstrated good internal consistency with a Cronbach’s alpha of .94. Other studies also found the TSDS to be reliable ( $\alpha = .97$ ) in a sample of 65 African American undergraduate students (Williams et. al., 2018a).

Finally, to create this observed variable, all 21 items were summed such that greater numbers signified more trauma symptoms of discrimination. The mean score was 40.99 ( $SD=13.13$ ) with a range of 21 to 77. The measure had good reliability in the current sample ( $\alpha = .94$ ).

### **Intimate Partner Support**

Intimate partner support was measured using a 25-item revised version of the Support in Intimate Relationships Rating Scale-Revised (SIRRS-R; Barry & Bunde, 2009). The SIRRS-R is based on the 48-item Support in Intimate Relationships Rating Scale (SIRRS; Dehle, Larsen, & Landers, 2001) and assesses support from a romantic partner specifically during times of stress and includes four subscales: (a) informational support (8 items), (b) physical comfort (4 items), (c) esteem/emotional support (8 items), and (d) tangible support (5 items). Responses are on a 5-point scale ranging from 0 (*never*) to 4 (*almost always*). Sample items include “My partner helped me think about a situation in a new way” (informational support), “My partner hugged me or cuddled with me” (physical comfort), “My partner said it was O.K. to feel the way I was feeling” (esteem/emotional support), and “My partner offered to do something to help directly with my situation” (tangible support). Subscales demonstrated Cronbach’s alphas between .86

and .92 (Barry & Bunde, 2009). Brock and colleagues (2012) investigated the psychometric properties of the SIRRS-R when it is administered in paper and online formats using a sample of 176 undergraduate students. They concluded that the measure demonstrates good internal consistency. Other studies also demonstrated good internal consistency among samples of 87 Hebrew speaking parents ( $\alpha = .93$ ) (Shani-Sherman et al., 2019) and 203 undergraduate students ( $\alpha = .92$ ) (Bannon et al., 2018) for the complete scale. At the time of the study, the researcher was unable to find a study that employed an African American sample to provide more applicable psychometric data. However, in an effort to address this gap, a revised version of the scale was developed.

A 25-item Support in Intimate Relationship Scale specific to Vicarious Race-Based Stress (SIRRS-R-VRBS) was created for the study by modifying the questions in the revised SIRRS to specifically reflect experiences with vicarious race-based stress. Responses are on a 5 - point scale ranging from 0 (*never*) to 4 (*almost always*). Example items include: “My partner helped me think about my exposure to violence against a Black person in a new way,” “My partner hugged me or cuddled with me after I witnessed violence against a Black person,” “My partner said it was O.K. to feel the way I was feeling after I witnessed violence against a Black person,” and “My partner offered to do something to help directly with my exposure to violence against a Black person.” This scale was created by the researcher due to the absence of other vicarious race-based stress specific measurements of intimate relationship support.

Factor analyses and reliability analyses were conducted to create this latent variable. The resulting 21 items were summed such that greater numbers signified more intimate partner support. The mean score was 56.71 ( $SD= 20$ ) with a range of 20 to 100. The measure had good reliability in the current sample ( $\alpha = .95$ ).

## **Racial Identity**

Racial identity was measured using the Centrality, Private Regard, and Public Regard subscales of the Multidimensional Inventory of Black Identity (MIBI; Sellers, Shelton, Rowley & Chavous, 1998). The centrality subscale consists of 10 items and measures how much race or racial identity is relevant to an individual's self-concept. Sample items include: "In general, being Black is an important part of my self-image" and "I have a strong sense of belonging to Black people." The subscale demonstrated a Cronbach's alpha of .77 in a study of reliability and construct validity (Sellers et al., 1997). Private regard refers to the feelings of positivity or negativity one holds for other African Americans and how positively or negative one feels about being an African American. Sample items include: "I am happy that I am Black" and "I feel that Blacks have made major accomplishments and advancements." The subscale demonstrated a Cronbach's alpha of .78. Public regard, on the other hand, measures one's perception of how positively or negatively others feel about African Americans. Sample items include: "overall, Blacks are considered good by others" and "Blacks are not respected by the broader society." This subscale also demonstrated a Cronbach's alpha of .78 (Sellers et al., 1998). Responses are rated on a 7-point Likert scale ranging from: 1 (*strongly disagree*) to 7 (*strongly agree*). This measure has demonstrated internal validity in several studies. For example, Oliver and colleagues (2017) utilized the private regard ( $\alpha = .75$ ) and public regard ( $\alpha = .79$ ) subscales in a sample of 71 African American undergraduate students. Additionally, a study employed a sample of 131 Black college students along with the private regard ( $\alpha = .79$ ) and public regard ( $\alpha = .85$ ) and centrality ( $\alpha = .82$ ) subscales (Volpe et al., 2018).

Items were summed to create the three subscales. The Centrality scale was comprised of 8-items. Items 1, 4, and 8 were reverse coded prior to summing so that higher numbers reflect

greater levels of racial centrality. The mean score was 5.55 ( $SD = .99$ ) with a range of 2.3 to 7. The scale had good reliability in the current sample ( $\alpha = .77$ ). The Public Regard scale was comprised of 6-items. Items 3 and 4 were reverse coded prior to summing so that higher numbers reflect greater levels of public regard. The mean score was 3.04 ( $SD = 1.13$ ) with a range of 1 to 6. The scale had good reliability in the current sample ( $\alpha = .81$ ). The Private Regard scale was comprised of 6-items. Item 4 was reverse coded prior to summing so that higher numbers reflect greater levels of private regard. The mean score was 6.57 ( $SD = .47$ ) with a range of 4.67 to 7. The scale had adequate reliability in the current sample ( $\alpha = .65$ ).

## **Depression**

Depressive symptomatology was measured by the Center for Epidemiologic Studies Short Depression Scale (CES-D-R 10; Andresen, Malmgren, Carter & Patrick, 1994). The scale consists of 10-items and instructs respondents to “indicate how often you have felt this way during the past week by checking the appropriate box for each question.” Sample items include “I was bothered by things that usually don't bother me” and “I felt depressed” and are rated on a 4-point scale ranging from *rarely or none of the time (less than one day)* to *all of the time (5-7 days)*. The scale demonstrated internal consistency with a Cronbach’s alpha of .86 in a community sample of 47 adults who experienced a spinal cord injury (Miller, Anton & Townson, 2008). Results of a confirmatory factor analysis demonstrated model fit and internal consistency reliability ( $\alpha = .91$ ) and ( $\alpha = .90$ ), and construct validity in two national adolescent samples (Haroz et al., 2014). Further, in a sample of 45 – 55-year-old African Americans, Christie-Mizell and colleagues (2018) employed a 7-item version of the CES-D and found a Cronbach’s alpha of .84. While this is a shorter version of the CES-D-R 10, the psychometric properties demonstrated are encouraging given the cultural similarity of the sample to that of the current study.

In line with scoring guidelines, eight items were scored from 0 (*rarely or none of the time*) to 3 (*all of the time*) and the remaining 2 items, “I felt hopeful about the future,” and “I was happy,” were reverse coded. All items were then summed to create this observed variable with higher numbers indicating greater levels of depression. Scores equal to or above 10 were considered depressed. The mean score was 7.94 ( $SD = 5.23$ ) with a range of 0 to 23. The measure had good reliability in the current sample ( $\alpha = .81$ ).

### **Relationship Quality**

Relationship quality was measured using the Positive-Negative Relationship Quality Scale (PN-RQ; Rogge, Fincham, Crasta & Maniaci, 2017). The PN-RQ assesses both the positive and negative dimensions of romantic relationships. Researchers suggest that individuals simultaneously hold distinct but related positive and negative regard for their partners (Fincham & Rogge, 2010). The scale prompts respondents with the statement: “considering only the positive qualities of your relationship and **IGNORING** the negative ones, please rate your relationship on the following....” The positive qualities included are “enjoyable, pleasant, strong, and alive.” Similarly, respondents are told “Considering only the negative qualities of your relationship and **IGNORING** the positive ones, please rate your relationship on the following... bad, miserable, empty, and lifeless.” Responses are rated on a 6-option scale ranging from *not at all true* to *completely true*. Both scales demonstrated a Cronbach’s alpha of .94. Strength was retained when testing across demographic subsamples (e.g. gender, race, SES, age, marital status, etc.) with Cronbach’s alpha ranging from .91 to .98 in those groups. A 2019 study investigated the psychometric properties of the PN-RQ in a Turkish sample of 513 married couples and demonstrated both reliability and validity (Araz et al., 2019). This finding begins to suggest that the scale is consistent across cultures.

For the current study, only the positive aspects of relationship quality were included. To create the relationship quality observed variable, the 8 positive items were summed such that greater numbers signified more positive relationship quality. The mean score was 39.58 (SD= 7.4) with a range of 13 to 48. The scale demonstrated good reliability in the current sample ( $\alpha = .94$ ).

## **Plan of Analyses**

### **Data Preparation**

The data were downloaded from Qualtrics in an SPSS compatible file to ensure ease of preparing the data for analysis. Initial screening of the data involved running frequencies and descriptive statistics while in SPSS to identify outliers and duplicate entries. Tests for normality were also completed. The data file was converted to .csv to be assessable for use in MPLUS software. Missing data was identified and coded as such (e.g. -999) and accounted for using full likelihood maximum (FML).

### **Conceptual Model**

Figure 1 depicts the conceptual model used to examine the data and inform additional data analyses. In this model, vicarious race-based stress and discrimination are included as predictors of racial trauma, depression and relationship quality. Racial trauma also functions as a mediator in that it predicts relationship quality and depression. Intimate partner support and racial identity (i.e. centrality, public regard, private regard) were included as moderators suggesting that the association between the predictor and the mediator varies based on the moderator. For example, the model suggests that the influence of vicarious race-based stress on trauma varies based on one's level of racial identity. Further, the model illustrates moderated-mediation such that the association between the predictor and outcome varies based on the level

of the interaction between the predictor and moderator and its influence on the mediator. For example, the interaction between racial discrimination and intimate partner support affects racial trauma which, in turn, influences relationship quality.

### **Structural Equation Modeling**

Structural equation modeling (SEM) is comprised of the measurement of constructs (measurement model) and the relationships between the constructs (structural model). SEM allows for the estimation of a path model with latent variables. It also allows for the incorporation of measurement error unlike regression analyses. Further, it can be used to simultaneously examine multiple predictors and outcomes, indirect effects, and interaction effects. Given the conceptual model which includes both latent and observed variables and the numerous associations to be estimated, SEM is an appropriate choice for analyzing the data. This is accomplished in six steps including: model specification, identification, estimation, evaluation, and modification (Hoyle, 1995; Kaplan, 2000; Kline, 2005; Schumacker & Lomax, 2004; as cited in Weston & Gore, 2006).

#### ***Model Identification***

Model identification is the consideration of the information that is known within a model and that which is to be estimated. A model is unidentified and cannot be estimated when there are more unknown ( $t$ ) variables, or parameters being estimated, than there are known ( $s$ ). An over-identified model, on the other hand, has more known variables than unknown and can be estimated. The following equation was used to determine the identification of the model:  $\frac{1}{2}s(s+1) - t$  where  $s$  = number of observed variables and  $t$  = number of parameters to be estimated. This results in the degrees of freedom. If the degrees of freedom are greater than one, then the model is over-identified (Weston & Gore, 2006). For the current study, there are 12

known or observed variables and 45 parameters to be estimated. This results in the following equation:  $\frac{1}{2} (12 [12 + 1]) - 45$ . There are 33 degrees of freedom, thus the hypothesized models in the current study are over-identified.

### ***Estimation***

The next step in structural equation modeling is estimating the unknown parameters in the models using MPLUS software. First, item parcels, or composites of subdimensions, were created for the latent variables due to their large number of indicators (Cheung & Lau, 2017; Sardeshmukh & Vandenberg, 2017). Next, the measurement model is estimated using confirmatory factor analysis. Then, the baseline and interaction structural models are estimated (Weston & Gore, 2006).

**Item Parceling.** Researchers recommend item parceling when latent variables are indicated by a large number of observed indicators (Cheung & Lau, 2017; Landis, Beal, & Tesluk, 2000; Little et al., 2002; Sardeshmukh & Vandenberg, 2017; Weston & Gore, 2006). Using parcels in lieu of all indicators decreases the complexity of the model and preserves model fit and power. This strategy was necessary given the 14 indicators of vicarious race-based stress and the 22 indicators for intimate partner support. An exploratory factor analysis followed by a conceptual interpretability strategy of parcel creation was employed (Worthington & Whittaker, 2006). An exploratory factor analysis loads all indicators onto a range of factors and uses the factor loadings to determine how items are organized. If items loaded onto more than one factor, or cross-loaded, then the conceptual interpretability strategy was applied. This strategy involves organizing items onto factors based on theory, construct conceptualization, and preexisting scales if applicable to ensure factor solutions are meaningful and conceptually sound in addition to empirically supported. Next, confirmatory factor analyses for both vicarious race-based stress

and intimate partner support were employed to further evaluate factor loadings and parcel fit. Finally, reliability analyses were conducted, and parcels were created by summing the items belonging to each factor. This method was employed for the two latent variables in the model (i.e. vicarious race-based stress and intimate partner support).

**Measurement Models.** Measurement models included all latent and observed variables. Vicarious race-based stress and vicarious race-based stress specific intimate partner support are included as latent variables. Because both the operationalization and measurement of vicarious race-based stress are new, there exists no prior psychometric data that demonstrates the validity and reliability of the scales. As a result, including this construct as a latent variable allowed for the exploration of how the items were related to vicarious race-based stress and allowed for the testing of study hypotheses. Similarly, vicarious race-based stress-specific intimate partner support is a new concept and scale that also had to be explored and validated. Including these constructs as latent variables allowed for the exploration of the psychometric properties of the novel VRBS-ER and the SIRRS-R-VSRB scales. Each latent variable was indicated by a composite of observed items, or parcels. These parcels were identified in a previous step using EFA, CFA, and reliability analyses. Thus, instead of including all 36 indicators of vicarious race-based stress and intimate partner support, 7 parcels were included in the model in an effort to decrease model complexity.

In contrast, discrimination, racial identity, racial trauma, relationship quality, and depressive symptoms were all measured by scales previously demonstrated to be valid and reliable. Although they, too, are abstract constructs that could be included as latent variables, their psychometric properties make them efficacious observed variables. Separate measurement models were created for each dimension of racial identity (i.e. centrality, private regard, and

public regard). Bidirectional parameters between all latent and observed variables and directional parameters from latent variables to their factors were included in the models. Figure 2 illustrates an example of such a measurement model. Confirmatory factor analysis was used to estimate the measurement models. All domains of racial identity were not included in a single model due to maintenance of adequate power. Additionally, literature suggests that the various aspects of racial identity may function differently in relation to both the predictors and outcomes (Carter, 2007; Chae et al., 2017; Sellers & Shelton, 2003). Thus, in measurement and subsequent models, each domain of racial identity will be in distinct models.

**Structural Models.** The latent moderated structural equation procedure (LMS) was used to estimate the structural models (Klein & Moosbrugger, 2000; Maslowsky et al., 2015; Sardeshmukh & Vandenberg, 2017). This approach is most appropriate for the current study due to the research questions at hand and the inclusion of latent interaction terms in the model. More specifically, LMS allows for the testing of moderated-mediation. Moderated-mediation means that “an interaction between an independent and moderator variable affects a mediator variable that in turn affects an outcome variable” (Edwards & Lambert, 2007, p. 7). For example, this strategy allows for the estimation of the influence of vicarious race-based stress at various levels of racial identity on racial trauma and, in turn, depressive symptoms. Given its complexity, LMS requires two steps to be completed to estimate the models. First, baseline structural models without the latent interaction term were estimated (Figure 3). Baseline structural models were estimated using the Maximum Likelihood (ML) procedure to test the hypothesized direct effects, indirect effects, and covariances between latent and observed variables. Then, the latent interaction structural models were estimated (Figure 4). Model fit was determined based on information from both models.

Baseline models included both latent variables (i.e. vicarious race-based stress, intimate partner support) and their factors in addition to all observed variables (i.e. racial discrimination, racial trauma, racial identity, intimate partner support, relationship quality, and depression). Vicarious race-based stress and racial discrimination were included as predictors of racial trauma, relationship quality, and depression. Racial trauma also functioned as a mediator in that it predicted relationship quality and depression as well. Intimate partner support and racial identity were included as predictors of relationship quality and depression. Sex, age, and education were included as control variables.

In the latent interaction models, all of the aforementioned associations were estimated with the addition of the interaction terms. The interactions between vicarious race-based stress and intimate partner support, vicarious race-based stress and racial identity, racial discrimination and intimate partner support, and racial discrimination and racial identity were the interaction terms included as predictors of trauma, relationship quality, and depression. Separate models were estimated for the three dimensions of racial identity (i.e. public regard, centrality, and private regard) for both the baseline and interaction models.

### ***Model Fit and Interpretation***

Following model estimation, how well the hypothesized models reflected the data was evaluated. The goal was not to exactly replicate the data, but to approximate the data. Model fit was evaluated by “(a) significance and strength of estimated parameters, (b) variance accounted for in endogenous observed and latent variables, and (c) how well the overall model fits the observed data, as indicated by a variety of fit indices” (Weston & Gore, 2006, p. 741). There are several fit indices that provided evidence of model fit including the chi-square, CFI/TLI, RMSEA, and SRMR. Adequate model fit is indicated by CFI greater than .90 (HU & Bentler,

1995), RMSEA less than .06 and SRMR less than .10. In theory, the chi-square would be non-significant indicating good fit; however, the data may still be a good fit for the data even if the chi-square is significant (Weston & Gore, 2006).

The measurement and baseline structural models were evaluated per the aforementioned fit guidelines. The structural models with the latent interaction, however, do not produce the typical or expected fit indices as they have yet to be developed for LMS (Maslowsky et al., 2015; Sardeshmukh & Vandenberg, 2017). Instead, the Akaike Information Criterion (AIC) from the baseline structural model was compared with the AIC from the model with the interaction term. The model with the lower AIC is the better fitting model with increases in the AIC indicating a loss of information. (Sardeshmukh & Vandenberg, 2017).

### ***Model Modification***

Modifications to the models were made based on recommendations from the modification indices in MPLUS. Modifications were made one by one in an effort to increase model fit. They included the addition of specific parameters (e.g. covariance). All modifications were congruent with theoretical and conceptual frameworks.

### **Analyses by Research Question**

#### ***RQ1: Is the Vicarious Race-Based Stress-Emotional Response (VRBS-ER) Instrument Both a Reliable and Valid Measure of Pervasive, Vicarious Experiences of Discrimination?***

The first research question asks if the Vicarious Race-Based Stress-Emotional Response (VRBS-ER) instrument is both a reliable and valid measure of emotional reactions to pervasive, vicarious experiences of discrimination. To answer this question, an empirical approach examining psychometric proprieties was employed following recommendations for best practices

in scale creation (Taherdoost, 2016; Worthington & Whittaker, 2006). Estimating this model and testing the validity and reliability of the scale required that an exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability analysis be performed. Additionally, correlation analyses were performed to confirm concurrent validity.

An exploratory factor analysis was performed to determine the factor structure of the 14-item vicarious race-based stress scale and identify underlying constructs. To accomplish this, all indicators, or observed variables, were loaded onto a range of factors and then used factor loadings to determine how the items were organized. Oblique rotation was used to allow for factors to correlate (Costello & Osborne, 2005) along with maximum likelihood extraction. Factors were retained if the eigenvalue was over 1.0. Examining the scree plot and identifying the “elbow” or natural curve in the data was also utilized in factor retention (Worthington & Whittaker, 2006). Items were retained on a factor if they had a factor loading of at least .32 as it is common in social sciences to see low to moderate loadings of .40 to .70, though .8 or greater is considered “high” (Costello & Osborne, 2005). Each factor must have had at least 3 items to be considered acceptable, though 5 or more indicated a stronger factor. Goodness of fit indicators were also examined. Good fit was indicated by CFI/TLI greater than .90, RMSEA less than .06, and SRMR less than .08 (Hu & Bentler, 1999). Reliability analysis was performed to assess the internal consistency of each factor. When cross-loading occurred, the inclusion of the item was dependent upon the reliability analysis and determining “conceptual interpretability” (Worthington & Whittaker, 2006). Following the completion of exploratory factor analyses, a confirmatory factor analysis was completed.

Confirmatory factor analyses are also widely used in social science research when developing scales (Worthington & Whittaker, 2006) and estimating measurement models. They

are useful because they organize observed variables, or items in a scale, onto a latent variable, or unobserved construct, based on EFA determined number of factors. Ultimately, the purpose of performing a CFA is to determine if the observed variables are, in fact, related to the underlying constructs. For instance, for the current study, CFA identified how well the items and factors on the VRBS-ER scale work together to measure the underlying concept of emotional reactions to vicarious race-based stress. Additionally, performing a CFA provides information regarding the construct validity of the scale, or how comprehensive yet pointed the items are (Taherdoost, 2016). Fit indices guidelines consistent with EFA were applied to the CFA model including CFI/TLI > .90, RMSEA < .06, and SRMR < .08 (Hu & Bentler, 1999). Modifications were made based on recommended modification indices, model fit, and conceptual interpretability. Once factors were finalized, a reliability analysis was performed to assess the internal consistency of each factor and the scale as a whole.

***RQ2-4: How Are Vicarious Race-Based Stress and Perceived Racial Discrimination Related to Outcomes? Does Racial Trauma Mediate These Associations?***

Research questions 2 and 3 inquire about the association between predictor variables (vicarious race-based stress and racial discrimination) and outcome variables (relationship quality and depression). Additionally, research question 4 asks if racial trauma mediates these associations. In order to answer these questions, baseline structural equation models were developed for each of the 3 aspects of racial identity (Figure 3). The baseline structural models were extensions of the conceptual and measurement models described previously.

Vicarious race-based stress was included as an exogenous latent variable along with the factors identified in the measurement model. Discrimination, on the other hand, was included as an observed exogenous variable. Intimate partner support was included as an exogenous latent

variable with its factors in addition to another exogenous observed variable, racial identity. Direct effects from all exogenous variables to the observed endogenous outcome variables, relationship quality and depressive symptoms, were also illustrated in the model. These direct effects depicted the hypothesized associations between variables and provided information to answer research questions 2 and 3. The direct effects from the predictor variables to racial trauma and the direct effects from racial trauma to outcome variables modeled the hypothesized mediation associations between variables and answers research question 4. It is important to note that any parameter additions applied to the measurement models were also included in the baseline models. Further, the control variables of sex, age, and education were included. Finally, an advantage of SEM, measurement error was included for each latent (disturbance) and endogenous (error) variable.

***RQ5-6: Do Cultural Coping Assets (E.G. Racial Identity, Intimate Partner Support) Moderate the Association Between Vicarious Race-Based Stress/ Discrimination and Outcomes?***

Research questions 5 and 6 ask about the moderation effects of racial identity and intimate partner support on the associations between the predictors and outcomes. In order to answer these questions, latent interaction structural models were created for each of the 3 domains of racial identity and were estimated with latent moderated structural equation modeling (LMS). An example of an interaction model is depicted in Figure 4. These models were an extension of the baseline models estimated in a previous step in that they include the addition of the latent interaction variables. The inclusion of these interaction variables allowed for the estimation of the moderating effects of the cultural coping assets on the association between vicarious race-based stress and racial discrimination and the outcomes, relationship quality and depressive symptoms.

Figure 4 details the specific interaction variables that were created which include latent interactions between vicarious race-based stress and intimate partner support, vicarious race-based stress and racial identity, and discrimination and intimate partner support. An additional observed interaction was formed with discrimination and racial identity. These interaction variables were modeled with hypothesized direct effects on the outcomes, depressive symptoms and relationship quality. Indirect effects, or moderated-mediation, was also depicted with the direct effects from the interaction variables to racial trauma coupled with the direct effects from racial trauma to depressive symptoms and relationship quality. LMS allows for the estimation of these parameters and provides answers to research questions 5 and 6.

## CHAPTER 4

### RESULTS

#### Preliminary Findings

##### Correlations

The results of bivariate correlations between study variables are presented in Table 2. Age was negatively correlated with vicarious race-based stress ( $r = -.28, p < .01$ ), racial trauma ( $r = -.25, p < .01$ ), intimate partner support ( $r = -.19, p < .05$ ), and depression ( $r = -.271, p < .01$ ) and positively correlated with public regard ( $r = .19, p < .01$ ). These findings suggest that younger participants experience more reactions to vicarious race-based stress, racial trauma symptoms, intimate partner support and depressive symptoms. Conversely, older participants may have greater public regard, or belief that non-Blacks think more highly of Black people.

Gender was negatively correlated with vicarious race-based stress ( $r = -.19, p < .05$ ), racial trauma ( $r = -.20, p < .01$ ), depression ( $r = -.18, p < .01$ ), and centrality ( $r = -.18, p < .01$ ) and positively correlated with public regard ( $r = .14, p < .05$ ). These findings suggest that women may experience more emotional reactions to vicarious race-based stress, racial trauma symptoms, and depressive symptoms. Their race may also be more central to their identity. Men, on the other hand, may have a stronger public regard.

Vicarious race-based stress was positively correlated with perceived racial discrimination ( $r = .51, p < .05$ ), racial trauma ( $r = .56, p < .01$ ), intimate partner support ( $r = .34, p < .01$ ), centrality ( $r = .38, p < .01$ ), and depression ( $r = .40, p < .01$ ). A negative correlation, however, was demonstrated for public regard ( $r = -.42, p < .01$ ). Relatedly, perceived racial discrimination was positively correlated with racial trauma ( $r = .46, p < .01$ ), intimate partner support ( $r = .38, p < .01$ ), centrality ( $r = .36, p < .01$ ), private regard ( $r = .16, p < .05$ ), and depression ( $r = .17, p <$

.05); but, negatively correlated with public regard ( $r = -.32, p < .01$ ). Similarly, racial trauma was positively correlated with discrimination ( $r = .47, p < .01$ ), intimate partner support ( $r = .31, p < .01$ ), depression ( $r = .49, p < .01$ ), and centrality ( $r = .25, p < .01$ ). Further, racial trauma was negatively correlated with public regard ( $r = -.29, p < .01$ ). All racial identity scales were significantly correlated with one another. More specifically, private regard was moderately correlated with both centrality ( $r = .35, p < .01$ ) and public regard ( $r = .15, p < .05$ ). Centrality and public regard were also significantly correlated; however, this association was negative ( $r = -.19, p < .01$ ).

### **Parcel Creation for Latent Variables**

Before estimating the measurement models, parcels were created to reduce the number of indicators for the vicarious race-based stress and intimate partner support latent variables. Parcel creation of the vicarious race-based stress scale is discussed in depth in response to RQ1 and is detailed in Tables 3 and 4. In short, three parcels were created based on the results of factor analyses.

#### ***Vicarious Race-Based Stress Specific Intimate Partner Support.***

An exploratory factor analysis produced a five-factor structure model with the best fit for the data. Eigenvalues ranged from .797 to 13.111. Examination of the scree plot (Figure 6) supported the five-factor structure with an “elbow” that begins to level out around the sixth data point. Significant factor loadings above .20 are listed in Table 4. Model fit indices indicated a significant chi-square ( $\chi^2 = 294.382, df = 185$ ), RMSEA = .057, CFI/TLI = .967/.964, and SRMR = .025 demonstrating good model fit.

**Factor 1.** For Factor 1, 5 items had loadings greater than .32 with factor loadings ranging from .50 to .96. Reliability analyses produced a strong Cronbach’s alpha of .873. All 5 items

were then summed to create the parcel. Conceptually, the items in this factor reflect informational support which involves sharing knowledge or giving one's partner advice about the situation at hand (e.g. "My partner helped me think about my exposure to violence against a Black person in a new way").

**Factor 2.** For Factor 2, 4 items had loadings greater than .32 with factor loadings ranging from .52 to .71. Reliability analyses produced a strong Cronbach's alpha of .901. All 4 items were then summed to create the parcel. Conceptually, items in this factor reflect the provision of affection toward one's partner (e.g. My partner hugged me or cuddled with me after I witnessed violence against a Black person.)

**Factor 3.** For Factor 3, 9 items had loadings greater than .32 with factor loadings ranging from .33 to .86. Items 7 and 8 were not included in the final factor given that they loaded more strongly onto Factor 2 and were conceptually more congruent with Factor 2. This decision to exclude items 7 and 8 was made in line with conceptual interpretability, or the retention of items that are statistically and meaningfully related (Worthington & Whittaker, 2006). Item 14 was also not included in the final factor due to significant cross-loading onto Factor 3 (.38), Factor 4 (.32), and Factor 5 (.34). This indicates poor fit for all of the factors due to the item loading greater than .32 on multiple factors and less than .15 difference between factors (Worthington & Whittaker, 2006). Reliability analyses of the remaining 6 items produced a strong Cronbach's alpha of .911. All 6 items were then summed to create the parcel. Conceptually, items in this factor reflect tangible assistance (e.g. My partner offered to do something to help directly with my exposure to violence against a Black person (e.g., partner offered to help with a task from work)").

**Factor 4.** For Factor 4, 6 items had loadings greater than .32 with factor loadings ranging from .32 to .71. As previously discussed, item 14 was not included in the factor. Reliability analyses for the 5 remaining items produced a strong Cronbach's alpha of .841. All 5 items were then summed to create the parcel. Conceptually, items in this factor reflect emotional support (e.g. My partner said it was O.K. to feel the way I was feeling after I witnessed violence against a Black person”).

**Factor 5.** Due to one factor having only 3 items with significant loadings and high cross-loadings for 2 of the items, this factor and the items that loaded onto it were dropped. Researchers suggest the deletion of factors that have less than two (Worthington & Whittaker, 2006) or three (Costello & Osborne, 2005) significant item loadings. Given that item 16 is the only item without high cross-loadings, this factor must be dropped. This is conceptually congruent with the original instrument which had 4 subscales that were created from factor analyses (Barry & Bunde, 2009). Thus, this decision was both empirically and conceptually informed.

Confirmatory factor analyses demonstrated good model fit according to fit indices. Model fit indices indicated a significant chi-square ( $\chi^2 = 303.846$ ,  $df = 183$ ), RMSEA = .06, CFI/TLI = .96/.95, and SRMR = .05 demonstrating good model fit. All significant items as detailed above, save factor 5, were retained. Factor loadings ranged from .60 to .89. All factors were significantly and positively correlated (Figure 8).

### **Modifications and Model Fit for Measurement Models**

Prior to estimating the full structural model, the measurement models were specified and estimated. Measurement models included all latent and observed variables. Vicarious race-based stress and intimate partner support were included as latent variables along with the parcels

identified in the previous step. Racial discrimination, racial trauma, racial identity, depression, and relationship quality were included as observed variables. Covariance between all latent and observed variables were included in the models. Separate measurement models were created for each dimension of racial identity (i.e. centrality, private regard, and public regard) as detailed below. Additionally, goodness of fit indices were evaluated and modifications were made as necessary. A summary of modifications is listed in Table 6. The final measurement models retained the additional parameters in subsequent estimations of the structural models. In short, the measurement model determined how well the observed variables functioned to identify vicarious race-based stress and intimate partner support. In turn, these measurement models provided the foundation for the structural equation models. Detailed fit information about the measurement models that included centrality, public regard, and private regard is discussed below.

### ***Centrality***

The initial measurement model that included centrality resulted in modest fit as indicated by comparative fit indices. The Chi-square ( $\chi^2 = 91.309$ ,  $df = 38$ ) was statistically significant ( $p < .01$ ) and the RMSEA (.078) was greater than .06. However, CFI (.95) and TLI (.913) were both greater than .9 and SRMR (.044) was less than .08 meeting good fit criteria.

Modification indices were examined for potential parameters to include to increase fit. Indices suggested addition of the covariance between intimate partner support parcel 2 (IPS F2) and intimate partner support parcel 4 (IPS F4). Since the correlation between the two parcels made theoretical sense, the model was respecified to include this association. The new measurement model was tested and resulted in a statistically significant Chi-square ( $\chi^2 = 77.615$ ,  $df = 37$ ), CFI (.96) and TLI (.93) greater than .9, SRMR (.04) less than .08, and RMSEA (.069).

While a RMSEA  $<.06$  indicates adequate fit,  $.069$  is less than  $.10$  which is unacceptable fit (Chen et al., 2008). Thus, this was an improvement compared to the initial model. No additional modifications were provided.

### ***Public Regard***

The initial measurement model that included public regard resulted in modest fit as indicated by comparative fit indices. The Chi-square ( $\chi^2 = 78.368$ ,  $df = 38$ ) was statistically significant ( $p < .01$ ) and the RMSEA ( $.069$ ) was greater than  $.6$ . However, CFI ( $.961$ ) and TLI ( $.933$ ) were both greater than  $.9$  and SRMR ( $.04$ ) was less than  $.08$  meeting good fit criteria.

Modification indices were examined for potential parameters to include to increase fit. Indices suggested the addition of the covariance between intimate partner support parcel 2 (IPS F2) and intimate partner support parcel 4 (IPS F4). Since the correlation between the two parcels made theoretical sense, the model was respecified to include this association. The new measurement model was tested and resulted in a statistically significant Chi-square ( $\chi^2 = 65.411$ ,  $df = 37$ ), CFI ( $.97$ ) and TLI ( $.95$ ) greater than  $.9$ , and RMSEA ( $.58$ ) and SRMR ( $.04$ ) both less than  $.6$ . This was an improvement compared to the initial model and no additional modifications were provided.

### ***Private Regard***

The initial measurement model that include private regard resulted in modest fit as indicated by comparative fit indices. The Chi-square ( $\chi^2 = 75.203$ ,  $df = 38$ ) was statistically significant ( $p < .01$ ) and the RMSEA ( $.065$ ) was greater than  $.6$ . However, CFI ( $.964$ ) and TLI ( $.937$ ) were both greater than  $.9$  and SRMR ( $.04$ ) was less than  $.08$  meeting good fit criteria.

Modification indices were examined for potential parameters to include to increase fit. Indices suggested the addition of the covariance between intimate partner support parcel 2 (IPS

F2) and intimate partner support parcel 4 (IPS F4). Since the correlation between the two parcels made theoretical sense, the model was respecified to include this association. The new measurement model was tested and resulted in a statistically significant Chi-square ( $\chi^2 = 62.498$ ,  $df = 37$ ), CFI (.975) and TLI (.956) greater than .9, and RMSEA (.055) and SRMR (.042) both less than .6. This was an improvement compared to the initial model and no additional modifications were provided.

The three distinct measurement models that included each domain of racial identity demonstrated adequate model fit. Thus, baseline structural equation models were estimated to test the hypothesized associations between study variables. Following this is the estimation of the latent interaction models. Fit information for these models is discussed below.

## **Modifications and Model Fit for Structural Equation Models**

### ***Baseline Structural Models***

Baseline structural models were estimated using the Maximum Likelihood (ML) procedure to test the hypothesized associations between latent and observed variables as shown in Figure 3. Separate models were created for each domain of racial identity (centrality, public regard, private regard). These models include the main effects of the moderator variables (i.e. intimate partner support and racial identity); however, the latent interaction term is not included. Additionally, goodness of fit indices were evaluated and modifications were made as necessary. A summary of modifications is listed in Table 7. The final measurement models retained the additional parameters in subsequent estimations of the structural models. In short, the baseline models for public regard, centrality, and private regard provided information about direct and indirect parameters, or the association between predictor variables, vicarious race-based stress and discrimination and outcomes, depressive symptoms and relationship quality. Model fit for

each of the 3 baseline models is provided followed by a discussion of the findings organized by research question.

**Public Regard.** The initial baseline model for public regard resulted in adequate fit as indicated by fit indices. The Chi-square ( $\chi^2 = 122.498$ ,  $df = 64$ ) was statistically significant ( $p < .001$ ). Goodness of fit indices resulted in CFI (.945) and TLI (.918) greater than .9, SRMR (.069) less than .08, and RMSEA (.063). While RMSEA  $< .06$  indicates good fit, .063 is considerably less than .10 which is unacceptable fit (Chen et al., 2008).

**Centrality.** The initial baseline model for centrality resulted in poor model fit. The Chi-square ( $\chi^2 = 158.191$ ,  $df = 64$ ) was statistically significant ( $p < .001$ ). Goodness of fit indices indicated CFI (.913) and TLI (.871) less than .9, RMSEA (.08) and SRMR (.74) greater than .6.

Modification indices were examined for potential parameters to include to increase fit. Indices showed covariance between education and centrality. Since the correlation between these two variables made theoretical sense, the model was respecified to include this association. For example, researchers have demonstrated a positive association between African American's level of education and their racial identity (Kelly & Floyd, 2001). The new measurement model was tested and resulted in even poorer model fit: Chi-square ( $\chi^2 = 166.259$ ,  $df = 62$ ) was statistically significant ( $p < .001$ ) and increased in size, CFI (.903) and TLI (.852) decreased, and RMSEA (.086) and SRMR (.077) also increased. This was not an improvement compared to the initial model and still did not meet acceptable fit guidelines. Additional specifications were made based on modification indices until the baseline model appropriately fit the data per fit guidelines. The additional parameters are listed in Table 8. The final baseline model demonstrated adequate fit for the data with CFI (.94), TLI (.902), RMSEA (.07) and SRMR (.55) all meeting fit guidelines.

This baseline model, including the modifications, was used when estimating the full structural model.

**Private Regard.** The initial baseline model for private regard resulted in adequate model fit. The Chi-square ( $\chi^2 = 118.728$ ,  $df = 64$ ) was statistically significant ( $p < .001$ ). Goodness of fit indices indicated CFI (.949) and TLI (.924) greater than .9, and RMSEA (.061) and SRMR (.068) greater than .6.

Modification indices were examined for potential parameters to include to increase fit. Indices showed covariance between age and vicarious race-based stress. Since the correlation between these two variables made theoretical sense, the model was respecified to include this association. The new measurement model was tested and resulted in even poorer model fit: Chi-square ( $\chi^2 = 130.908$ ,  $df = 62$ ) was statistically significant ( $p < .001$ ) and increased in size, CFI (.935) and TLI (.901) decreased, and RMSEA (.07) increased and SRMR (.062). This was not an improvement compared to the initial model and still did not meet acceptable fit guidelines. Additional specifications were made based on modification indices until the baseline model appropriately fit the data per fit guidelines. The additional parameters are listed in Table 7. The final baseline model demonstrated good fit for the data with CFI (.955), TLI (.926), RMSEA (.06) and SRMR (.051) all meeting fit guidelines. This baseline model, including the modifications, was used when estimating the full structural model.

### ***Latent Interaction Structural Models***

Structural models with latent interaction terms were estimated using the Latent Moderated Structural Equations (LMS) procedure as shown in Figure 4. These models are an extension of the baseline models with the addition of the latent interaction term. Separate models

were created for each domain of racial identity (centrality, public regard, private regard). Additionally, model fit was assessed.

The Latent Moderated Structural Equations (LMS) approach does not produce the typical model fit indices used to assess model fit (e.g. CFI/TLI, RMSEA, etc.). Instead, a baseline model (Model 0) without the latent interaction is estimated first and compared with the structural model (Model 1) with the latent interaction term. Researchers recommend comparing Model 0 and Model 1 using the difference of the Akaike Information Criterion (AIC) (Sardeshmukh & Vandenberg, 2017). Increases in the AIC indicate loss of information in the model. Across each model, the AIC value of the latent interaction model was less than the baseline model without the interaction term. As a result, good model fit was determined (Table 8).

### **Findings by Research Question**

#### **RQ1: Is the Vicarious Race-Based Stress-Emotional Response (VRBS-ER) Instrument Both a Reliable and Valid Measure of Pervasive, Vicarious Experiences of Racism?**

The psychometric properties of the scale as evidenced by exploratory factor analysis, confirmatory factor analysis, and reliability analysis provide support for the reliability and validity of the VRBS-ER. An exploratory factor analysis indicated that a three-factor structure was the best fit for the data. Eigenvalues were all greater than 1, 7.237 (Factor 1), 1.544 (Factor 2), and 1.051 (Factor 3). Examination of the scree plot (Figure 5) supported the three-factor structure with an “elbow” that began to level out around the fourth data point. Fit indices showed a significant chi-square ( $\chi^2 = 173.322$ ,  $df = 75$ ), RMSEA = .083, CFI/TLI = .934/.894, and SRMR = .039 indicating adequate model fit.

For Factor 1, 6 items had loadings greater than .32, including stressed, anxious, paranoid, depressed, worried, and overwhelmed with factor loadings ranging from .37 to .89. Reliability analyses produced a Cronbach's alpha of .88. All 6 items were summed to create the subscale such that higher scores indicate a greater emotional response. Conceptually, the items in this subscale reflect a hypervigilant response. Thus, Factor 1 is considered the *hypervigilance* subscale.

For Factor 2, 6 items had loadings greater than .32, including stressed, angry, worried, enraged, powerless, and discouraged with factor loadings ranging from .37 to .81. Two items, stressed and worried, loaded more strongly onto Factor 1 and were conceptually more congruent with Factor 1. Thus, they were excluded from the factor reflective of an empirically and conceptually informed decision (Costello & Osborne, 2005; Worthington & Whittaker, 2006). Reliability analyses produced a Cronbach's alpha of .77. The remaining 4 items were summed to create the subscale such that higher scores indicate a greater emotional response. Conceptually, the items in this subscale reflect a dysregulated and hyper aroused response. Thus, Factor 2 is considered the *dysregulation/hyperarousal* subscale.

For Factor 3, 5 items had loadings greater than .32, including numb, embarrassed, hopeless, isolated, and detached with factor loadings ranging from .36 to .92. Results of a reliability analysis with the 5 items demonstrated a Cronbach's alpha of .77. Item-Total Statistics suggested a higher Cronbach's alpha with the removal of embarrassed ( $\alpha = .79$ ). Worthington and Whittaker (2006) stress the importance of conceptual interpretability and ensuring that factor solutions are meaningful in addition to empirically sound. Conceptually, the item was not congruent with the other items on the factor; thus, it was removed. The remaining 4 items produced a stronger Cronbach's alpha of .79. All 4 items were summed to create the parcel.

Conceptually, the items in this subscale reflect a withdrawal and detachment response. Thus, Factor 3 is considered the *withdrawal* subscale.

Results of a 3-factor confirmatory factor analysis also demonstrated adequate fit: CFI = .94, TLI = .92, RMSEA = .07, and SRMR = .05, with factor loadings ranging from .52 to .80 (Table 5). All factors were significantly and positively correlated as illustrated in Figure 7. Further, divergent validity is demonstrated by items having factor loadings of at least 0.40, minimal cross-loadings greater than 0.4, and eigenvalues greater than 1. Convergent validity is evidenced by items loading onto distinct and conceptually sound factors. Thus, results of the factor analyses, including model fit and conceptually sound factors with minimal cross-loading, suggest construct validity. Additionally, the composite VRBS-ER scale (all 14 items) demonstrated internal consistency with a Cronbach's alpha of .92. The scale was also significantly correlated with perceived racial discrimination ( $r = .51, p < .001$ ) and racial trauma ( $r = .56, p < .001$ ) in the expected direction. This indicates that these similar scales are measuring related, but distinct constructs indicative of concurrent validity. The preliminary psychometric properties of the vicarious race-based stress- emotional response scale support the hypothesis that this is a valid and reliable measure of reactions to vicarious race-based stress.

## **RQ2: How are Vicarious Race-Based Stress and Perceived Racial Discrimination Related to Outcomes?**

### ***Hypothesis 2a: Vicarious Race-Based Stress Will Be Significantly and Positively Associated with Depressive Symptoms***

Results supported hypothesis 2a as evidenced by several structural equation models. Across baseline models of racial identity, vicarious race-based stress consistently demonstrated a

significant association with depression (Table 8). Vicarious race-based stress significantly predicted depression in the baseline models of public regard, ( $\beta = .257, p < .05$ ), centrality ( $\beta = .289, p < .01$ ), and private regard ( $\beta = .271, p < .01$ ). These coefficients were positive such that greater reports of vicarious race-based stress were associated with greater reports of depressive symptoms.

***Hypothesis 2b: Vicarious Race-Based Stress Will Be Significantly and Negatively Associated with Relationship Quality***

Hypothesis 2b was not supported. No significant association was found between vicarious race-based stress and relationship quality in correlation analyses or structural equation modeling.

***Hypothesis 2c: Vicarious Race-Based Stress Will Be Significantly and Positively Associated with Racial Trauma***

Results supported hypothesis 2c as evidenced by several structural equation models. Across baseline models of racial identity, vicarious race-based stress consistently demonstrated a significant association with racial trauma (Table 8). Vicarious race-based stress significantly predicted racial trauma in the baseline models of public regard, ( $\beta = .413, p < .01$ ), centrality ( $\beta = .412, p < .01$ ) and private regard ( $\beta = .396, p < .01$ ). These coefficients are positive such that greater reports of vicarious race-based stress are associated with greater reports of trauma.

***Hypothesis 2d: Racial Discrimination Will Be Positively Associated with Depressive Symptoms***

Structural equation modeling did not support hypothesis 2d. However, bivariate correlations suggest an association between racial discrimination and depression in the expected direction. More specifically, a significant, positive correlation was found between racial

discrimination and depression ( $r = .17, p < .05$ ). This suggests that as experiences of discrimination increase, depressive symptoms also increase.

***Hypothesis 2e: Perceived Racial Discrimination Will Be Negatively Associated with Relationship Quality***

Hypothesis 2e was not supported. No significant association was found between discrimination and relationship quality in correlation analyses or structural equation modeling.

***Hypothesis 2f: Perceived Racial Discrimination Will Be Positively Associated with Racial Trauma***

Hypothesis 2f was supported as evidenced by several structural equation models. Across baseline models of racial identity, racial discrimination consistently demonstrated a significant association with racial trauma (Table 8). Racial discrimination significantly predicted racial trauma in the baseline models of public regard ( $\beta = .206, p < .05$ ), centrality ( $\beta = .198, p < .05$ ) and private regard ( $\beta = .229, p < .01$ ). These coefficients were positive such that greater reports of racial discrimination were associated with greater reports of racial trauma symptoms.

**RQ3: Does Racial Trauma Mediate the Association Between Vicarious Race-Based Stress and Mental Health and Couple Outcomes?**

***Hypothesis 3a: Racial Trauma Will Mediate the Association Between Vicarious Race-Based Stress and Depressive Symptoms***

Hypothesis 3a was partially supported as evidenced by structural equation modeling. Across baseline models, a significant indirect effect was found for vicarious race-based stress and depression through racial trauma. For example, a positive association exists from vicarious race-based stress to depression via racial trauma in the baseline models for public regard ( $\beta =$

.144,  $p < .01$ ), centrality ( $\beta = .243$ ,  $p < .01$ ), and private regard ( $\beta = .123$ ,  $p < .01$ ). However, this is not full mediation due to the fact that the direct effects of vicarious race-based stress to depression are also significant. Even so, this suggests that racial trauma partially accounts for or explains the association between vicarious race-based stress and depressive symptoms.

***Hypothesis 3b: Racial Trauma Will Mediate the Association Between Vicarious Race-Based Stress and Relationship Quality***

Hypothesis 3b was not supported. No significant indirect effect was found for vicarious race-based stress and relationship quality through racial trauma.

**RQ4: Does Racial Trauma Mediate the Association Between Discrimination and Mental Health and Couple Outcomes?**

***Hypothesis 4a: Racial Trauma Will Mediate the Association Between Racial Discrimination and Depressive Symptoms***

Hypothesis 4a was supported as evidenced by structural equation modeling. Across baseline models, a significant indirect effect was found for discrimination and depression through racial trauma. For example, a positive association exists from discrimination to depression via racial trauma in the baseline models for public regard ( $\beta = .072$ ,  $p < .05$ ), centrality ( $\beta = .022$ ,  $p < .05$ ), and private regard ( $\beta = .071$ ,  $p < .05$ ). This suggests that racial trauma accounts for or explains the association between perceived racial discrimination and depressive symptoms. Further, the direct effect from discrimination to depression is not significant which indicates full mediation.

***Hypothesis 4b: Racial Trauma Will Mediate the Association Between Discrimination and Relationship Quality***

Hypothesis 4b was not supported. No significant indirect effect was found for discrimination and relationship quality through racial trauma.

**RQ5: Do Cultural Coping Assets (E.G. Racial Identity, Intimate Partner Support)**

**Moderate the Association Between Vicarious Race-Based Stress and Mental Health / Couple Outcomes?**

Hypotheses 5a – 5f were not supported. Structural equation modeling did not find any significant moderation effects of vicarious race-based stress and centrality, private regard, public regard, or intimate partner support on racial trauma, depression, or relationship quality. However, in the model for private regard, the interaction between vicarious race-based stress and intimate partner support on depression was approaching significance ( $\beta = -.14, p = .055$ ).

While private regard did not demonstrate protective capabilities, it was directly related to outcomes suggesting promotive functions. In the baseline model, private regard significantly predicted trauma ( $\beta = -.122, p < .05$ ), depression ( $\beta = -.136, p < .05$ ), and relationship quality ( $\beta = .218, p < .01$ ). These findings suggest that greater private regard is associated with less racial trauma symptoms, less depressive symptoms, and more positive relationship quality.

**RQ6: Do Cultural Coping Assets (E.G. Racial Identity, Intimate Partner Support)**

**Moderate the Association Between Discrimination and Mental Health / Couple Outcomes?**

Hypotheses 6a – 6e were not supported. Structural equation modeling did not find any significant moderation effects of discrimination and centrality, private regard, public regard, or intimate partner support on depression or relationship quality.

***Hypothesis 6f: Intimate Partner Support Will Weaken the Negative Association Between Discrimination and Racial Trauma***

Hypothesis 6f was also not supported. Results of a latent interaction structural equation model indicated a significant interaction between discrimination and intimate partner support on racial trauma ( $\beta = .17, p < .05$ ) (Table 8). Interaction graphs depict this association and improves interpretability. As illustrated in Figure 12, when greater amounts of intimate partner support are reported and discrimination is high, participants experience more racial trauma. Contrarily, experiences of racial trauma are lower in those who have low intimate partner support and high levels of discrimination.

**Additional Findings**

**Racial Trauma as a Predictor**

Racial trauma demonstrated a positive correlation with depression ( $r = .49, p < .01$ ). Across baseline and interaction models of racial identity, racial trauma symptoms have consistently demonstrated a significant association with depressive symptoms (Table 8). Racial trauma significantly predicted depressive symptoms in the baseline models of public regard, ( $\beta = .348, p < .01$ ), centrality ( $\beta = .344, p < .01$ ) and private regard ( $\beta = .311, p < .01$ ). These coefficients were positive such that greater reports of racial discrimination were associated with greater reports of racial trauma symptoms.

**Intimate Partner Support as a Predictor**

Vicarious race-based stress specific intimate partner support demonstrated a modest, positive correlation with relationship quality ( $r = .15, p < .05$ ). Across baseline models of racial identity, intimate partner support has consistently demonstrated a significant association with relationship quality (Table 8). Intimate partner support significantly predicted relationship

quality in the baseline models of public regard, ( $\beta = .248, p < .01$ ), centrality ( $\beta = .223, p < .01$ ) and private regard ( $\beta = .216, p < .01$ ). These coefficients were positive such that greater reports of racial discrimination were associated with greater reports of racial trauma symptoms. Also, in the model with private regard, the baseline model ( $\beta = .125, p < .01$ ) demonstrated an association between intimate partner support and racial trauma. This suggests that increased intimate partner support is associated with increased racial trauma symptoms.

## CHAPTER 5

### DISCUSSION AND CONCLUSION

#### Discussion

##### Summary of Findings

The increase in access to information via technological platforms (i.e. social media, television, etc.) coupled with the racism ridden historical context of the United States of America bring into question the impact of vicarious race-based stress on the mental health and interpersonal well-being of African Americans. Because no known measure of vicarious race-based stress existed at the time of the study, the Vicarious Race-Based Stress- Emotional Response (VRBS-ER) was developed. Employing this novel measure, the current study built upon the Race Based Traumatic Stress Injury model (Carter, 2007) in that findings consistently demonstrated the deleterious consequences of the emotional and psychological reactions to vicarious race-based stress on mental health. Even after taking age, gender, and socioeconomic status into account, participants who experienced an emotional reaction to vicarious race-based stress also reported increased depressive and racial trauma symptoms. Additionally, racial trauma symptoms partially explained, or mediated, the association between vicarious race-based stress and depressive symptoms. The pervasiveness of vicarious race-based stress makes this a concerning discovery. It seems that despite the vicarious nature of this racial stressor, individuals who are exposed may be significantly impacted by the experience over and beyond racial discrimination.

Perceived racial discrimination also saw negative consequences for the individual in the form of racial trauma. In a pattern similar to that seen with vicarious race-based stress, racial trauma explained the positive association between perceived racial discrimination and depressive

symptoms. In this case, however, it appears as though racial trauma fully mediated, or explained, this association given that the direct relationship between discrimination and depression was not significant. In turn, as racial trauma increased depressive symptoms also increased.

Given the demonstrated deleterious effects of various racial stressors on the mental health of African Americans, the current study aimed to identify culturally specific coping assets that contribute to the resiliency of this community. A vicarious race-based stress specific intimate partner support scale (SIRRS-R-RM) was developed by revising an existing instrument. Consistent with Bryant and colleague's (2010) Model of African American Martial Outcomes, intimate partner support demonstrated a positive association with relationship quality and a negative association with depressive symptoms. Similarly, as the strength of participant's racial identity, private regard specifically, increased, the less racial trauma and depressive symptoms they reported experiencing. Participants also reported more positive relationship quality when they reported greater private regard. Contrary to expectations, however, individuals reporting more intimate partner support also reported experiencing more racial trauma.

## **Discussion of Research Questions**

### ***RQ 1: Is the Vicarious Race-Based Stress-Emotional Response (VRBS-ER) Instrument Both a Reliable and Valid Measure of Pervasive, Vicarious Experiences of Racism?***

The Vicarious Race-Based Stress-Emotional Response (VRBS-ER) instrument was developed to address a gap in the literature by providing a measure of pervasive, racially motivated actions committed against people of color that result in a vicarious experience of the stress associated with the act. Although not directly targeted, this indirect exposure to the stress

associated with the incident results in long-lasting deleterious psychological and interpersonal consequences for the individual.

Preliminary psychometric data suggest that the instrument is a reliable and valid tool. Specifically, factor analyses provided evidence of construct validity including both convergent and divergent validity. This means that the VRBS-ER represents the concept that it was designed to measure. The three underlying constructs identified included: hypervigilance, dysregulation/hyperarousal, and withdrawal. While not identical, these constructs are congruent with the Race-Based Traumatic Stress Symptom Scale (RBTSSS; Carter et al., 2013), the Trauma Symptoms of Discrimination Scale (TSDS; Williams, Printz, & DeLapp, 2018c), and the Race Based Traumatic Stress Injury Model (Carter, 2007) they were informed by. The RBTSSS (Carter et al., 2013) assesses reactions to experiences with racism that reflect a trauma response. Factor analyses of this scale produced seven subscales: depression, intrusion, anger, hypervigilance, physical reactions, low self-esteem, and avoidance/dissociation. The TSDS (Williams, Printz, & DeLapp, 2018c) measures the anxiety-related trauma symptoms of race-related distress and has four subscales: uncontrollable distress and hyperarousal, alienation from others, worry about safety, future, and well-being, and keyed up and on guard. Finally, the Race Based Traumatic Stress Injury model (Carter, 2007) identified reaction signs such as hyperactivity, withdrawal, avoidance, and increased vigilance. Again, while the subscales of the VRBS-ER are not exact replications of these existing measures and model, there is significant conceptual overlap.

Additionally, the Vicarious Race-Based Stress-Emotional Response scale was significantly correlated with the TSDS (Williams et al., 2018c) and the Index of Race- Related Stress—Brief Version (IRRS-B; Utsey, 1999) related measures of racism. Given the high level

of theoretical and statistical correspondence with these similar constructs, criterion validity was also demonstrated. This means that the results correspond to existing measures of similar constructs. The fact these associations are in the expected direction, suggests that the VRBS-ER is measuring what it was designed to measure. Additionally, the scale demonstrates internal consistency indicating that the scale consistently and reliably measures the underlying construct.

The construction of the VRBS-ER contributes to the field in that it builds upon the current assessments of experiences of racism in its various forms given that no known equivalent instrument existed at the time of the current study. Further, the development and validation of the instrument reaffirms that the phenomenon of vicarious race-based stress exists and was conceptualized appropriately. In short, while the findings of the current study are preliminary, they provide a foundation for the conceptualization and assessment of this emerging form of racism that has deleterious consequences for African Americans.

***RQ 2: How Are Vicarious Race-Based Stress and Perceived Racial Discrimination Related to Outcomes?***

Congruent with study hypotheses, findings demonstrated that experiences of vicarious race-based stress have adverse consequences for mental health outcomes. Participants who reported experiencing a greater degree of negative reactions to vicarious race-based stress also experienced increased depressive symptoms. This is consistent with the Race Based Traumatic Stress Injury model (Carter, 2007) and previous research that suggested that vicarious experiences of racial stress such as witnessing violence committed against a Black person can produce psychological consequences for the individual (Bryant-Davis et al., 2017; Truong et al., 2016; Williams & Mohammed, 2009). This may be due, in part, to the identification with the

victim of the perceived race-related act of violence and knowing that they, too, are at risk of experiencing the same (Truong et al., 2016). Thus, vicarious race-based stress manifests as stressful on the macro, or societal level, and personally as well.

Contrary to study hypotheses and previous research, findings failed to demonstrate the deleterious consequences for discrimination on mental health outcomes. This is surprising given that researchers almost unanimously agree that greater experiences of discrimination result in increased odds of depression (Bryant-Davis et al., 2017; Carter et al., 2017; Hudson, et al., 2016) and depressive symptomology (McNeil et al., 2014; Ikram et al., 2014). This lack of association may be explained by the mediating influence of racial trauma since an indirect relationship from discrimination to depression through racial trauma was demonstrated.

This may also be explained by the inclusion of vicarious race-based stress in the model. It may be that the direct relationship between discrimination and depression is attenuated when the experience of vicarious race-based stress is considered. In other words, reactions to vicarious race-based stress explain the deleterious consequences of racial stressors on mental health outcomes above and beyond discrimination. Conceptually, this makes sense given that researchers have consistently found that more encounters with racial stressors are often linked to more psychological distress (Bryant-Davis et al., 2017; Williams et al., 2018b, Williams et al., 2018c). It is reasonable to believe that the indirect exposure of vicarious race-based stress increases the chances that an individual may encounter this racial stressor which, in turn, produces an emotional response that is more salient than interpersonal experiences of racial discrimination.

Also contrary to study hypotheses and the Model of African American Martial Outcomes (Bryant et al., 2010) neither vicarious race-based stress nor discrimination were related to

relationship quality. Other researchers have also failed to find an association between racial stressors and relationship satisfaction (Clavél, et al., 2017; Lavner et al., 2018; Trail et al., 2013). This may be explained, in part, by racial stressors impacting relationships by increasing negative relationship functioning instead of decreasing the positive aspects. For example, Lavner and colleagues (2018) found higher levels of increased aggression and relationship instability than lower levels of relationship satisfaction when couples encountered discrimination. Theory suggests and previous research has confirmed that racial stressors can produce a wide range of emotional reactions including anger, aggression, rage, tension, and sadness that may in turn influence the functioning of the relationship (Bryant et al., 2010; Carter, 2007; Clark et al., 1999; Murry et al., 2018). Thus, one might presume that the positive aspects of the relationship may not be as impacted by racial stressors. This is important to note given that the measure of relationship quality in the current study (PN-RQ, Rogge et al., 2017) prompted participants with “considering only the positive qualities of your relationship and IGNORING the negative ones, please rate your relationship on the following...” Given that only the positive qualities of the relationship were assessed, it is understandable that no association was found.

***RQ 3 and 4: Does Racial Trauma Mediate the Association Between Vicarious Race-Based Stress and Mental Health and Couple Outcomes? Discrimination and Mental Health and Couple Outcomes?***

Results of the current study demonstrated the stressful and traumatic consequences of both vicarious race-based stress and discrimination. Participants who reported greater experiences of the racial stressors also reported more trauma symptoms. Theory (i.e. The Race Based Traumatic Stress Injury model; Carter, 2007) and other studies attribute this link to the

repeated exposure to racially motivated events that are perceived as threatening and, in turn, elicit feelings of anxiety, fear, hypervigilance, avoidance, and hopelessness (Carter, 2007; Bryant-Davis et al., 2017; Williams et al, 2018b; Williams et al, 2018c). The impact of these racial stressors is so significant that indirect exposure such as witnessing on television, social media platforms, or even speaking about them with someone else can vicariously produce a trauma response (Aymer, 2016; Bryant-Davis et al., 2017; Harris, 2000; Williams et al, 2018c). These findings are consistent with the efforts of race-related stress experts who advocate for racism to be conceptualized as trauma and even post-traumatic stress disorder (Aymer, 2016; Bryant-Davis et al., 2017; Carter, 2007; Truong et al., 2016; Williams et al, 2018b). They argue that expanding the definition of trauma and PTSD to be more inclusive will increase the cultural sensitivity of research and clinical practice alike. The current study provides further evidence to support the necessity of these advances.

Unsurprisingly, when participants reported greater levels racial trauma symptoms, they also reported more depressive symptoms. In turn, this racial trauma mediated, or explained, the relationships between both vicarious race-based stress and depression and discrimination and depression. This suggests that vicarious race-based stress, specifically, is related to depression, in part, because of the traumatic response it produces. Given that a direct relationship between vicarious race-based stress and depression was found, this suggests that trauma only partially accounts for this relationship. Other factors may have contributed to this direct relationship with depression such as cooccurring stressors (e.g. occupational status, financial strain, family conflict, etc.), individual characteristics (e.g. psychological/emotional functioning, personality traits, locus of control, biological factors, etc.), or cultural resources (e.g. religion/spirituality, social/kinship networks, etc.) (Bryant et al., 2010; Clark et al., 1999; Murry et al., 2018).

Discrimination, on the other hand, was not directly related to depression, which suggests that full mediation occurred. These findings provide further insight into the mechanism through which vicarious race-based stress and discrimination may impact African Americans' mental health (Bryant-Davis et al, 2017; Turner & Richardson, 2016; Williams et al., 2018b, Williams et al., 2018c).

Racial trauma did not mediate the relationship between vicarious race-based stress or discrimination. This is contrary to study hypotheses and may be explained by the scale used to measure relationship quality as previously discussed.

***RQ 5 and 6: Do Cultural Coping Assets (E.G. Racial Identity, Intimate Partner Support) Moderate the Association Between Vicarious Race-Based Stress and Mental Health / Couple Outcomes? Between Discrimination and Mental Health / Couple Outcomes?***

Private regard demonstrated the promotion of positive mental health and interpersonal outcomes. Specifically, participants who felt more positively about other African Americans, or reported greater private regard, reported fewer depressive symptoms along with fewer trauma symptoms. There are several related theories as to why racial identity functions in this manner. Bryant and colleague's (2010) Model of African American Martial Outcomes suggests that the stress associated with racial stressors would not be as harmful on a couple's relationship quality if they also had stronger racial identity. For example, having positive feelings toward and feeling connected to one's racial group may promote self-esteem (Jones et al., 2014) and impede the internalization of racial stressors (Chae et al., 2017; Sellers & Shelton, 2003). Having a strong racial identity may also impact the perception of any racial stressors experienced by attributing them to racism as opposed to one's self-worth or value (Pascoe & Richman, 2009). As a result of

this process, those with stronger racial identity may feel more confident and equipped to face and cope with racism as it presents itself (Jones et al., 2014). Further, relationship quality also increased with strengthened private regard. In addition to the aforementioned, this association may be explained by an increase in trust and affirmation in relationships where an individual not only has positive thoughts about themselves, but also about their partner (Kelly & Floyd, 2001).

Vicarious race-based stress specific intimate partner support also demonstrated promotion of positive mental health and interpersonal outcomes. Participants who reported receiving greater amounts of intimate partner support from their partner reported fewer depressive symptoms and more positive relationship quality. Intimate partner support may foster feelings of connectedness and validation, which in turn shields negative mental health consequences and strengthens the relationship (Ajrouch et al., 2010; Brondolo et al., 2009; Chung & Epstein, 2014).

Contrary to expectations, as levels of vicarious race-based stress specific intimate partner support increased, trauma symptoms also increased. This was unexpected given that intimate partner support usually promotes mental health (Chung et al., 2014; McNeil et al., 2014; Holder et al., 2015). This discrepancy may be attributed to the nature of the measure. The intimate partner support instrument prompts participants to reflect on their experiences with vicarious race-based stress and how their partner supported them following the encounter(s). Given the already vicarious and traumatic nature of the events, it is reasonable to consider how this shared space may serve both protective and risk functions for those involved. It is possible that reexperiencing the events while seeking or receiving support may have adverse effects on the individual (Utsey et al., 2000). It is also possible that there was a mutual exchange of support between spouses. Previous research has demonstrated that African Americans may provide

support to other members of their racial group in order to distance themselves from their own experiences and cope (Clavél, et al., 2017). Through this process of sharing, the couple might have further contributed to the indirect experience of the vicarious race-based stress and resulting trauma (Harrell, 2000). However, due to only having reports from one partner in the dyad, the current study was unable to explore this further.

Perhaps the most significant contribution of the current study is the operationalization of vicarious race-based stress and development of the first known instrument to measure this experience, the VRBS-ER. The preliminary psychometric data of the VRBS-ER provides a foundation for continued validation and refinement of the construct. Further, a vicarious race-based stress specific intimate partner support scale (SIRRS-R-VRBS) was developed to measure how African Americans function within the context of a committed relationship when faced with vicarious race-based stress. These novel scales facilitate the continued examination of the impact of race related stressors for African Americans along with the resources they may employ in their resiliency.

### **Limitations and Recommendations for the Future**

Despite the numerous contributions to the field, the current study is not without a few limitations. First, the majority of the sample was young (25-35 years old) and highly educated. This may be due in part to the partial snowball sampling method employed to recruit participants. As a result, generalizability of the findings to all African American adults is reduced given the overrepresentation of these demographics. Additionally, while the sample size was sufficient to test the models in the current study, limitations were placed on estimating more complex models. For example, the smaller sample size restricted the researcher's ability to include all three domains of racial identity in a single model. Instead, due to concerns for

adequate power, aspects of racial identity were estimated in separate models. Future studies should employ a larger, more heterogeneous sample to improve generalizability of findings and estimate more complex models.

Further, the data were collected at one time point which prohibits the inference of causality or order of the effects. There is evidence that racial identity may increase perception of experiences as racial stressors due to the saliency of race to the individual (Chae et al., 2017; Lee & Ahn, 2013; Sellers & Shelton, 2003). There is also evidence, however, that experiences of racial stressors may enhance or increase one's racial identity, which may then serve a protective function (Chae et al., 2017; Seller & Shelton, 2003). Examination of the order of effects and the resulting causality in the current study was not an option given the cross-sectional nature of the data. Administering study materials at several timepoints would allow for the exploration of causal relationships and provide insight into changes over time. Racial identity, for example, is a fluid concept such that an individual's perception of themselves or others can strengthen or weaken over time (Carter, 2007). Similarly, depression was included in the models as an outcome, which does not account for the potential effects of depression on the perception of vicarious race-based stress and discrimination. It is possible that individuals who experience more depressive symptoms may be more negatively impacted by the racial stressors. Longitudinal data would allow researchers to explore and unpack this process further especially as it relates to racial stressors.

An additional limitation is the novelty of the vicarious race-based stress instrument. At the time of the study, there were no known measures of experiences of vicarious race-based stress or their resulting emotional reactions, which resulted in the researcher developing one based on theory, similar constructs, and existing instruments. This is a limitation due to the fact

that the measure has only been employed in the current study and the psychometric properties are only beginning to be explored. While the measure performed adequately in the current study, more research must be done to determine its psychometric properties by employing the instrument in future studies with more samples. For example, factor analyses should be utilized to determine both the divergent and convergent validity of the scale. This would reflect how well the scale measures the concept of vicarious race-based stress, or the construct validity of the scale. Additionally, examining how well the VRBS-ER produces outcomes similar to other instruments measuring related constructs will inform concurrent validity. Finally, future research should determine if the scale produces consistent and stable results in a variety of samples. Exploration of Cronbach alpha coefficients will determine this internal consistency reliability.

Another limitation concerns the online survey format of the data collection. The data are all self-report raising inquiries about social desirability, which may skew the results. Inherent in all anonymous online surveys, the identities of the participants are unknown. For example, it became evident as the data were being cleaned that at least one person was completing multiple surveys to obtain the gift card incentive. These entries were subsequently removed from the data; however, it is unknown how many other completed surveys were duplicates. Further, given the online format of the surveys, the privacy of the individuals as they responded to survey questions may have been compromised. Participants may have been in close proximity to their partner or other people and, in turn, not been as honest when answering questions relating to relationship quality, depressive symptoms, or other sensitive topics. Should researchers have the resources to do so, administering survey materials in a controlled setting in future studies would help to address this.

Finally, the original intention of the current study was to examine the interdependent, actor and partner effects, of the study variables by collecting data from both members of the

couple. Unfortunately, due to the challenges inherent in collecting dyadic data, coupled with the justifiable apprehension of African Americans' participation in research, the researcher was unable to obtain the necessary number of couples to examine dyadic data. This resulted in individual data being used in all analyses. Further, due to researcher error, the question that asked participants to report their relationship status (e.g. married or dating) was mistakenly not included in the online survey. Fortunately, the inclusion criteria on the informed consent and the screening questions prior to beginning the survey provided confirmation that each participant reported being in a romantic relationship. Future research should be intentional about recruiting both partners of African American couples due to the fact that dyadic data analyses provide a rich source of information about the interdependent dynamics and processes underlying these relationships.

Future research should also explore why each domain of racial identity functioned differently. In the current study private regard alone was related to mental health and interpersonal outcomes while centrality and public regard were not. Investigation into why this was more beneficial than the others can inform clinical work with this community in terms of the promotion and strengthening of an individual's private regard of other African Americans and themselves. Additionally, the protective function of other cultural coping assets such as spirituality should be considered as they relate to vicarious race-based stress. Researchers have demonstrated the positive effects of these resources when faced with other forms of racism (e.g. microaggressions, perceived racial discrimination, etc.); thus, one can infer that they may play a similar role when considering more pervasive, vicarious racial stressors.

## **Implications**

As mentioned previously, no known instrument to date has specifically measured African Americans' experiences of the pervasive, vicarious form of racism termed vicarious race-based stress by the current researcher. The novel instrument developed in the current study not only addresses this gap in the literature, but also informs the clinical work of mental health professionals. For instance, administering this instrument at the onset of therapy along with all other assessment materials will benefit the client and therapist alike.

Employing the novel vicarious race-based stress instrument as an assessment tool informs the systemic conceptualization of cases by ensuring the therapist is gathering culturally relevant information. This may be particularly useful for European American therapists providing services to African American clients who, because of their social location, may not typically consider the influence of racial stressors on presenting problems (Utsey & Gernat, 2005; Wade, 2005; Williams et al., 2018b). Ultimately, incorporating this assessment into standard practices will assist with addressing any blind spots that come with privilege. In a similar vein, European American therapists, even those that are culturally competent, may struggle to initiate conversations pertaining to race and racism (Utsey & Gernat, 2005; Wade, 2005; Williams et al., 2018b). Being able to incorporate and reference this assessment tool during treatment may provide a platform to begin this dialogue and ease therapist anxiety.

Similarly, incorporating this as an assessment tool may also help African American clients working with therapists of a race different from their own. For instance, being asked questions about experiences with racism at the onset of therapy via assessment can communicate to the client that the therapist is culturally sensitive and that this is a safe space to discuss these issues. Despite the well documented ramifications of racism on mental health and evidence that

these discussions are beneficial for clients, the majority therapists often fail to bring up race (Utsey & Gernat, 2005; Wade, 2005; Williams et al., 2018b). While it is not the client's responsibility to initiate these conversations, completing such a measure may be validating and decrease discomfort should they choose to talk about race and the related stressors.

Using culturally attuned assessment tools and engaging in inclusive dialogue with clients will also inform diagnoses and treatment planning. Acknowledging the role of vicarious race-based stress in African American client's lives by employing formal assessment tools will equip mental health professionals to make appropriate diagnoses. There is a body of literature that provides evidence to suggest that race related stressors can produce effects that meet the criteria for post-traumatic stress disorder (PTSD) (Bryant-Davis & Ocampo, 2005; Helms, Nicolas, & Green, 2010; Kirkinis et al., 2018; Williams et al., 2018b). Further, treatment may also be more efficacious if the factors contributing to negative mental health outcomes are appropriately identified. This is especially relevant for depression and racial trauma given the findings of the current study.

This method of assessment may also help African American therapists working with African American clients to navigate and manage issues relating to countertransference such as projection. Due to the prevalence of racism, the therapist will have most likely experienced and had an emotional reaction to vicarious race-based stress. However, because African Americans are heterogenous and have a variety of lived experiences, it is possible that the therapist may have experienced a stronger reaction or is more aware of their encounters with racism than their client. Administering the vicarious race-based stress assessment would provide 1) a measure of the client's indirect exposure to race-based stress, 2) data to reveal incongruencies in experiences

between the therapist and client, and 3) insight to assist the therapist in discerning if they are projecting their own experience onto the client.

The clinical advantages of employing the vicarious race-based stress specific intimate partner support instrument are similar to those discussed previously regarding the VRBS-ER. In addition to the cultural benefits, using this as an assessment tool will promote strength-based approaches by identifying preexisting resources in the client's system, such as high levels of intimate partner support, that can, in turn, inform treatment. For instance, promotion of intimate partner support specifically regarding reactions to vicarious race-based stress has demonstrated benefits for both increased relationship quality and decreased depressive symptoms in the current study.

Racial identity, private regard in particular, should also be assessed and incorporated into treatment with African Americans. Similar to intimate partner support, racial identity is a cultural coping asset that may decrease the negative consequences of racial trauma and depression and promote positive relationship quality as illustrated in the current study. Stronger racial identity has also been suggested to have positive effects on one's partner such that a husband's weaker racial identity was associated with lower relationship quality for both spouses (Trail et al., 2012). Additionally, a recent systematic research synthesis provides further evidence that incorporating racial socialization practices in therapy has the potential to promote positive outcomes for African American clients (Reynolds & Gonzales-Backen, 2017). These findings are congruent with the current study and reinforce the importance of fostering strong racial identity in clinical practice.

## Conclusions

Given the prevalence of racism both historically and in present times, exploration of its effects on African Americans is not only warranted but critical to this community's mental and interpersonal health. The present study identified vicarious race-based stress, a pervasive, indirect exposure to racism and provided preliminary psychometric data for a novel instrument to measure this phenomenon. With adequate reliability and validity demonstrated, the measure was employed to explore the influence of vicarious race-based stress on mental and interpersonal well-being. Because the researcher utilizes a strength-based approach, cultural resources including racial identity and vicarious race-based stress specific intimate partner support were probed for protective functions. Results illustrated the negative consequences of both vicarious race-based stress and perceived racial discrimination on mental health outcomes, specifically depressive symptoms. Racial trauma symptoms were found to mediate these relationships. An association was not found for relationship quality. Further, the private regard domain of racial identity and intimate partner support demonstrated positive influences on mental health and relationship outcomes. Findings support the continued refinement of the vicarious race-based stress measure to facilitate the exploration of its effects on African Americans and the resources this community employs that contribute to their resilience. In turn, this information can inform culturally attuned assessment and treatment procedures for mental health professionals working with African Americans.

## APPENDIX A

### TABLES

**Table 1**

*Demographic Information (N = 231)*

Characteristic	<i>n</i>	%
<b>Gender</b>		
Female	154	66.7
Male	76	32.9
Not Reported	1	.4
<b>Age</b>		
18 - 19	6	2.6
20 - 29	100	43.3
30 - 39	92	39.8
40-49	15	6.3
50-59	12	5.1
60+	6	2.6
<b>Level of Education</b>		
Less than high school degree	1	.4
High school degree or equivalent (e.g., GED)	13	5.6
Some college but no degree	48	20.8
Trade/technical/vocational training	5	2.2
Associate degree	14	6.1
Bachelor's degree	72	31.2
Master's degree	59	25.5
Doctorate degree or Professional Degree (e.g., JD, MD)	19	8.2
<b>Employment Status</b>		
Employed Full-time	153	66.2
Employed Part-time	28	12.1
Out of work and looking for work	10	4.3
Home-maker	12	5.2
Student	23	10.0
Retired	3	1.3
Disabled, Unable to work	2	.9

**Table 1- Continued***Demographic Information (N = 231)*

Characteristic	<i>n</i>	%
<b>Income</b>		
Less than \$10,000	28	12.1
\$10,000 - \$19,999	10	4.3
\$20,000 - \$29,999	21	9.1
\$30,000 - \$39,999	34	14.7
\$40,000 - \$49,999	31	13.4
\$50,000 - \$59,999	41	17.7
\$60,000 - \$69,999	13	5.6
\$70,000 - \$79,999	12	5.2
\$80,000 - \$89,999	10	4.3
\$90,000 - \$99,999	6	2.6
\$100,000 - \$149,999	17	7.4
More than \$150,000	6	2.6
<b>Relationship Duration</b>		
Less than 1 year	11	4.8
1-5 years	106	45.8
6-10	67	29.1
11-15	20	8.6
16-20	13	5.6
21-25	4	1.8
26-30	5	2.1
31+ years	5	2.2
<b>Number of Children</b>		
0	113	48.9
1	44	20
2	33	14.3
3	29	12.6
4	7	3.0
7	1	.4
8	1	.4
10	1	.4

**Table 1-** Continued*Demographic Information (N = 231)*

Characteristic	<i>n</i>	%
State of Residence		
Alabama	4	1.7
Arizona	4	1.7
California	13	5.6
Connecticut	2	.9
Florida	43	18.6
Georgia	21	9.1
Illinois	5	2.2
Indiana	6	2.6
Kentucky	2	.9
Louisiana	4	1.7
Maryland	14	6.1
Michigan	6	2.6
Mississippi	3	1.3
New Jersey	6	2.6
New York	9	3.9
North Carolina	11	4.8
North Dakota	1	.4
Ohio	4	1.7
Oklahoma	1	.4
Oregon	2	.9
Pennsylvania	7	3.0
South Carolina	2	.9
Tennessee	4	1.7
Texas	13	5.6
Vermont	1	.4
Virginia	26	11.3
Washington	4	1.7
Washington, D.C.	5	2.2
Wisconsin	8	3.5
Religious Orientation		
Agnostic	1	.4
Christian	170	73.6

**Table 1-** Continued

*Demographic Information (N = 231)*

Characteristic	<i>n</i>	%
Muslim	3	1.3
Spiritual	28	12.1
Other	4	1.7
More than one selection	10	4.2
Location of Vicarious Race-Based Stress		
Social Media	180	77.9
Television	165	71.4
Website	92	39.8
Friend or Family Member	104	45
Type of Vicarious Race-Based Stress		
Pictures	155	67.1
Video	185	80.1
Audio	108	46.8
Article	161	69.7
Retelling of the event	113	48.9
Duration of Reaction to Vicarious Race-Based Stress		
Minutes	42	22.2
Hours	53	28
Days	56	29.6
Weeks	16	8.5
Months	22	11.6

**Table 2***Correlations, Means, Standard Deviations, and Empirical Ranges for Study Variables.*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-	.11	<b>.51**</b>	<b>.69**</b>	<b>-.26**</b>	-.08	<b>-.25**</b>	<b>-.27**</b>	-.06	<b>-.19*</b>	-.09	.01	<b>.19**</b>
2. Gender		-	<b>.20**</b>	.03	<b>-.15*</b>	-.11	<b>-.20**</b>	<b>-.18**</b>	.09	-.02	<b>-.18**</b>	.02	<b>.14*</b>
3. Income			-	<b>.42**</b>	-.09	.02	<b>-.26**</b>	<b>-.27**</b>	.04	-.11	.09	.08	.08
4. Duration				-	<b>-.19*</b>	-.12	<b>-.15*</b>	<b>-.14*</b>	.04	-.14	-.08	.07	<b>.14*</b>
5. VRBS					-	<b>.52**</b>	<b>.56**</b>	<b>.39**</b>	-.10	<b>.31**</b>	<b>.36**</b>	.01	<b>-.42**</b>
6. DISC						-	<b>.46**</b>	<b>.17*</b>	-.09	<b>.37**</b>	<b>.36**</b>	<b>.16*</b>	<b>-.32**</b>
7. TSDS							-	<b>.49**</b>	-.11	<b>.32**</b>	<b>.25**</b>	-.09	<b>-.29**</b>
8. DEP								-	<b>-.35**</b>	.09	.02	<b>-.21**</b>	<b>-.24**</b>
9. RQ									-	<b>.16*</b>	.11	<b>.24**</b>	.11
10. IPS										-	<b>.35**</b>	.11	<b>-.19*</b>
11. CEN											-	<b>.35**</b>	<b>-.19**</b>
12. PRIV												-	<b>.15*</b>
13. PUB													-
Descriptives													
<i>N</i>	231	230	229	231	185	203	186	216	225	180	222	221	223
<i>M</i>	31.95	1.33	22.43	89.16	47.68	48.47	40.99	7.94	39.58	70.28	5.55	6.57	3.04
<i>SD</i>	9.09	0.47	2.98	84.20	13.99	16.04	13.13	5.23	7.40	25.04	0.99	0.47	1.13
Range	18-64	1-2	18-29	6-415	16-80	6-83	21-77	0-23	13-48	25-125	2.13-7	4.67-7	1-6

**Table 2** – Continued

*Correlations, Means, Standard Deviations, and Empirical Ranges for Study Variables.*

*Note.* *M* = Mean, *SD* = Standard deviation. Possible ranges: 1–10 for income, 0–64 for vicarious race-based stress (VRBS), 0–88 for discrimination (DISC), 21–84 for racial trauma (TSDS), 0–30 for depression (DEP), 7–42 for relationship quality (RQ), 0–100 for intimate partner support (IPS), 8–56 for centrality (CEN), 6–42 for private regard (PRIV), and 6–42 for public regard (PUB). \**p* < .05. \*\**p* < .01 (2-tailed).

**Table 3**

*Three-Factor Structure of Vicarious Race-Based Stress: EFA With Geomin Rotation (N= 192)*

Item	Factor Loadings		
	Factor 1	Factor 2	Factor 3
1. Stressed	<b>.48*</b>	.39*	
2. Angry		<b>.81*</b>	
3. Numb			<b>.81*</b>
4. Anxious	<b>.89*</b>		
5. Embarrassed	.23*		.38*
6. Paranoid	<b>.57*</b>		.21*
7. Depressed	<b>.37*</b>	.26*	.24*
8. Hopeless		.30*	<b>.36*</b>
9. Worried	<b>.48*</b>	.45*	
10. Hypervigilant	.26*	.21*	
11. Isolated	.21*		<b>.56*</b>
12. Enraged		<b>.81*</b>	
13. Overwhelmed	<b>.40*</b>	.27*	
14. Detached			<b>.92*</b>
15. Powerless		<b>.37*</b>	.26*
16. Discouraged		<b>.42*</b>	.31*
Eigenvalue	7.237	1.544	1.051

*Note.*  $\chi^2(75) = 173.322, p < .001$ ; CFI= .934; TFI= .894; RMSEA= .083; SRMR= .039. Factor loadings less than .20 have been omitted. Bold signifies primary factor loading. EFA = exploratory factor analysis. \**p* < .05.

**Table 4***Five-Factor Structure of the Vicarious Race-Based Stress- Specific SIRRS: EFA With Geomin Rotation (N = 185)*

Item	Factor Loadings				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1. My partner gave me suggestions about how to handle witnessing violence against a Black person.	<b>.59*</b>				
2. My partner told me what to do to deal with witnessing violence against a Black person.	<b>.96*</b>				
3. My partner helped me think about my exposure to violence against a Black person in a new way.					
4. My partner taught me or showed me how to do something in regard to my exposure to violence against a Black person.	<b>.56*</b>				
5. My partner shared facts or information with me about my exposure to violence against a Black person.	<b>.50*</b>				
6. My partner hugged me or cuddled with me after I witnessed violence against a Black person.		<b>.71*</b>			
7. My partner kissed me after I witnessed violence against a Black person.		<b>.63*</b>	.33*		
8. My partner held my hand after I witnessed violence against a Black person.		<b>.52*</b>	.32*		
9. My partner patted or stroked me affectionately after I witnessed violence against a Black person.		<b>.75*</b>			
10. My partner shared a personal experience that was similar to my experience of witnessing violence against a Black person.		.23*		.24*	
11. My partner restated what I had told them about my exposure to violence against a Black person.	<b>.59*</b>				
12. My partner inferred how I was feeling about witnessing violence against a Black person.				<b>.32*</b>	-.26*
13. My partner told me everything would be O.K after I witnessed violence against a Black person.					
14. My partner said they thought I handled witnessing violence against a Black person well.			.38*	.32*	.34*

**Table 4-** Continued

*Five-Factor Structure of the Vicarious Race-Based Stress- Specific SIRRS: EFA With Geomin Rotation (N = 185)*

Item	Factor Loadings					
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
15. My partner expressed confidence in my ability to handle my exposure to violence against a Black person.				<b>.48*</b>		
16. My partner said good things about me after I witnessed violence against a Black person.					<b>.65*</b>	
17. My partner said it was O.K. to feel the way I was feeling after I witnessed violence against a Black person.	<b>.30*</b>			<b>.59*</b>		
18. My partner took my side when discussing my exposure to violence against a Black person.				<b>.75*</b>		
19. My partner said they would feel the same way if they had witnessed violence against a Black person.				<b>.71*</b>		
20. My partner said I was not at fault for witnessing violence against a Black person.			<b>.35*</b>			
21. My partner offered to do something to help directly with my exposure to violence against a Black person (e.g., partner offered to help with a task from work).			<b>.75*</b>			
22. My partner did something to help directly with my exposure to violence against a Black person (e.g., partner helped with a task from work).			<b>.86*</b>			
23. My partner offered to help me indirectly with my exposure to violence against a Black person (e.g., partner offered to a task on your to-do list so that you could do something relaxing).			<b>.78*</b>			
24. My partner did something to help me indirectly with my exposure to violence against a Black person (e.g., partner completed a task on your to-do list so that you could do something relaxing).			<b>.60*</b>			
25. My partner offered to do something with me to help me feel better after I witnessed violence against a Black person (e.g., offered to go to dinner together or go jogging together).			<b>.66*</b>			
	Eigenvalue	13.111	1.511	1.252	.908	.797

**Table 4- Continued***Five-Factor Structure of the Vicarious Race-Based Stress- Specific SIRRS: EFA With Geomin Rotation (N = 185)*

Note.  $\chi^2$  (185) = 294.382  $p < .001$ ; CFI= .967; TFI= .946; RMSEA= .057; SRMR= .025. Factor loadings less than .20 have been omitted. Bold signifies primary factor loading. EFA = exploratory factor analysis.

\* $p < .05$ .

**Table 5***Confirmatory Factor Analyses for Vicarious Race-Based Stress and Intimate Partner Support (N = 192)*

Item	Factor Loadings						
	VRBS	VRBS	VRBS	IPS	IPS	IPS	IPS
	Factor	Factor	Factor	Factor	Factor	Factor	Factor
	1	2	3	1	2	3	4
Stressed [1]	.77						
Anxious [4]	.77						
Paranoid [6]	.71						
Depressed [7]	.74						
Worried [9]	.76						
Overwhelmed [13]	.80						
Angry [2]		.56					
Enraged [12]		.63					
Powerless [15]		.73					
Discouraged [16]		.69					
Numb [3]			.52				
Hopeless [8]			.75				
Isolated [11]			.67				
Detached [14]			.60				
My partner gave me suggestions about how to handle witnessing violence against a Black person. [1]							.80

**Table 5-** Continued

*Confirmatory Factor Analyses for Vicarious Race-Based Stress and Intimate Partner Support (N = 192)*

Item	Factor Loadings							
	VRBS	VRBS	VRBS	IPS	IPS	IPS	IPS	
	Factor	Factor	Factor	Factor	Factor	Factor	Factor	
	1	2	3	1	2	3	4	
My partner told me what to do to deal with witnessing violence against a Black person. [2]				.81				
My partner taught me or showed me how to do something in regard to my exposure to violence against a Black person. [4]				.82				
My partner shared facts or information with me about my exposure to violence against a Black person. [5]				.67				
My partner restated what I had told them about my exposure to violence against a Black person. [11]				.72				
My partner hugged me or cuddled with me after I witnessed violence against a Black person. [6]					.87			
My partner kissed me after I witnessed violence against a Black person. [7]					.80			
My partner held my hand after I witnessed violence against a Black person. [8]					.81			
My partner patted or stroked me affectionately after I witnessed violence against a Black person. [9]					.87			
My partner shared a personal experience that was similar to my experience of witnessing violence against a Black person. [10]						.60		
My partner inferred how I was feeling about witnessing violence against a Black person. [12]						.66		
My partner expressed confidence in my ability to handle my exposure to violence against a Black person. [15]						.68		
My partner said it was O.K. to feel the way I was feeling after I witnessed violence against a Black person. [17]						.82		

**Table 5- Continued***Confirmatory Factor Analyses for Vicarious Race-Based Stress and Intimate Partner Support (N = 192)*

Item	Factor Loadings						
	VRBS	VRBS	VRBS	IPS	IPS	IPS	IPS
	Factor	Factor	Factor	Factor	Factor	Factor	Factor
	1	2	3	1	2	3	4
My partner took my side when discussing my exposure to violence against a Black person. [18]						.69	
My partner said they would feel the same way if they had witnessed violence against a Black person. [19]						.73	
My partner said I was not at fault for witnessing violence against a Black person. [20]							.64
My partner offered to do something to help directly with my exposure to violence against a Black person (e.g., a task from work). [21]							.86
My partner did something to help directly with my exposure to violence against a Black person (e.g., a task from work). [22]							.88
My partner offered to help me indirectly with my exposure to violence against a Black person (e.g., partner offered to a task on your to-do list so that you could do something relaxing). [23]							.84
My partner did something to help me indirectly with my exposure to violence against a Black person (e.g., partner completed a task on your to-do list so that you could do something relaxing). [24]							.79
My partner offered to do something with me to help me feel better after I witnessed violence against a Black person (e.g., go to dinner together or go jogging together). [25]							.85

*Note:* For Vicarious Race-Based Stress (VRBS):  $\chi^2 (69) = 151.921, p < .001$ ; CFI= .94; TFI= .92; RMSEA= .07; SRMR= .05. VRBS Factor 1 is hypervigilance, Factor 2 is dysregulation/hyperarousal, Factor 3 is withdrawal. For Intimate Partner Support (IPS):  $\chi^2 (183) = 303.846, p < .001$ ; CFI= .96; TFI= .95; RMSEA= .06; SRMR= .05. IPS Factor 1 is informational support, Factor 2 is physical comfort, Factor 3 is esteem/emotional support, and Factor 4 is tangible support. All factor loadings are standardized and significant ( $p < .001$ ).

**Table 6***Summary of Parameter Additions to Measurement Models*

Modification	Chi-square (df)	CFI	TLI	RMSEA	SRMR
Centrality					
Initial Measurement Model	91.309 (38)	.95	.913	.078	.044
Add SPF4 with SPF2	77.615 (37)	.962	.932	.069	.044
Public Regard					
Initial Measurement Model	78.368 (38)	.961	.933	.068	.040
Add SPF4 with SPF2	65.411 (37)	.973	.951	.058	.040
Private Regard					
Initial Measurement Model	75.203 (38)	.964	.937	.065	.040
Add SPF4 with SPF2	62.498 (37)	.975	.956	.055	.042

Note: Chi-square significant at  $p < .01$ .

**Table 7***Summary of Parameter Additions to Baseline Models*

Modification	Chi-square (df)	CFI	TLI	RMSEA	SRMR
Centrality					
Initial Baseline Model	158.191 (64)	.913	.871	.08	.074
Add EDU with CEN	166.259 (62)	.903	.852	.086	.077
Add AGE with EDU	122.837 (58)	.940	.902	.070	.055
Private Regard					
Initial Baseline Model	118.728 (64)	.949	.924	.061	.068
Add AGE with VRS	130.908 (62)	.935	.901	.070	.062
Add AGE with EDU	106.129 (58)	.955	.926	.060	.051

Note: Chi-square significant at  $p < .01$ .

**Table 8***Fit Indices and Standardized Coefficients for All Models*

	Model 1- Public Regard		Model 2- Centrality		Model 3-Private Regard	
	Baseline	Interaction	Baseline	Interaction	Baseline	Interaction
$\chi^2$	122.498		122.837		106.129	
<i>df</i>	64		58		58	
<i>p</i>	0.00		0.00		0.00	
Log likelihood (H0)	-6847.896	-5471.42	-8077.355	-7632.226	-7932.382	-5444.903
Estimated paths <sup>a</sup>	62	65	75	87	75	64
CFI	0.945		0.94		0.955	
TLI	0.918		0.902		0.926	
RMSEA	0.063		0.07		0.06	
SRMR	0.069		0.055		0.051	
AIC	13819.792	11072.839	16304.710	15438.453	16014.764	11017.807
BIC	14032.953	11287.230	16324.861	15725.406	16272.620	11228.578
Gender → TSDS	-0.115*	-0.152*	-0.105	-0.132*	-0.099	-0.115
Age → TSDS	-0.037	-0.014	-0.015	-0.013	-0.018	-0.036
Education → TSDS	-0.225**	-0.201**	-0.218**	-0.192*	-0.201**	-0.202**
VRS → TSDS	0.413**	.434**	0.412**	0.403**	0.396**	0.405**
DISC → TSDS	0.206**	0.249**	0.198**	0.236**	0.229**	0.304**
IPS → TSDS	0.112	0.121	0.116	0.095	0.125*	0.150*
EI → TSDS	0.024	0.002	-0.010	0.011	-0.122*	-0.161*
VRSxIPS → TSDS		0.010		0.042		0.051
VRSxEI → TSDS		-0.074		-0.063		0.032
DISCxIPS → TSDS		0.170*		0.117		0.117
DISCxEI → TSDS		0.109		0.052		-0.063
Gender → DEP	-0.100	-0.086	-0.101	-0.101	-0.093	-0.105
Age → DEP	-0.093	-0.131*	-0.093	-0.099	-0.089	-0.113

**Table 8 – Continued**

*Fit Indices and Standardized Coefficients for All Models*

	Model 1- Public Regard		Model 2- Centrality		Model 3-Private Regard	
	Baseline	Interaction	Baseline	Interaction	Baseline	Interaction
Education → DEP	-0.151*	-0.177**	-0.116	-0.142*	-0.132*	-0.158*
VRS → DEP	0.257**	0.210*	0.289**	0.290**	0.271**	0.264**
DISC → DEP	-0.129	-0.117	-0.095	-0.138	-0.075	-0.074
TSDS → DEP	0.348**	0.362**	0.344**	0.371**	0.311**	0.289**
IPS → DEP	-0.131	-0.147*	-0.116	-0.106	-0.106	-0.111
EI → DEP	-0.129	-0.109	-0.095	-0.113	-0.136*	-0.158*
VRSxIPS → DEP		-0.109		-0.127		-0.140
VRSxEI → DEP		0.056		-0.039		-0.029
DISCxIPS → DEP		-0.051		0.006		0.021
DISCxEI → DEP		-0.103		-0.029		-0.027
Gender → RQ	0.078	0.037	0.093	0.043	0.075	0.045
Age → RQ	-0.132	-0.170*	-0.111	-0.118	-0.119	-0.118
Education → RQ	0.085	0.078	0.053	0.061	0.073	0.045
VRS → RQ	-0.037	-0.013	-0.090	-0.04	-0.063	-0.040
DISC → RQ	-0.040	-0.003	-0.057	-0.038	-0.102	-0.059
TSDS → RQ	-0.142	-0.167	-0.139	-0.17	-0.095	-0.131
IPS → RQ	0.248**	0.237**	0.223**	0.229**	0.216**	0.216**
EI → RQ	0.088	0.091	0.106	0.096	0.218**	0.205**
VRSxIPS → RQ		0.084		0.034		0.000
VRSxEI → RQ		0.088		0.095		-0.063
DISCxIPS → RQ		0.047		0.064		0.126
DISCxEI → RQ		-0.099		0.068		0.006
VRS→TSDS→DEP	0.144**	0.269**	0.243**	0.258**	0.123**	0.201**
VRS→TSDS→RQ	-0.059	-0.171	-0.136	-0.159	-0.038	-0.123

**Table 8** – Continued

*Fit Indices and Standardized Coefficients for All Models*

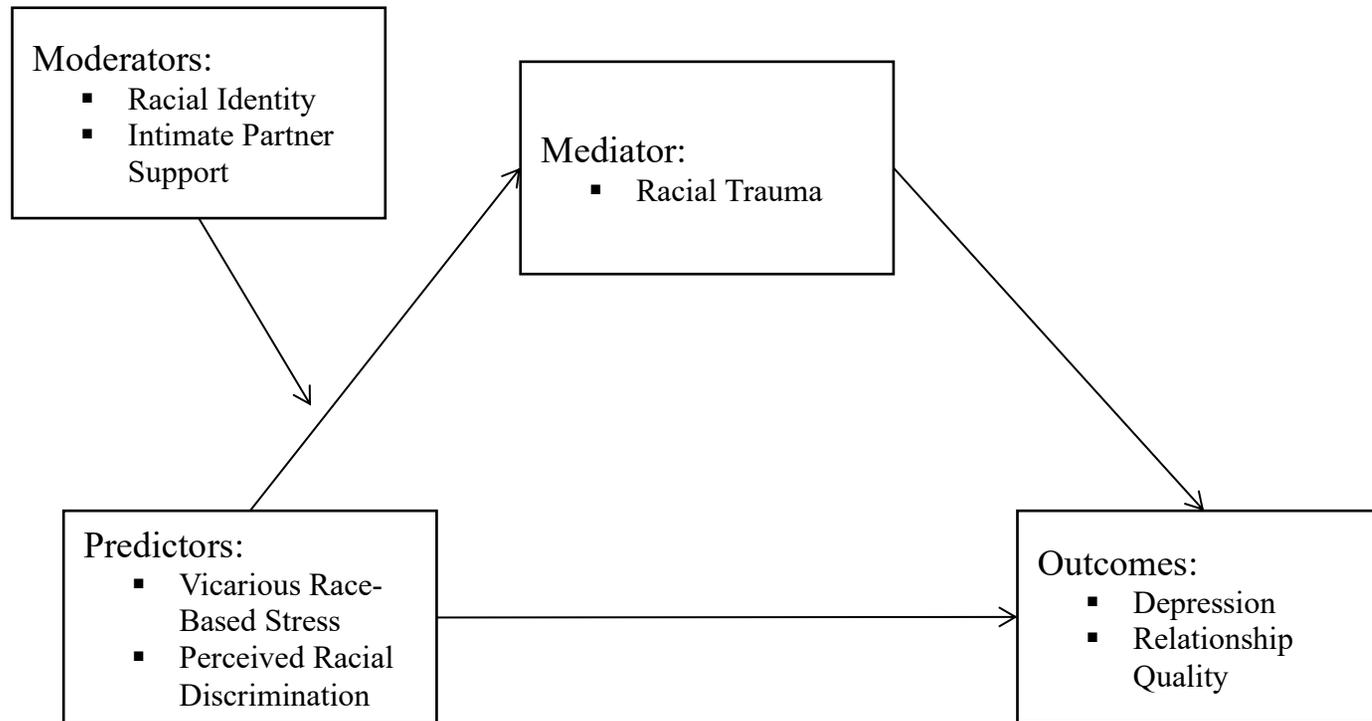
	Model 1- Public Regard		Model 2- Centrality		Model 3-Private Regard	
	Baseline	Interaction	Baseline	Interaction	Baseline	Interaction
DISC→TSDS→DEP	0.072*	0.029**	0.022*	0.029*	0.071*	0.028**
DISC→TSDS→RQ	-0.029	-0.018	-0.012	-0.018	-0.022	-0.017
VRSxIPS→TSDS→DEP		0.006		0.027		0.025
VRSxEI→TSDS→DEP		-0.137		-0.122		0.048
DISCxIPS→TSDS→DEP		0.007		0.005		0.004
DISCxEI→TSDS→DEP		0.013		0.005		-0.006
VRSxIPS→TSDS→RQ		-0.004		-0.017		-0.015
VRSxEI →TSDS→RQ		0.087		0.075		-0.029
DISCxIPS→TSDS→RQ		-0.004		-0.003		-0.002
DISCxEI→TSDS→RQ		-0.008		-0.003		0.004

Note: N = 200. All direct and indirect effect coefficients are standardized. Meditation coefficients in interaction models are unstandardized.

\* p < .05. \*\*p < .01.

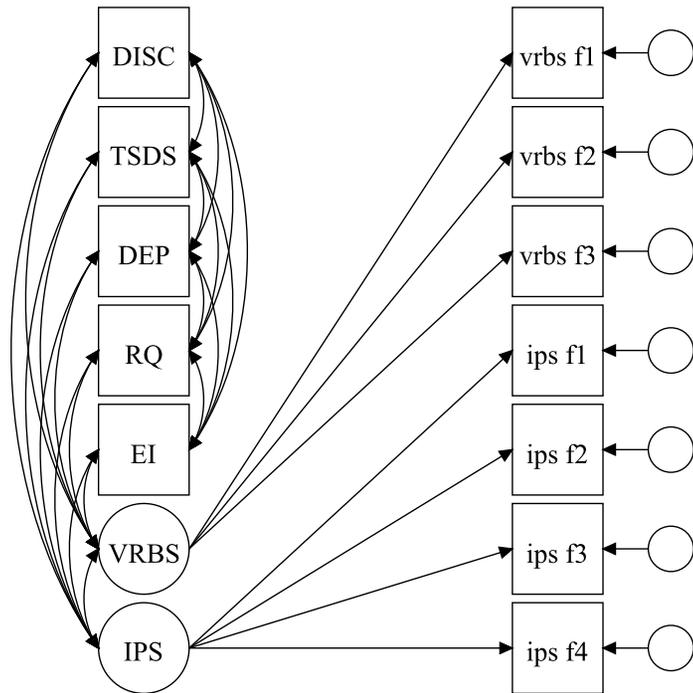
## APPENDIX B

### FIGURES



**Figure 1**

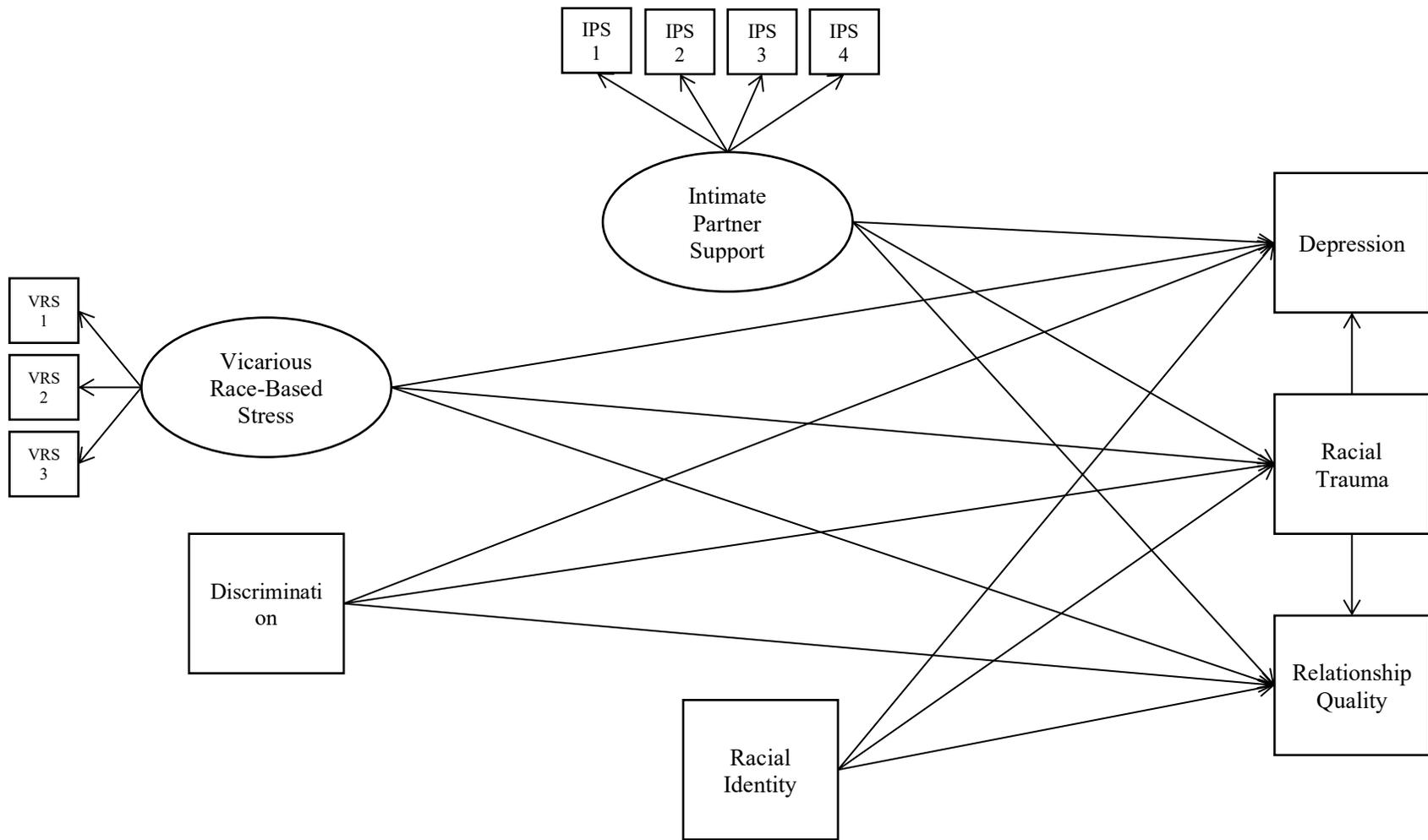
*A Conceptual Model of the Proposed Relationships Between Study Variables*



**Figure 2**

*Measurement Model*

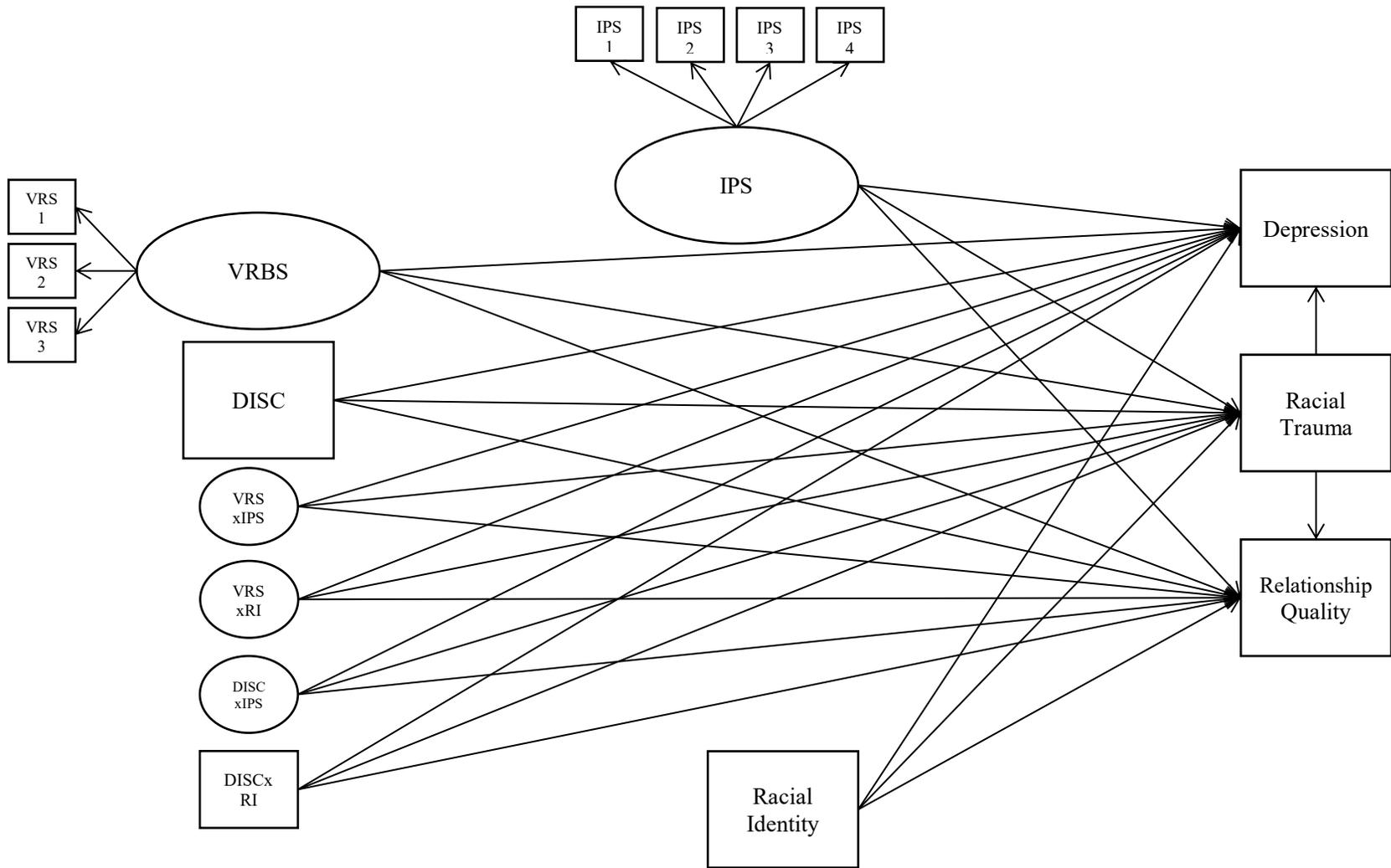
*Note.* VRBS= Vicarious Race-Based Stress; DISC = Racial Discrimination; TSDS= Racial Trauma; EI= Racial Identity; IPS= Intimate Partner Support; DEP= Depression. Separate models were run for each aspect of Racial Identity: Public Regard, Centrality, Private Regard.



**Figure 3**

*Baseline Structural Model*

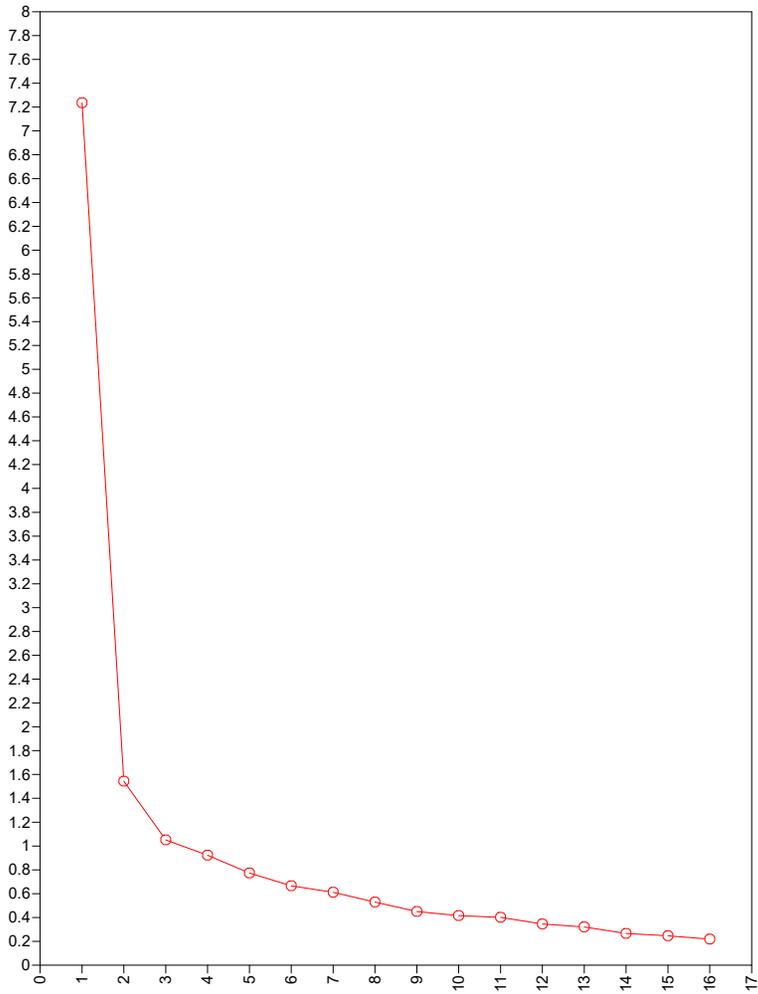
*Note.* Separate models were run for each aspect of Racial Identity: Public Regard, Centrality, Private Regard. Control variables, disturbances, and errors are omitted for ease of presentation and readability.



**Figure 4**

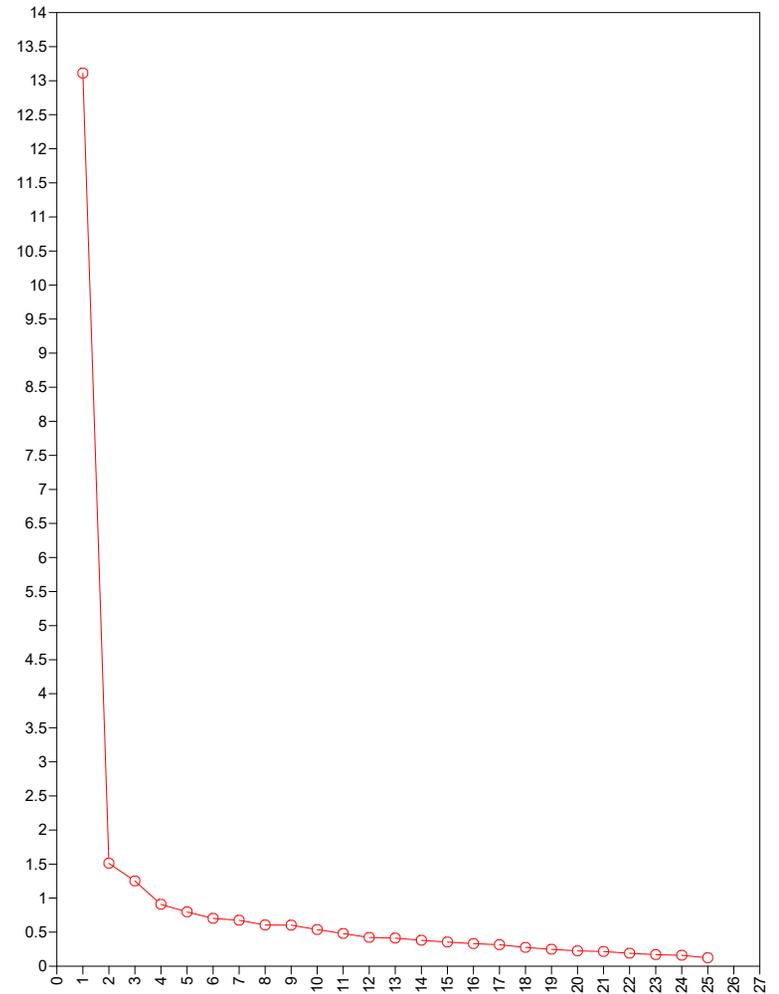
*Latent Interaction Structural Model*

*Note.* Separate models were run for each aspect of Racial Identity: Public Regard, Centrality, Private Regard. Control variables, disturbances, and errors are omitted for ease of presentation and readability.



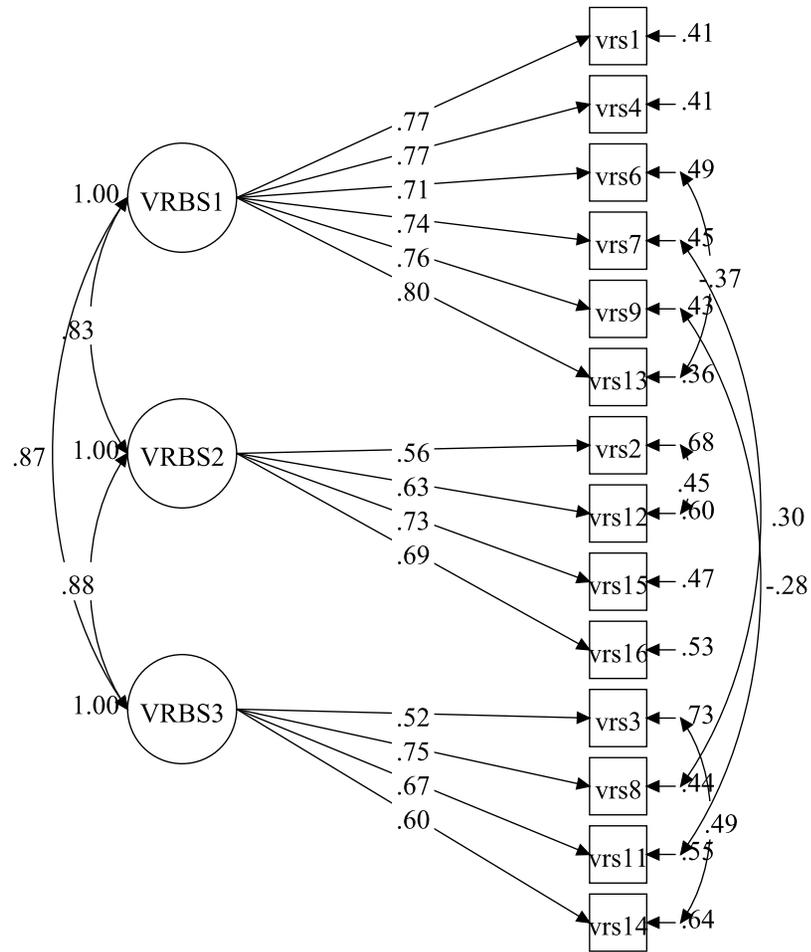
**Figure 5**

*Scree Plot for Vicarious Race-Based Stress*



**Figure 6**

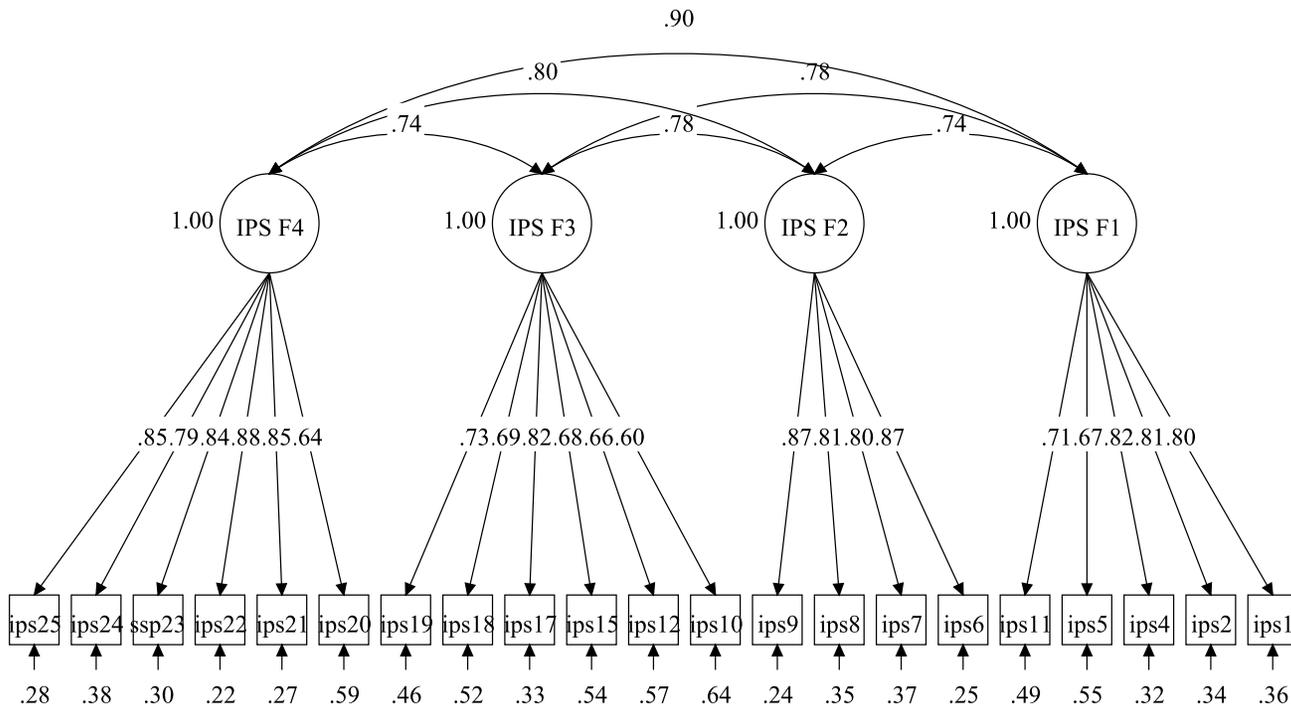
*Scree Plot for Vicarious Race-Based Intimate Partner Support*



**Figure 7**

*Confirmatory Factor Analysis for Vicarious Race-Based Stress*

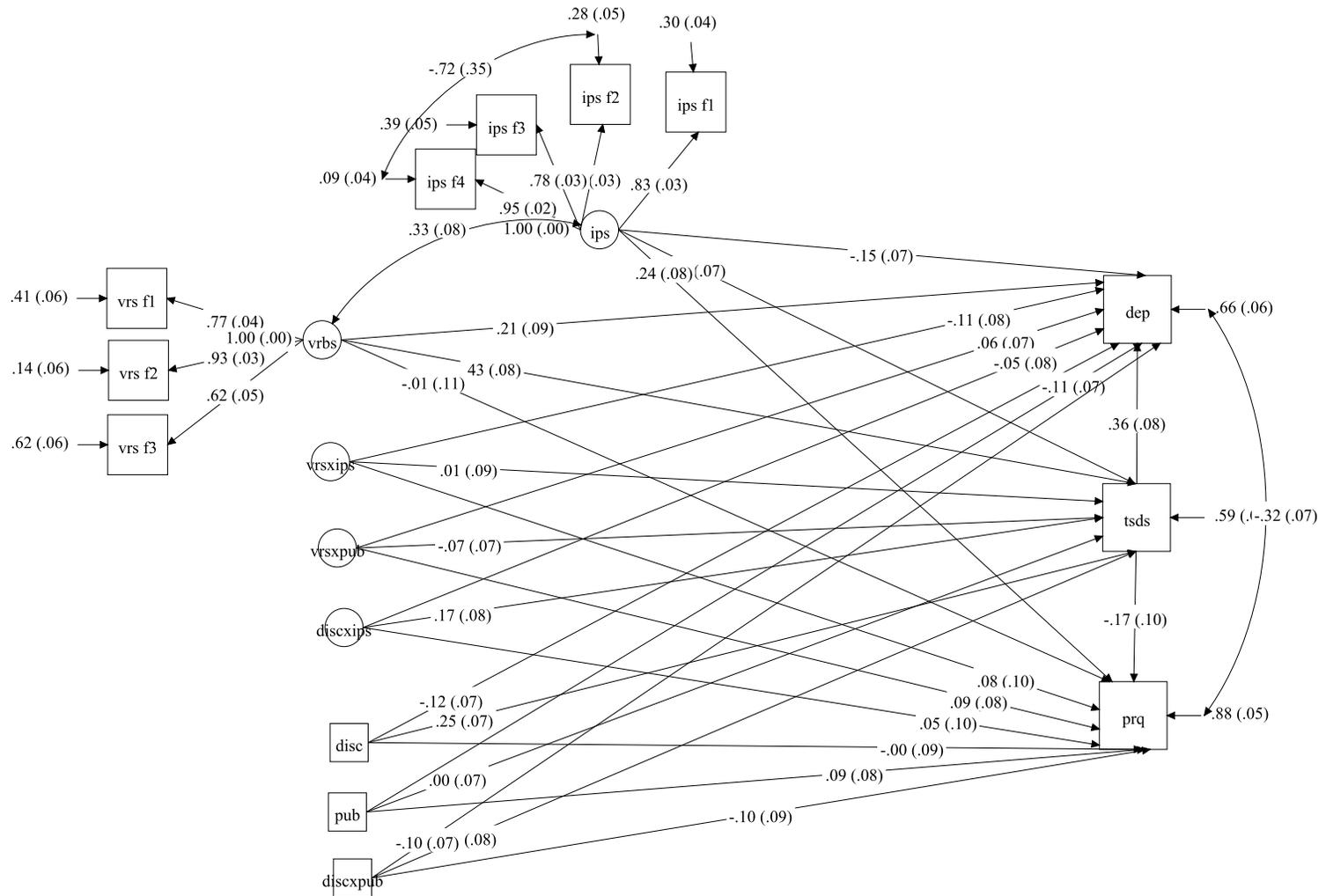
*Note.* VRBS= Vicarious Race-Based Stress.



**Figure 8**

*Confirmatory Factor Analysis for Intimate Partner Support*

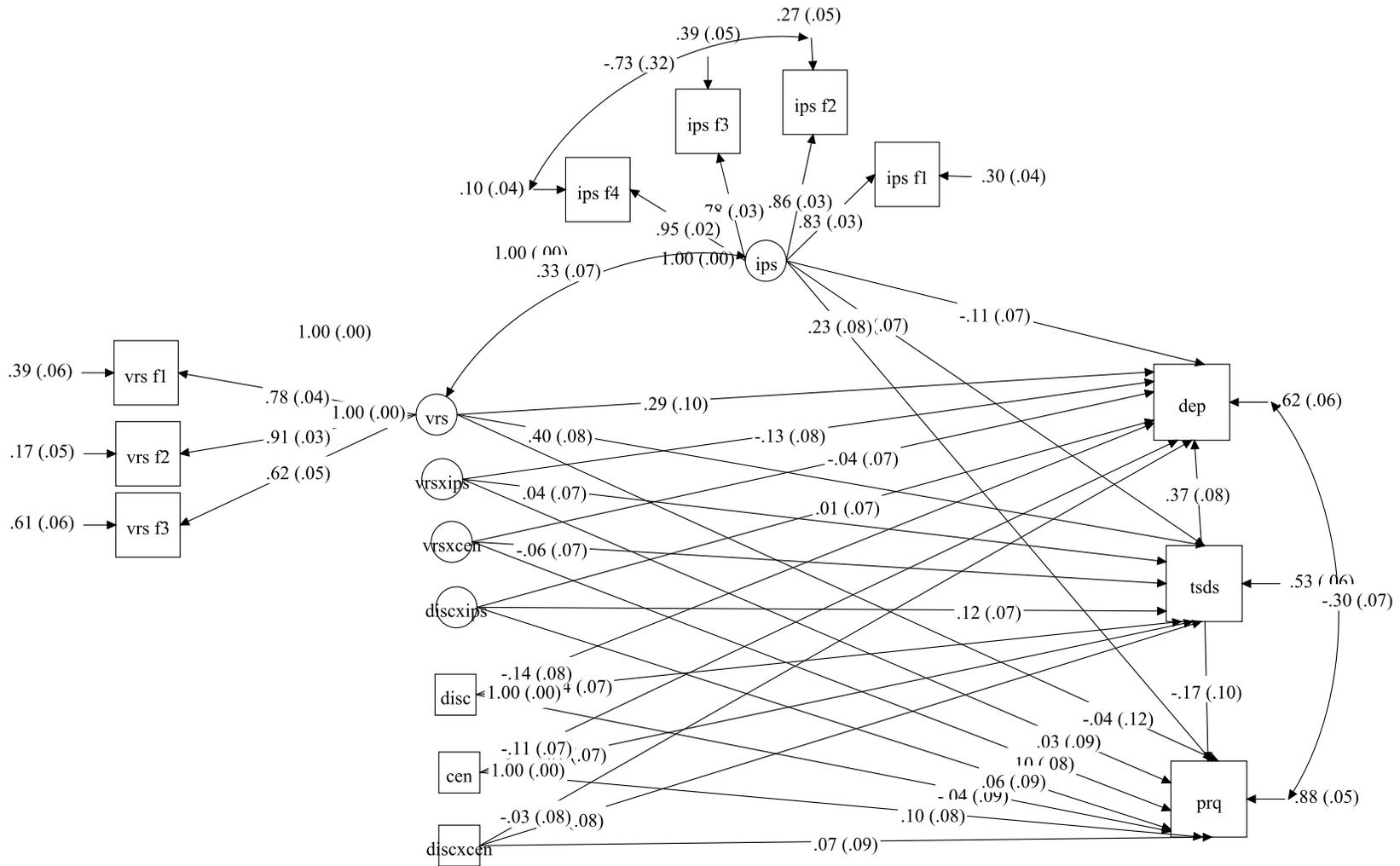
*Note.* IPS= Intimate Partner Support.



**Figure 9**

*Latent Interaction Structural Model with Public Regard*

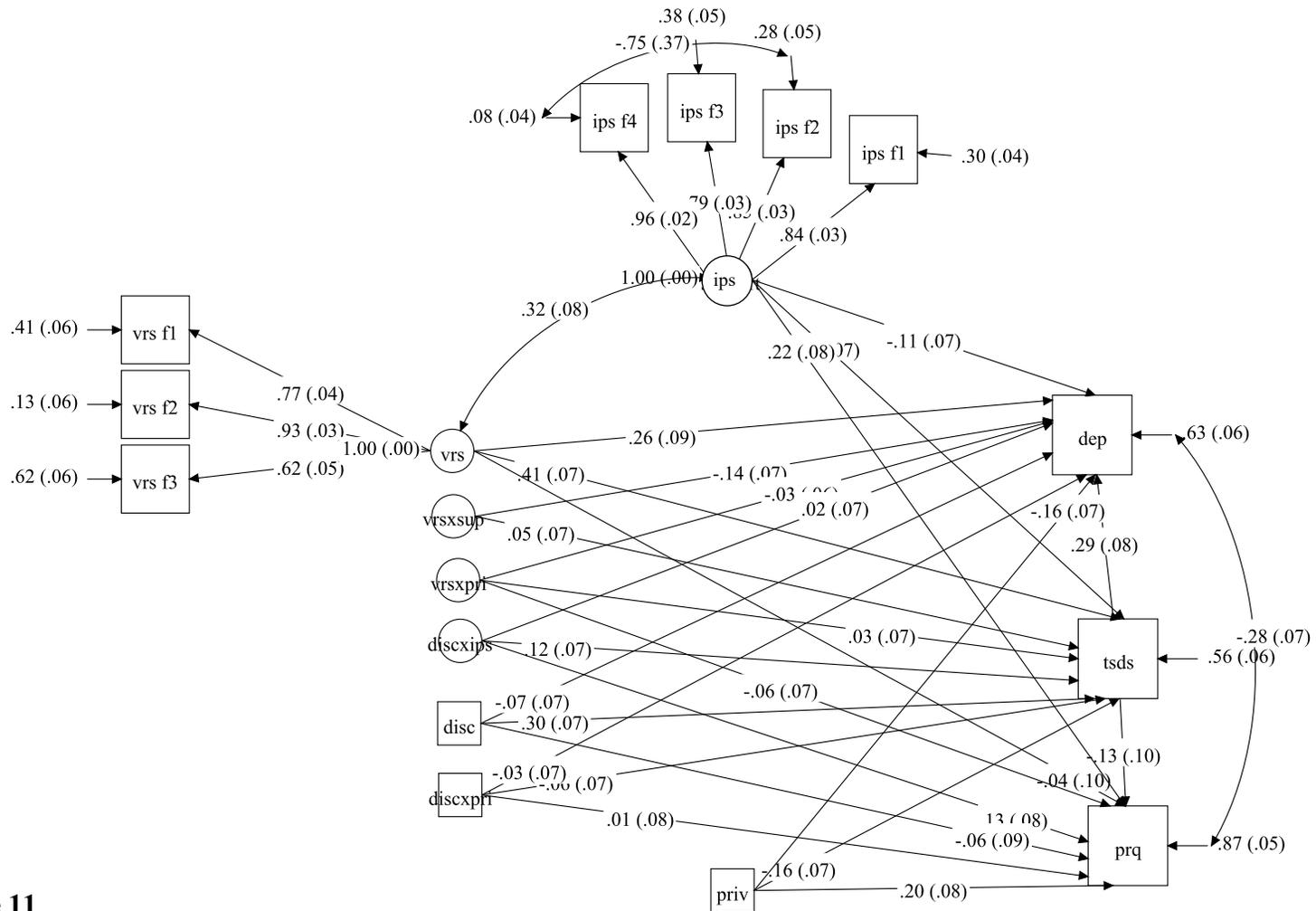
*Note.* VRBS= Vicarious Race-Based Stress; DISC = Racial Discrimination; TSDS= Racial Trauma; PUB= Public Regard; IPS= Intimate Partner Support; DEP= Depression; PRQ= Relationship Quality. Standardized estimates listed with standard errors included in parentheses. Some covariance information and control variables omitted for ease of presentation and readability.



**Figure 10**

*Latent Interaction Structural Model with Centrality*

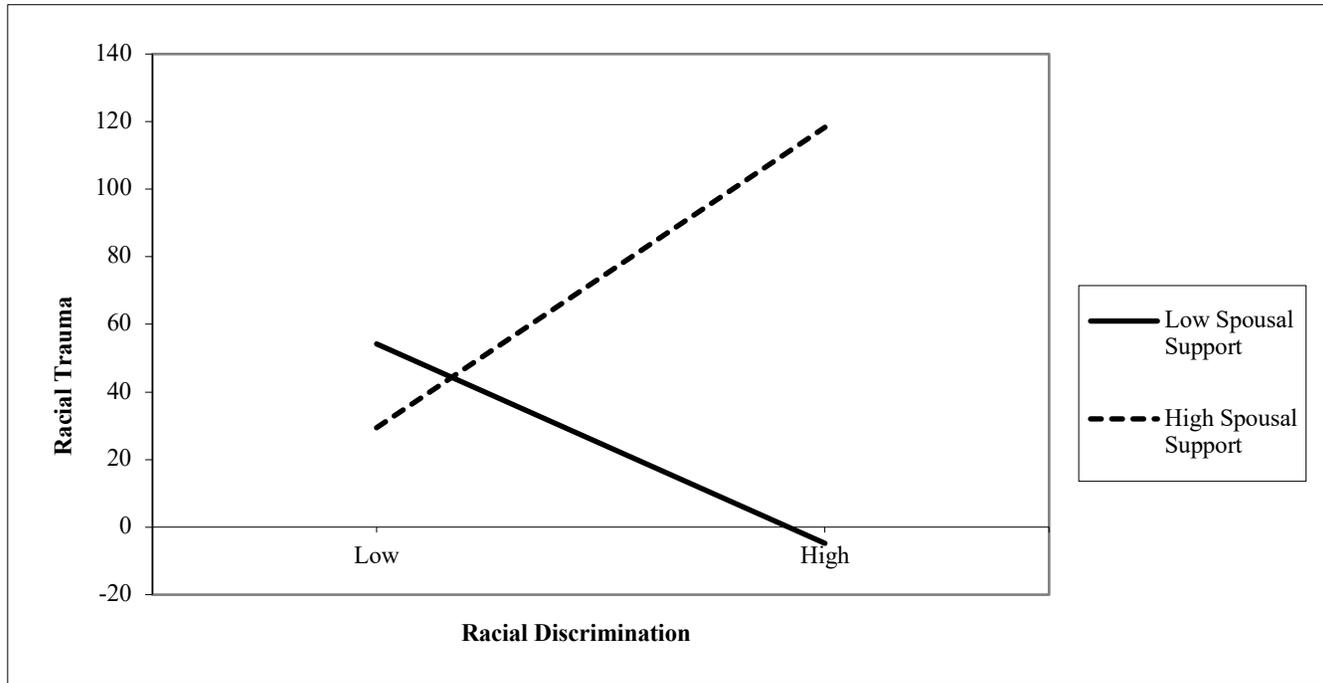
*Note.* VRBS= Vicarious Race-Based Stress; DISC = Racial Discrimination; TSDS= Racial Trauma; CEN= Centrality; IPS= Intimate Partner Support; DEP= Depression; PRQ= Relationship Quality. Standardized estimates listed with standard errors included in parentheses. Some covariance information and control variables omitted for ease of presentation and readability.



**Figure 11**

*Latent Interaction Structural Model with Private Regard*

*Note.* VRBS= Vicarious Race-Based Stress; DISC = Racial Discrimination; TSDS= Racial Trauma; PRIV= Private Regard; IPS= Intimate Partner Support; DEP= Depression; PRQ= Relationship Quality. Standardized estimates listed with standard errors included in parentheses. Some covariance information and control variables omitted for ease of presentation and readability.



**Figure 12**

*Interaction Showing the Moderating Effect of Spousal Support on Discrimination and Racial Trauma in the Model with Public Regard.*

## APPENDIX C

### FSU INSTITUTIONAL REVIEW BOARD APPROVAL

p 1 of 2

FLORIDA STATE UNIVERSITY | OFFICE of the VICE PRESIDENT for RESEARCH



To: Jasmine Ferrill  
Family & Child Science

From: Institutional Review Board  
Human Subjects Office

Date: 01/31/2019

Study Title: Racial Macroaggressions: Implications for African-American  
Couples with Consideration of Mediating and Moderating Factors

Project Number: PROJECT # 2018-26535

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The application that you submitted to this office regarding the use of human subjects in the proposal referenced above has been reviewed by the Florida State University Institutional Review Board. Your project is determined to be Expedited per 45 CFR 46.110 (7) and has been approved by an expedited review process. This approval does not replace any departmental or other approvals that may be required.

Since your application was approved after January 21, 2019, it is subject to the revised Common Rule (45 CFR 46.109(f)(1)). Under the revised Common Rule, expedited projects granted initial approval after January 21, 2019 do not require annual continuing review by the IRB. You will notice that consent documents that are reviewed under this pathway now contain only an approval date.

Please note that you are required to submit an annual report by 01/21/2020 (this will be the expiration date in the system), which will undergo administrative review by the Human Subjects Office. This will occur in the same manner in the electronic system as submitting a renewal, except that it will not undergo full IRB review.

You are advised that any change in protocol for this project must be reviewed and approved by the IRB prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the IRB. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

Institutional Review Board, Human Subjects Office  
humansubjects@fsu.edu/850-644-7900



Office of the Vice President For Research  
Human Subjects Committee  
P O Box 3062742  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM (for change in research protocol)

Date: 03/05/2019

To: Jasmine Ferrill

Dept: FAMILY & CHILD SCIENCE

From: Thomas L. Jacobson, Chair

Re: Use of Human subjects in Research  
Project entitled: Racial Macroaggressions: Implications for African-American Couples with Consideration of Mediating and Moderating Factors

The application that you submitted to this office in regard to the requested change/amendment to your research protocol for the above-referenced project has been reviewed and approved.

Please be reminded that if the project has not been completed by 01/28/2020 , you must request renewed approval for continuation of the project.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Melinda Gonzales-Backen , Advisor  
HSC NO. 2019.27158

# APPENDIX D

## INFORMED CONSENT

FLORIDA STATE  
UNIVERSITY



### CONSENT TO PARTICIPATE IN A RESEARCH STUDY

**Study Title:** Racial Macroaggressions: Implications for African American Couples with Consideration of Mediating and Moderating Factors  
**Principal Investigator:** Jasmine Ferrill

#### Introduction

This study is being conducted by Jasmine Ferrill, MS, a Doctoral Candidate in Marriage and Family Therapy in the Department of Child and Family Sciences at Florida State University. The purpose of this study is to gain insight into the impact of various forms of racial discrimination on your mental health and relationship outcomes. These forms of racial discrimination include everything from being treated with less respect because of your race to witnessing a Black person being subjected to violence at the hands of the police. While we generally know how experiences similar to the first example impact African Americans, little is known about more widespread, vicarious experiences such as the second example. Exploring these experiences in more depth is imperative considering the current climate of the United States and increased access to media outlets. The study is also designed to identify ways in which African Americans experiencing discrimination are resilient. We will specifically look at your ethnic identity and relationship behaviors. This study intends to expand the knowledge of the stressors African American couples face and the ways they use strengths to overcome them.

#### Why are you being asked to take part in this study?

You are being asked to take part in this study because you have expressed interest in participating and/or fall into the inclusion criteria.

#### How many people are expected to take part in this study?

Seventy-five couples (150 individuals) are expected to take part in this study.

#### Before you begin the study

Participants meet all of the following criteria:

- ❖ African American
- ❖ 18 years of age or older
- ❖ In a committed, heterosexual relationship
- ❖ Have a partner who is also African American
- ❖ Relationship has lasted for 6 months or longer

FLORIDA STATE  
UNIVERSITY



CONSENT TO PARTICIPATE IN A RESEARCH STUDY

**Study Title:** Racial Macroaggressions: Implications for African American Couples with Consideration of Mediating and Moderating Factors  
**Principal Investigator:** Jasmine Ferrill

**Study procedures**

If you agree and are eligible to participate in this study, you and your partner will independently complete a one-time online survey. This survey will take 15-20 minutes, on average, to complete. You will be sent an anonymous survey link and unique identification code via e-mail that you will be required to provide to begin the survey. You and your partner will each receive an identification code that should not be shared.

**Risks of study participation**

The survey will require roughly 15-20 minutes, which will require time away from your daily routine. You may experience various emotions while answering questions that require you to reflect on your relationship and experiences of discrimination. Because this is a research study, there may be additional risks that we cannot identify at this time.

**Benefits of study participation**

The benefits of participating in this study may include:

1. You may experience satisfaction providing insight that could contribute to researcher's understanding of the ways African American couples are resilient and inform mental health professional's clinical practice.
2. You may experience validation from sharing your experience.
3. You may learn valuable information from reflecting on your relationship that can be shared with your partner.

**Alternatives to study participation**

The alternative to participation is simply to choose to not participate.

**Ending the study**

You may choose to discontinue participation in the study at any point without penalty. Participants may be removed from the study should the principle investigator discover that they do not meet the criteria stated above.

FLORIDA STATE  
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CONSENT TO PARTICIPATE IN A RESEARCH STUDY

**Study Title:** Racial Macroaggressions: Implications for African American Couples with Consideration of Mediating and Moderating Factors

**Principal Investigator:** Jasmine Ferrill

**Study costs/compensation**

You are not paid for participation but are compensated for your time and inconvenience. Once both you and partner have completed your respective surveys, you will have the option to enter a drawing for one of ten \$50 Virtual Gift Cards. There is no cost to you for participating in the study.

**Who can profit from study results?**

No financial conflicts or gains have been identified in connection with this study. Florida State University reviews staff researchers for conflicts of interest. Members of the research team working on this study may have up to \$15,000 of stock in the companies that make products used in this study. This is allowed under federal rules and is not a conflict of interest.

**How Will My Samples and Data be Used?**

All personal information regarding your identity and survey responses will be kept confidential. No identifying information will be linked to your survey responses. All data will be stored in a password-secured electronic format on the researcher's password-protected primary computer to ensure confidentiality. Should you choose to withdraw from the study before completion, your data up to the point of withdrawal may still be used. Data will be retained for the duration of the study.

**Confidentiality**

The records of this study will be kept private and confidential, to the extent allowed by law. In any publications or presentations, will not include any information that will make it possible to identify you as a subject.

**What will happen to the information collected about me after the study is over?**

We will not keep your research data to use for future studies. We will not share your research data with other investigators.

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CONSENT TO PARTICIPATE IN A RESEARCH STUDY

**Study Title:** Racial Macroaggressions: Implications for African American Couples with Consideration of Mediating and Moderating Factors

**Principal Investigator:** Jasmine Ferrill

**Voluntary Nature of the Study**

Participation in this study is voluntary. Your decision whether or not to participate in this study will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

**Contacts and Questions for the study team about the research**

The researcher conducting this study is Jasmine Ferrill, MS. You may ask any questions you have now, or if you have questions later, you are encouraged to contact her (478) 301-5972.

**Contact information for questions about your rights as a research participant**

If you have any questions or concerns about your rights as a research participant, or regarding the study and would like to talk to someone other than the researcher(s), you are encouraged to contact the FSU IRB at telephone number 850-644-7900. You may also contact this office by email at [humansubjects@fsu.edu](mailto:humansubjects@fsu.edu), or by writing or in person at 2010 Levy Street, Research Building B, Suite 276, FSU Human Subjects Committee, Tallahassee, FL 32306-2742.

You may print a copy of this form for your records.

**Statement of Consent**

I have read the above information I have asked questions and have received answers. I consent to participate in this study.

\_\_\_\_\_  
Signature of Subject

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Subject

\_\_\_\_\_  
Date

FSU Human Subjects Committee approved on 01/29/2019, void after 01/28/2020 HSC #2018.26535

## **APPENDIX E**

### **INSTRUMENT**

#### **Screening Survey**

Do you meet all of the following criteria?

- I identify as African American
- I am 18 years of age or older
- I am in a committed, heterosexual relationship
- My partner is also African American
- My relationship has lasted for 6 months or longer

Yes or No

#### **Demographics**

**What is your gender?**

- Female
- Male

**What is your age?**

\_\_\_\_\_

**What is the highest level of school you have completed or the highest degree you have received?**

- Less than high school degree
- High school degree or equivalent (e.g., GED)
- Some college but no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Doctorate degree or Professional Degree (e.g., JD, MD)

**How long have you been in your current relationship?**

\_\_\_ years \_\_\_ months

**What is your current employment status?**

- Employed Full-time
- Employed Part-time
- Out of work and looking for work
- Out of work but not currently looking for work
- Home-maker
- Student
- Retired
- Disabled, Unable to work

**What is your annual income?**

- Less than \$20,000
- \$21,000 – \$30,000
- \$31,000 – \$40,000
- \$41,000 – \$50,000
- \$51,000 – \$60,000
- \$61,000 – \$70,000
- \$71,000 – \$80,000
- \$81,000 – \$90,000
- \$91,000 – \$100,000
- More than \$100,000

**In what state do you live?**

\_\_\_\_\_

**What is your religious preference? Check one or more.**

- Agnostic
- Atheist
- Buddhist
- Christian
- Hindu
- Jewish
- Muslim
- Pagan
- Spiritual
- Other \_\_\_\_\_
- None of the above

## Vicarious Race-Based Stress Background Information

**Please rate how often you have witnessed (i.e. seen on tv, online, heard from a friend, etc) the following within the past 6 months:**

Never	Rarely	Sometimes	Often	All the time
0	1	2	3	4

- A Black person being profiled by the police
- A Black person being verbally harassed by the police
- A Black person being physically assaulted by the police
- A Black person being shot by the police
- A Black person being killed by the police

- A Black person being profiled by a non-Black civilian
- A Black person being verbally harassed by a non-Black civilian
- A Black person being physically assaulted by a non-Black civilian
- A Black person being shot by a non-Black civilian
- A Black person being killed by a non-Black civilian

**Where did you witness these events? [select all that apply]**

- Social media (e.g. Facebook, Twitter, etc)
- Television (e.g. News outlet)
- Website (e.g. VerySmartBrothas, TheRoot, WorldStarHipHop, etc)
- Radio Station
- A friend or relative told me
- Other \_\_\_\_\_

**What exactly did you witness? [select all that apply]**

- Pictures
- Video
- Audio
- Article
- Retelling of the event

**How often do you discuss these events with the following people?**

Never	Rarely	Sometimes	Often	Very Frequently
0	1	2	3	4

- Partner
- Friend
- Family Member
- Therapist or Counselor
- Spiritual Leader (e.g. Pastor, Priest, etc)
- Other \_\_\_\_\_
- No one



## Index of Race-Related Stress—Brief Version

### Instructions

This survey questionnaire is intended to sample some of the experiences that Black people have in this country because of their "blackness." There are many experiences that a Black person can have in this country because of his/her race. Some events happen just once, some more often, while others may happen frequently. Below you will find listed some of these experiences, for which you are to indicate those that have happened to you or someone very close to you (i.e., a family member or loved one). It is important to note that a person can be affected by those events that happen to people close to them; this is why you are asked to consider such events as applying to your experiences when you complete this questionnaire. Please circle the number on the scale (0 to 4) that indicates the reaction you had to the event at the time it happened. Do not leave any items blank. If an event has happened more than once, refer to the first time it happened. If an event did not happen, circle 0 and go on to the next item.

0 = this never happened to me.

1 = this event happened, but did not bother me.

2 = this event happened & I was slightly upset.

3 = this event happened & I was upset.

4 = this event happened & I was extremely upset.

1. 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.
2. Sales people/clerks did not say thank you or show other forms of courtesy and respect (e.g., put your things in a bag) when you shopped at some White/ non-Black owned businesses.
3. You notice that when Black people are killed by the police, the media informs the public of the victim's criminal record or negative information in their background, suggesting they got what they deserved.
4. You have been threatened with physical violence by an individual or group of White / non-Blacks.
5. You have observed that White kids who commit violent crimes are portrayed as "boys being boys," while Black kids who commit similar crimes are wild animals.
6. You seldom hear or read anything positive about Black people on radio, TV, in newspapers, or history books.
7. While shopping at a store the sales clerk assumed that you couldn't afford certain items (e.g., you were directed toward the items on sale).

8. You were the victim of a crime and the police treated you as if you should just accept it as part of being Black.
9. You were treated with less respect and courtesy than Whites and other non-Blacks while in a store, restaurant, or other business establishment.
10. You were passed over for an important project although you were more qualified and competent than the White/non-Black person given the task.
11. Whites/non-Blacks have stared at you as if you didn't belong in the same place with them; whether it was a restaurant, theater, or other place of business.
12. You have observed the police treat White/non-Blacks with more respect and dignity than they do Blacks.
13. You have been subjected to racist jokes by Whites/non-Blacks in positions of authority and you did not protest for fear they might have held it against you.
14. While shopping at a store, or when attempting to make a purchase, you were ignored as if you were not a serious customer or didn't have any money.
15. You have observed situations where other Blacks were treated harshly or unfairly by Whites/non-Blacks due to their race.
16. You have heard reports of White people/non-Blacks who have committed crimes and, in an effort, to cover up their deeds falsely reported that a Black man was responsible for the crime.
17. You notice that the media plays up those stories that cast Blacks in negative ways (child abusers, rapists, muggers, etc.), usually accompanied by a large picture of a Black person looking angry or disturbed.
18. You have heard racist remarks or comments about Black people spoken with Impunity by White public officials or other influential White people.
19. You have been given more work, or the most undesirable jobs at your place of employment while the White/non-Black of equal or less seniority and credentials is given less work, and more desirable tasks.
20. You have heard or seen other Black people express a desire to be White or to have White physical characteristics because they disliked being Black or thought it was ugly.
21. White people or other non-Blacks have treated you as if you were unintelligent and needed things explained to you slowly or numerous times.
22. You were refused an apartment or other housing; you suspect it was because you're Black.

## Trauma Symptoms of Discrimination Scale (TSDS)

When answering the following questions, keep in mind that discrimination is defined as: Being unfairly treated due to your race.

Experiencing discrimination can be very stressful, and sometimes people can feel specific types of stress due to discrimination that impact their daily lives. This can be caused by one very stressful experience of discrimination, or several smaller experiences of discrimination over the course of one's life. Based on these experiences in your life, answer the following questions. Please keep in mind that ratings should reflect whether the type of stress was caused by discrimination.

1- Never; 2- Rarely; 3- Sometimes; 4- Often

1. Due to past experiences of discrimination, I often worry too much about different things.
2. Due to past experiences of discrimination, I often try hard not to think about it or go out of my way to avoid situations that remind me of it.
3. Due to past experiences of discrimination, I often fear embarrassment.
4. Due to past experiences of discrimination, I often feel nervous, anxious, or on edge, especially around certain people.
5. Due to past experiences of discrimination, I often feel afraid as if something awful might happen.
6. Due to past experiences of discrimination, I often have nightmares about the past experience or think about it when I do not want to.
7. Due to past experiences of discrimination, I often have trouble relaxing.
8. Due to past experiences of discrimination, I often feel numb or detached from others, activities, or my surroundings.
9. Due to past experiences of discrimination, I often avoid certain activities in which I am the center of attention (i.e., parties, meetings, answering questions in class).
10. Due to past experiences of discrimination, I often cannot stop or control my worrying.
11. Due to past experiences of discrimination, I often find that being embarrassed or looking stupid are one of my worst fears.
12. Due to past experiences of discrimination, I often become easily annoyed or irritable.
13. Due to past experiences of discrimination, I often feel constantly on guard, watchful, or easily startled, especially around certain people or places.
14. Due to past experiences of discrimination, I often feel so restless that it is hard to sit still.
15. Due to past experiences of discrimination, I feel the world is an unsafe place.
16. Due to past experiences of discrimination, in social situations I feel a rush of intense discomfort, and may feel my heart pounding, muscles tense up, or sweat.
17. Due to past experiences of discrimination, I feel isolated and set apart from others.
18. Due to past experiences of discrimination, I avoid certain situations or speaking to certain people.
19. If I think about past experiences of discrimination, I cannot control my emotions.
20. Due to past experiences of discrimination, I am nervous in social situations, and am afraid people will notice that I am sweating, blushing, or trembling.
21. Due to past experiences of discrimination, fear of social situation causes me a lot of problems in my daily functioning.

**Support in Intimate Relationships Rating Scale-R Vicarious Race-Based Stress Specific  
(SIRRS-R-VRBS)**

Keeping in mind the events you witnessed in the previous survey, please answer the following questions.

Never	Rarely	Sometimes	Often	Almost Always
0	1	2	3	4

1. My partner gave me suggestions about how to handle witnessing violence against a Black person.
2. My partner told me what to do to deal with witnessing violence against a Black person.
3. My partner helped me think about my exposure to violence against a Black person in a new way.
4. My partner taught me or showed me how to do something in regard to my exposure to violence against a Black person.
5. My partner shared facts or information with me about my exposure to violence against a Black person.
6. My partner hugged me or cuddled with me after I witnessed violence against a Black person.
7. My partner kissed me after I witnessed violence against a Black person.
8. My partner held my hand after I witnessed violence against a Black person.
9. My partner patted or stroked me affectionately after I witnessed violence against a Black person.
10. My partner shared a personal experience that was similar to my experience of witnessing violence against a Black person.
11. My partner restated what I had told them about my exposure to violence against a Black person.
12. My partner inferred how I was feeling about witnessing violence against a Black person.
13. My partner told me everything would be O.K after I witnessed violence against a Black person.
14. My partner said they thought I handled witnessing violence against a Black person well.
15. My partner expressed confidence in my ability to handle my exposure to violence against a Black person.
16. My partner said good things about me after I witnessed violence against a Black person.
17. My partner said it was O.K. to feel the way I was feeling after I witnessed violence against a Black person.
18. My partner took my side when discussing my exposure to violence against a Black person.
19. My partner said they would feel the same way if they had witnessed violence against a Black person.
20. My partner said I was not at fault for witnessing violence against a Black person.
21. My partner offered to do something to help directly with my exposure to violence against a Black person (e.g., partner offered to help with a task from work).
22. My partner did something to help directly with my exposure to violence against a Black person (e.g., partner helped with a task from work).
23. My partner offered to help me indirectly with my exposure to violence against a Black person (e.g., partner offered to a task on your to-do list so that you could do something relaxing).
24. My partner did something to help me indirectly with my exposure to violence against a Black person (e.g., partner completed a task on your to-do list so that you could do something relaxing).
25. My partner offered to do something with me to help me feel better after I witnessed violence against a Black person (e.g., offered to go to dinner together or go jogging together).



### Center for Epidemiologic Studies Short Depression Scale (CES-D-R 10)

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week by checking the appropriate box for each question.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

1. I was bothered by things that usually don't bother me.
2. I had trouble keeping my mind on what I was doing.
3. I felt depressed.
4. I felt that everything I did was an effort.
5. I felt hopeful about the future.
6. I felt fearful.
7. My sleep was restless.
8. I was happy.
9. I felt lonely.
10. I could not "get going."

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- Williams, M. T., Kanter, J. W., & Ching, T. H. W. (2018a). Anxiety, stress, and trauma symptoms in African Americans: Negative affectivity does not explain the relationship between microaggressions and psychopathology. *Journal of Racial and Ethnic Health Disparities*. Advance online publication. doi: 10.1007/s40615-017-0440-3
- Williams, M. T., Metzger, I. W., Leins, C., & DeLapp, C. (2018b). Assessing racial trauma within a DSM-5 framework: The UConn Racial/Ethnic Stress & Trauma Survey. *Practice Innovations*, *3*(4), 242–260. <https://doi.org/10.1037/pri0000076>
- Williams, M. T., Printz, D., & DeLapp, R. C. (2018c). Assessing racial trauma with the Trauma Symptoms of Discrimination Scale. *Psychology of violence*, *8*(6), 735. <https://doi.org/10.1037/vio0000212>

## BIOGRAPHICAL SKETCH

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### EDUCATION

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July 2020	Ph.D., Florida State University, Tallahassee, FL Marriage and Family Therapy Advisor: Melinda Gonzales-Backen, Ph.D. Dissertation: <i>Vicarious Race-Based Stress: How Widely Publicized Racism Injures and Cultural Coping Resources Protect</i>
June 2013	M.S., Northwestern University, Evanston, IL Marriage and Family Therapy
May 2011	B.A., Hampton University, Hampton, VA Psychology

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### PROFESSIONAL CREDENTIALS

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2020 - present	Licensed Marriage and Family Therapist, MFT001751, Georgia
2019 - present	Licensed Marriage and Family Therapist, #166001304, Illinois
2019 - present	AAMFT Approved Supervisor, #163457

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### PROFESSIONAL EXPERIENCE

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2020 - present	Private Practice Owner, Online
2015 - present	Graduate Teaching Assistant, Florida State University
2018 - 2019	Doctoral Teaching Intern, Mercer University
2014 - 2015	Kindergarten Teacher, Noyes Elementary School

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### TEACHING EXPERIENCE

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#### **Graduate**

#### *Instructor*

Human Sexuality, Mercer University  
Number of Students: 10; In-person course (*Summer 2019*)

Family Therapy Practicum IV, Mercer University  
Number of Students: 6; In-person course (*Summer 2019*)

Theories of Family Therapy, Mercer University  
Number of Students: 9; In-person course (*Spring 2019*)

Family Therapy Practicum III, Mercer University  
Number of Students: 6; In-person course (*Spring 2019*)

Diversity and Social Justice, Mercer University  
Number of Students: 6; In-person course (*Fall 2018*)

Ethical, Legal, and Professional Practice in Family Therapy, Mercer University  
Number of Students: 10; In-person course (*Fall 2018*)

Family Therapy Practicum, Mercer University  
Number of Students: 2; In-person course (*Fall 2018*)

#### *Guest Lecturer*

Theories of Family Therapy, Family Therapy Program, Mercer University  
Number of Students: 7; Online format (*Spring 2020*)

Family Systems Theory, Couple and Family Therapy Program, University of Nevada, Las Vegas  
Number of Students: 10; Online format (*Spring 2020*)

Behavioral and Family Health Systems, School of Medicine, Mercer University  
Number of Students: 16; In-person course (*Spring 2019*)

### **Undergraduate**

#### *Instructor*

Public Policy: Child and Family Issues, Florida State University  
Number of Students: 61; In-person course (*Spring 2018*)

Methods of Studying Families and Children, Florida State University  
Number of Students: 11; In-person course (*Summer 2017*)

#### *Graduate Teaching Assistant*

Context of Adolescent Development, Florida State University  
Online course (*Summer 2018, 2020; Spring 2019, 2020; Fall 2016, 2018, 2019*)  
In-person course (*Spring 2017*)

Context of Adult Development and Aging, Florida State University  
Online course (*Summer 2019*)  
In-person course (*Fall 2017*)

Child Growth and Development: The Foundation Years, Florida State University  
Online course (*Summer 2016*)

Individual and Family Life Span Development, Florida State University  
Online course (*Spring 2016; Fall 2015*)

*Undergraduate Teaching Assistant*

Physiological Psychology, Hampton University  
In-person course (*Spring 2011*)

Methods of Psychology, Hampton University  
In-person course (*Fall 2010*)

### **Trainings**

Online Mentor Training Using Blackboard, Florida State University, *March 2016*

Program for Instructional Excellence Teaching Conference, Florida State University, *August 2015*

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### **CLINICAL SUPERVISION EXPERIENCE**

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#### **Individual Supervisor**

Private Practice, Online, *January 2020 - present*

Master of Family Therapy Program, Mercer University, Macon, GA, *August 2018 – December 2019*

MFT Doctoral Program, Florida State University, Tallahassee, FL, *September 2016 – December 2017*

#### **Group Supervisor**

Master of Family Therapy Program, Mercer University, Macon, GA, *August 2018 – July 2019*

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### **CLINICAL EXPERIENCE**

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#### **Clinical Positions**

Clinical Therapist, Private Practice, Online, *January 2020 – present*

Clinical Therapist, Mercer Family Therapy Center, Macon, GA, *August 2018 – July 2019*

Clinical Counselor, Children's Home Society of Florida, Tallahassee, FL, *August 2017 – April 2018*

Doctoral MFT Intern, Center for Couple and Family Therapy, Tallahassee, FL, *August 2015 – November 2017*

Multisystemic Therapist, Community Counseling & Mentoring Services, Largo, MD, *December 2013 – May 2014*

Multisystemic Therapist, Youth Villages, Arlington, VA, *August – December 2013*

MFT Intern, Harris Scholarship Community Program, Evanston, IL, *January 2012 – July 2013*

MFT Intern, Bette D. Harris Family & Child Clinic, Evanston, IL, *August 2011 – July 2013*

### **Trainings**

Multisystemic Therapy Training (5-Day Orientation), MST Services, 2013

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## **RESEARCH**

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### **Published Manuscripts**

Montgomery, J., Srivastava, S., London-Johnson, A., Ferrill, J., & Iheanacho, E. (2020). Cultural activities in transracially adoptive families. *Journal of Ethnic & Cultural Diversity in Social Work*. doi: 10.1080/15313204.2020.1730288

### **Refereed Manuscripts Under Review**

Ferrill, J., London-Johnson, A., & Ledermann, T. *Discrimination and parent-child relationship quality in black families: How spiritual practices protect*. Manuscript resubmitted following revisions.

### **Refereed Manuscripts in Preparation**

Ferrill, J., Gonzales-Backen, M. A., London-Johnson, A., Iheanacho-Dike, E., Montgomery, J. E., & Grzywacz, J. G. *The association between neighborhood context, parenting, and adolescent outcomes among Latino immigrants*. Manuscript in preparation.

Ferrill, J., Rayburn, A., Jackson, & L., Mcwey, L. *Honoring all voices in supervision: Application of a critical postcolonial framework*. Manuscript in preparation.

### **Conference Presentations**

Ferrill, J., & Rayburn, A. (2020, November). *Honoring all voices in supervision: Application of a critical postcolonial framework*. Paper to be presented at the meeting of the American Association for Marriage and Family Therapy: Orlando, FL.

Ferrill, J., London-Johnson, A., Ledermann, T., & Grzywacz, J. G. (2019, August). *Discrimination and parent-child relationship quality in black families: How spiritual practices protect*. Paper presented at the meeting of the American Association for Marriage and Family Therapy: Austin, TX.

Iheanacho-Dike, E., London-Johnson, A., & Ferrill, J. (2017, November). *Child bilingualism and academic attainment: Moderation by Parental Behavior*. Paper presented at the meeting of the National Conference on Family Relations: Orlando, FL.

Montgomery, J. E., Iheanacho-Dike, E., & Ferrill, J. (2017, October). *Racial-ethnic activities in transracially adoptive families*. Paper presented at the meeting of the American Association for Marriage and Family Therapy: Atlanta, GA.

Ferrill, J., Gonzales-Backen, M. A., London-Johnson, A., & Grzywacz, J. G. (2017, April). *Neighborhood context and mental health outcomes in adolescents: The moderating effect of parenting behaviors*. Poster presented at the meeting of the Society for Research in Child Development: Austin, TX.

Iheanacho-Dike, E. C., Ferrill, J., Carlos, F. L., & Gonzales-Backen, M. A. (2016, October). *Understanding the immigrant experience: How mental health mediates the relationship between perceived discrimination and self-reported physical health*. Poster presented at the meeting of the Collaborative Family Healthcare Association: Charlotte, NC.

Ferrill, J. & Arriaga, X. B. (2011, March). *Participation in relationship research: positive? negative? or no effect at all?* Poster presented at the meeting of the Southeastern Psychological Association/Committee of Equality of Professional Opportunity: Jacksonville, FL.

Ferrill, J. & McGee, Z. T. (2010, April). *Comorbidity in urban female adolescents: Evaluating the predictors of disordered eating, depression and sexual abuse*. Paper presented at meeting of the Virginia Psychological Association: Norfolk, VA.

Ferrill, J. & McGee, Z. T. (2009, October). *Examining the relationship between depression, eating disorders, and sexual abuse in female adolescents*. Poster presented at the meeting of the National Institute of Mental Health: Career Opportunities in Research: Albuquerque, NM.

## **Professional Presentations**

Guest Speaker, “*Implications for best clinical practices with African American couples,*” Meeting of the Georgia Association for Marriage and Family Therapy, March 2019

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## FUNDING, SCHOLARSHIPS, AND HONORS

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AAMFT Foundation Diversity Scholarship for Emerging Leaders Award, 2020

Cora B. & Ross Evans Scholarship, 2019

May Watson Connor Graduate Scholarship in Child Development, 2019

Kappa Omicron Nu, 2018

AAMFT/SAMHSA Minority Doctoral Fellowship, 2017

Dr. Ava D Rodgers Endowed Scholarship, 2017

Mary W. Hicks Scholarship, 2017

Florida Alliance Health Equity Scholars Program, 2016

Harris Scholarship, 2011

Student Research Opportunities Program, 2010

Psi Chi, 2010

NIMH: Career Opportunities in Research Program, 2009

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## LEADERSHIP AND SERVICE EXPERIENCE

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### **Advising/Mentoring**

Mentor, The Family Institute Alumni Advisory Board Mentor Program, Northwestern University, 2020

### **Reviewing**

Abstract Reviewer, AAMFT Conference, 2017, 2019

Peer Reviewer, FSU College of Human Services Dissertation Award Program Committee, 2017 – 2018

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## PROFESSIONAL MEMBERSHIPS

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American Association for Marriage and Family Therapy, 2015 – *present*

National Council on Family Relations, 2015 – *present*

Society for Research in Child Development, 2015 – *present*