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The Relationship Between Racial Microaggressions, Mental Health, and Academic Self- Efficacy in Black College Students : Is a Supportive Mentor Protective?

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The Relationship Between Racial Microaggressions, Mental Health, and Academic Self-Efficacy in Black College Students: Is a Supportive Mentor Protective?

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Abstract

Racial microaggressions are daily, often subtle, verbal, environmental, and behavioral slights and insults targeted at a person or their race. Racial microaggressions can have deleterious effects on the mental health and academic outcomes of Black college students. As research on this relationship increases, it is essential to assess factors that may moderate, or lessen, the impact of racial microaggressions. There is evidence that mentoring, a form of social support, may attune the adverse effects of racial microaggressions on mental health and academic outcomes. The current study explored the relationship between racial microaggressions and mental health and academic outcomes (social anxiety, generalized anxiety, depression, and academic self-efficacy) in Black undergraduate students and assessed if the presence of mentoring moderated this relationship. Results suggest that racial microaggressions have a significant negative impact on mental health outcomes and none on academic self-efficacy. Additionally, while mentoring has a significant positive impact on three outcome variables, it does not operate as a buffer variable for the relationship between racial microaggressions and the study outcomes. As there is a direct relationship but not a buffering one, other factors may better attune the relationship between racial microaggressions and mental health and academic outcomes in Black college students. It also suggests that having a mentor can benefit college students' mental health and well-being and can be used to offer support to the growing literature on the impact of social support in this population. Further research is needed to examine the potential buffers of the relationship. Given the beneficial impact of mentoring, additional research can further explore the longitudinal effects of mentoring on this population.

Keywords: racial microaggressions, mentoring, depression, anxiety, academic self-efficacy

Dedication

To my angel. Your big brother loves and misses you every day.

Acknowledgments

I would like to acknowledge my village because I would not be here today without them. I stand on the shoulders of giants. To the many sacrifices made and those who are no longer with us, this is for you.

To my love, Gabby – Thank you for being the most supportive partner through the most difficult times. *Para…*

To my parents – I've been so blessed to have four supportive parents that have been in my corner since day 1.

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To my mentors, past and present – I would not be the man I am without the love and kindness poured into me. We started as strangers; we ended as family. I appreciate you all.

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The Relationship Between Racial Microaggressions, Mental Health, and Academic Self-Efficacy in Black College Students: Is a Supportive Mentor Protective?

Introduction

Microaggressions are a pervasive form of racial discrimination. While popularized by eminent psychologists such as Daniel G. Solórzano (2000) and Derald Wing Sue (2007) in the early 2000s, the term *microaggression* dates to the 1960s when a Harvard-trained Black psychiatrist, Chester M. Pierce, coined the term. Pierce (1974) initially defined this term as "black-white racial interactions [that] are characterized by white put-downs, done in an automatic, preconscious, or unconscious fashion" (p. 515). For over 20 years, Pierce wrote adamantly about the potential impact of a lifetime of microaggressions on Black people (Solórzano, 2000). Microaggressions are seen as a subtle form of racism that has been shown to have negative impacts on African American college students (Solórzano, 2000). Relative to what Pierce (1970) deemed as *macroaggressions* (i.e., more overt, severe forms of racism such as lynching and cross burnings), microaggressions are subtler and can be more difficult to observe.

Discrimination based on race or ethnicity is frequently experienced by most Black people in the US (Pew Research Center, 2016). Substantial research supports the negative impact of racial discrimination on physical and mental health (e.g., Pascoe & Smart Richman, 2009; Williams et al., 1997). Additional research supports the negative influence of racial discrimination on academic self-efficacy (Forrest-Bank & Jenson, 2015; Forrest-Bank & Cueller, 2018; Rollins & Valdez, 2006). Therefore, it is essential to explore mechanisms that can buffer or lessen these relationships.

This study aims to examine the relations of racial microaggressions with academic self-efficacy and mental health outcomes as well as to explore whether mentoring may operate as a moderator of these relations. This introduction begins by reviewing the literature on the connections between microaggressions and mental health outcomes, microaggressions and

academic self-efficacy, and the potential buffering effect of mentoring in these relationships for Black undergraduates. Limitations of existing research are noted, and areas in need of further investigation are highlighted. The introduction concludes with a further description of the proposed study and how it will address some of the existing knowledge gaps in this literature.

Literature Review

Racial Microaggressions

Microaggressions are defined as "daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults to the target person or group" (Sue, Capodilupo, et al., 2007, p. 273). They have been further categorized as microinsults, microassaults, and microinvalidations (Sue, Capodilupo, et al., 2007). *Microinsults* refer to behavioral/verbal communication that convey a rude or demeaning viewpoint on someone's ethnic/racial identity (Sue, Capodilupo, et al., 2007). *Microassaults* are explicit racial verbal, or nonverbal attacks that aim to hurt the victim and are considered deliberate (Sue, Capodilupo, et al., 2007). *Microinvalidations* are verbal communications meant to negate, exclude, or undermine the thoughts, feelings, or experiences of a minoritized individual or group (Sue, Capodilupo, et al., 2007). Microinsults and microinvalidations are the most frequently occurring microaggressions and have received the most attention among researchers to date (Sue, Capodilupo, et al., 2007; Sue et al., 2008; Sue, Bucceri, et al., 2007; Lui & Quezada, 2019).

Microaggressions have adverse effects on Black students and their mental health. Sue and colleagues (2008) explored the psychological process by which racial microaggressions are perceived by conducting focus groups with 13 counseling psychology Black graduate students and individuals working in higher education. Common themes were pressure to represent one's group, invisibility, powerlessness, forced compliance, and loss of integrity as psychological

consequences of microaggressions (Sue et al., 2008). Pressure to represent one's group refers to feeling that your actions represent your entire race, which can lead to increased pressure to avoid confirming negative racial stereotypes. Invisibility refers to perceptions that your contributions are less visible or valuable than a White person's. Powerlessness refers to vulnerability due to one's racial reality being defined by White people. Forced compliance and loss of integrity refer to navigating two worlds (their own racial world and the White world); such conformity can cause feelings of disingenuousness and uneasiness. Thus, racial microaggressions can be communicated in various ways and carry disparaging messages about the target person's racial/ethnic identity.

Sue et al. (2008) suggested that when individuals perceive negative racial messages, an internal response occurs (e.g., cognitive, emotional, or behavioral expressions), such as healthy paranoia (i.e., suspiciousness related to an incident) and sanity checks (i.e., checking whether others also thought the incident was racist). Both the individual's reaction to and interpretation of the microaggression may ultimately affect its impact on well-being (Sue et al., 2008). Hence, the experience and interpretation of racial microaggressions can damage an individual's psychological health, including experiences of anxiety and depression (Nadal et al., 2014; Forrest-Bank & Cueller, 2018).

Relationship of Microaggressions to Anxiety and Depression

Anxiety is defined as a "normal reaction to stress and can be beneficial in some situations. It can alert us to dangers and help us prepare and pay attention" (American Psychiatric Association, 2021). The present study uses *anxiety* to refer to symptoms of impairing anxiety or anxiety disorders (i.e., Generalized Anxiety Disorder and Social Anxiety Disorder). Generalized

Anxiety Disorder (GAD) is defined as "persistent and excessive worry that interferes with daily activities" (American Psychiatric Association, 2021). GAD often focuses on worries related to everyday activities and experiences. Social Anxiety Disorder (SAD) is defined as having "significant anxiety and discomfort about being embarrassed, humiliated, rejected or looked down on in social interaction" (American Psychiatric Association, 2021). SAD is often characterized by fear and avoidance of performance and social situations. *Depression* is a mental health disorder commonly characterized by sadness, loss of interest in activities, changes in sleep and appetite, and fatigue (American Psychiatric Association, 2020). As anxiety and depression are the most prevalent mental health issues reported by African Americans and university students (Eisnberg et al. 2007), the present study focuses on these outcomes.

Microaggressions have been found to be associated with numerous deleterious mental health outcomes (Banks et al., 2006; Blume et al., 2012; Nadal et al., 2014). Studies have shown that for Black individuals, microaggressions are associated with anxiety symptoms and disorders such as GAD (Soto et al., 2011; Williams et al., 2018) and SAD (Liao et al., 2016; Levine et al., 2014). Using structured diagnostic interviews conducted as part of the National Survey of American Life (NSAL), a couple of studies (e.g., Levine et al., 2014) have examined the relationship of microaggressions with specific anxiety diagnoses. For example, Levine et al. (2014) found that microaggressions were associated with SAD among African Americans and Caribbean Blacks. Other studies have yielded similar findings using self-report measures to investigate racial microaggressions and anxiety symptoms. For example, Williams et al. (2018) used various self-report measures to examine the relationship between microaggressions and symptoms of anxiety, stress, and trauma in a racially diverse sample of 201 undergraduate students (55% European American and 32% African American). Microaggressions related to

environmental factors (e.g., being the only person of your racial background in a class; not seeing your race represented in media), perceptions of low achievement, or cultural inferiority were positively related to anxiety symptoms. Overall, the relationship between microaggressions and anxiety has been well-established for Black Americans.

Microaggressions have also been associated with depressive symptoms among Black individuals (e.g.; Torres et al., 2010; Molina & James, 2016; O'Keefe et al., 2014). Torres et al. (2010) utilized a mixed-method approach to examine racial microaggressions and their relationship to depressive symptoms in African American doctoral students and doctoral graduates. Participants (n = 97; 76% women) were asked several open-ended questions to identify the types of racial microaggressions they had experienced. A second group of participants (n=107; 89% women) completed baseline (Time 1; T1) and one-year follow-up (Time 2; T2) surveys regarding their experiences with discrimination and mental health symptoms. Qualitative analyses indicated that participants experienced a variety of microaggressions, including assumptions of criminality/second-class citizenship (e.g., being harassed by campus police when walking around a building at night after studying), underestimation of personal ability (e.g., feeling you are there to fill a quota or having to prove yourself), and cultural/racial isolation (e.g., feeling alienated in a department with few Blacks). In addition, a direct relationship was observed between baseline experiences of racial microaggressions and depressive symptoms one year later. Other studies have demonstrated the relations between microaggressions and depression in undergraduates (Sellers & Shelton, 2003) and nationally representative samples of Black adults (Molina & James, 2016). Robust findings document a positive relationship between racial microaggressions and psychological distress.

Relationship of Racial Microaggressions to Academic Self-efficacy

Also concerning is the connection between microaggressions and academic self-efficacy (Forrest-Bank & Jenson, 2015; Forrest-Bank & Cueller, 2018). Academic self-efficacy refers to "students' perceptions of their competence to do their classwork" (Midgley et al., 2000, p. 20). It is suggested that experiences with microaggressions may negatively impact Black students' academic self-efficacy. This notion is supported by other theoretical perspectives, such as stereotype threat theory, in which Black students may be more likely to underperform academically due to fears of confirming negative racial stereotypes about their intellectual ability (Steele & Aronson, 1995).

To our knowledge, there are only two published studies examining the relationship between racial microaggressions and academic self-efficacy among undergraduates. Using a sample of 409 Black (n = 82), Latinx/Hispanic (n = 103), White (n = 123) and Asian (n = 101) undergraduate participants (64.2% women), Forrest-Bank and Jenson (2015) examined how microaggressions, risk and protective factors (e.g., neighborhood attachment and school engagement), and ethnic identity related to academic self-efficacy, criminal intentions, and substance use. Results indicated that racial microaggressions were directly and inversely related to academic self-efficacy. Ethnic identity was positively related to academic self-efficacy. Analyses were not conducted by racial and ethnic subgroups. This study provides initial support for the negative influence racial microaggressions may have on academic self-efficacy in young adults.

In a similar study, Forrest-Bank and Cueller (2018) surveyed a sample of 213 college students (n = 71 Black, n = 67 Latinx/Hispanic, and n = 74 Asian) to investigate relationships between racial microaggressions, ethnic identity, psychological distress (anxiety and depressive

symptoms), and academic self-efficacy. In contrast to the previous study, no direct relationship between racial microaggressions and academic self-efficacy was found. However, consistent with prior findings, a positive association between ethnic identity and academic self-efficacy was shown for the entire sample; this relationship was not significant when analyzed separately for each racial/ethnic subgroup. In addition, academic self-efficacy was positively related to psychological distress for the entire sample and Latinx/Hispanic and Asian students but not for Black students. Although these findings are preliminary, there is some evidence that racial microaggressions may negatively influence academic self-efficacy. In both studies, stronger ethnic identity emerged as a potential positive influence. Clearly, more research is needed to understand the relationship between racial microaggressions and academic self-efficacy and the various factors and/or circumstances that modulate it.

Research Limitations on Microaggressions and Anxiety, Depression, and Academic Self-efficacy

Ample literature has investigated the relationship between racial microaggressions and anxiety and depressive symptoms (Banks et al., 2006; Blume et al. 2012; Nadal et al., 2014; Soto et al., 2011). However, as discussed above, minimal research has examined the association of microaggressions with academic self-efficacy. In particular, further research is needed to examine these relations among Black college students specifically. Because most college students are navigating emerging adulthood, heightened stress associated with significant life transitions may render them more vulnerable to the deleterious effects of other stressful experiences, including racial discrimination (Hurd et al., 2016; Kline et al., 2021). Finally, it is essential to examine protective factors, such as mentoring, that may shield Black students from racial discrimination's adverse psychological and academic effects. As will be discussed below,

mentoring may be a particularly promising protective factor for college students and Black young adults (Williams & Williams-Morris, 2000; Miranda-Chan et al., 2016; Hurd & Zimmerman, 2010).

Buffering Models of Social Support

For nearly 50 years, stress-buffering models have been consistently used to understand the beneficial role of social connections in moderating the relationship between stress and health (Cohen 2004). A buffering model suggests that the relationship between a stressor and physical and mental health outcomes can be buffered or moderated by some form of social support (Coleman & Iso-Ahola, 1993; Thoits, 2011; Prelow, Mosher, & Bowman, 2006). While some of the results have been mixed, there has been some evidence supporting the buffering model as an adequate conceptualization of the impact of social support on the relationship between stress and mental health outcomes (Cohen & Wills, 1985; Kawachi & Berkman, 2001). In one of the strongest examples of the buffering model, Coleman, and Iso-Ahola (1993) reviewed literature that provided evidence that social support moderated the relationship between stress and health. Also applying the buffering model of social support, Hsieh and Tsai (2019) found that gender and social support moderated the relationship between employment stressors and health outcomes for Taiwanese military personnel. Specifically, in explaining the theoretical model, Hsieh and Tsai (2019) stated, "social support buffers or moderates the effect of perceived stress on people's mental health, demonstrating that social support could reduce the negative impact of external stressors on mental health" (p. 3). Thoits (2011) further described the stress-buffering model as encompassing multiple types of social support, namely: emotional sustenance (e.g., receiving compassion, sympathy, and empathic understanding from others) and active coping assistance (e.g., instrumental aid, practical assistance, and advice from others). Thoits (2011)

theorized that when an individual experiences calamity, they may receive visible and deliberate support that might otherwise go unseen in everyday life but becomes more visible in times of apparent distress. This deliberate support in vulnerable moments validates and reinforces a person's "general perception that support is available when needed" (Thoits, 2011, p. 151).

In only a handful of cases, the buffering model has examined how social support moderates the relationship between racial discrimination and mental health outcomes (Prelow et al., 2006; Clark, 2006; Steers et al., 2019; Ajrouch et al., 2010). In a recent study, Steers and colleagues (2019) used the buffering model to examine the moderating effect of social support on the relationship between everyday discrimination and psychological distress in a group of 122 African American adults. Results indicated that social support operated as a buffer of the association between discrimination and overall psychological distress. Findings also indicated that those who reported having more social support had lower levels of psychological distress (Steers et al., 2019; Prelow et al., 2006; Ajrouch et al., 2010). While this study supports the buffering model, other studies have shown little to no moderating effect (Prelow et al., 2006; Clark, 2006).

In another study, Prelow and colleagues (2006) compared three different models that examined the relationships between racial discrimination, social support, psychological adjustment, and life satisfaction in a group of 135 African American college students. While they found a direct relationship between social support and positive psychological adjustment, the results did not support the buffering model. Notably, few studies have explored the buffering effect of social support on the relationship between racial discrimination and academic outcomes in African American college students. Moreover, none of these studies has focused on mentoring

specifically as a form of social support; it is possible that situating mentoring as a buffering form of social support may assist in clarifying the mixed results described above.

Mentoring as Social Support

The definition of *mentoring* has been debated in the peer-reviewed literature for nearly thirty years (Jacobi, 1991; Crisp & Cruz, 2009; Gershenfeld, 2014; Law et al., 2020). One literature review (Crisp & Cruz, 2009) found over 50 definitions of mentoring that varied in both scope and depth. According to Kram's (1985) seminal definition, mentoring is "a relationship between two individuals whereby the more experienced person is committed to providing developmental support to the other, less experienced person" (Crisp et al., 2017, p. 18; Kram, 1985). The present study adopts Kram's (1985) view of *mentoring* and characterizes it as a form of social support provided to a student by a more experienced person (e.g., faculty member). This definition was chosen as it is a formative definition of *mentoring* and used by Crisp (2009) as she conceptualized mentoring into four constructs. The study also pulls from Crisp (2009)'s four constructs of mentoring, which include: (a) *psychological and emotional support* (moral and emotional support, empathic listening, and help with identifying problems); (b) *degree and career support* (assistance with assessing strengths, weaknesses, and academic/career goal setting); (c) *academic subject knowledge support* (assistance with acquiring necessary skills and knowledge); and (d) *existence of a role model* (presence of an individual from whose present and past actions the student can learn from). Crisp (2009)'s constructs are used in the present study. They appear to be one of few known mentoring constructs specifically for college students to explain how they receive and experience mentoring support.

Mentoring relationships can be formal and informal (Luna & Cullen, 1995; Crisp & Cruz, 2009; Nora & Crisp, 2007). Formal mentoring programs (i.e., Big Brothers, Big Sisters) typically

have an organization assist with matching mentees and mentors through a structured process (Crisp & Cruz, 2009). Alternately, informal/natural mentoring relationships occur naturally and are not part of a structured process (e.g., professors, coaches, neighbors.; Crisp & Cruz, 2009). While the present study does not differentiate between formal and informal/natural mentoring relationships, the positive impact both have on the well-being of young adults has been well documented (Luna & Cullen, 1995; Crisp & Cruz, 2009; Nora & Crisp, 2007).

Relationship of Mentoring with Anxiety and Depression

Mentoring relationships represent an essential component of the healthy transition from adolescence to young adulthood (Eby et al., 2007). Mentoring allows adolescents to make social, emotional, and cognitive gains that ultimately facilitate positive outcomes (e.g., mental health, healthy social relations; Eby et al., 2007; Jacobi, 1991). For college students, in particular, mentoring relations can help improve academic outcomes, strengthen critical thinking skills, and develop self-confidence (Eby et al., 2007; Lee, 1999). The majority of existing research in this area has focused on the relationship between informal/natural mentoring relationships and the quality of mental health; specifically, it has indicated that mentoring relationships are associated with lower levels of internalizing problems (i.e., anxiety and depressive symptoms; e.g., Miranda-Chan et al., 2016; Hurd & Zimmerman, 2010; Hurd et al., 2017; Hurd et al., 2016; Calsyn et al., 2005).

Several longitudinal studies have demonstrated the positive impact of mentorship on the psychological well-being of young adults. For example, Miranda-Chan et al. (2016) applied a mixed-methods approach to investigate the effects of mentoring in a sample of young adults with naturally occurring mentors (n = 1350; 60.5% White; 16.8% African American; 6.1% Hispanic) and without such mentors (n = 1145; 53% White; 25% African American; 11.2% Hispanic). Data

were derived from the National Longitudinal Study of Adolescent to Adult Health. When participants were between 18-28, mentoring was measured retrospectively by asking them to indicate whether they had at least one mentor when they were fourteen years old. Psychological well-being outcomes were subsequently assessed when participants were ages 25-35; these outcomes included optimism (the extent to which participants viewed their futures as positive), self-efficacy (the extent to which participants felt control over their lives), and depressive symptoms. The authors found that having a mentor at age 14 was related to greater optimism and self-efficacy and lower levels of depression in adulthood. They interpreted their findings as evidence of the socioemotional benefits of mentoring relationships (having a role model to set examples for regulating emotional and mental health, social support, etc.).

In another examination of the relations between mentoring and mental health, Hurd et al. (2016) conducted a longitudinal study that assessed the relationship between mentorship at college entry and psychological distress (depressive and anxiety symptoms) during the first two semesters. Three-hundred thirty-six college students (29% Black/African American, 23% White, 20% multiracial, 17% Asian, 10% Hispanic/Latinx) from a predominantly White institution completed a self-report questionnaire regarding natural mentoring relationships, depressive symptoms, anxiety symptoms, and grade point average (GPA) during both Fall and Spring of their first year of college. Results indicated that retaining natural mentors from one semester to the next was associated with higher GPAs. Retention of mentors also contributed to lower depressive and anxiety symptoms, which were associated with improved academic performance. In a follow-up study with the same sample, Hurd et al. (2018) found that having greater appraisal support (i.e., affirmations and praise for accomplishments) from mentors predicted decreased

depressive symptoms through an increase in self-worth. Collectively, these studies provide support for the benefits of natural mentors during critical developmental transitions.

Of particular interest is the mental health outcomes of Black young adults who have mentoring relationships. Notably, Black college students encounter several institutional barriers (e.g., structural racism) associated with poorer mental health (Williams & Williams-Morris, 2000). Moreover, some authors have noted that mentoring relationships have a long history and tradition in the Black community and may be valuable for supporting students as they cope with individual and structural discrimination (e.g., Sanchez et al., 2018; Lee, 1999; Williams & Williams-Morris, 2000). However, relatively few studies have examined the benefits of mentoring relationships for Black college students specifically. Instead, existing research in this area has focused on Black adolescents and young adults more broadly. For example, Hurd and Zimmerman (2010) conducted face-to-face structured interviews with 615 Black participants at five time points from adolescence through young adulthood (i.e., five years post-high school). The study tested the effect of having a mentor in 12th grade on participants' psychosocial outcomes (e.g., resilience and depressive symptoms) during the transition from adolescence to young adulthood. The results indicated that natural mentoring moderates the relationship between participants' stress and depressive symptoms. For both male and female participants, having a mentor fostered healthier trajectories over the five years. The authors concluded that having mentors may bolster mentees' sense of worth and resilience while also mitigating depressive symptoms. They also concluded that mentors might provide adolescents with additional skills that help them more effectively cope with the stress involved in transitioning to adulthood.

Taken together, these studies indicate a potential link between mentoring relationships in adolescence and positive mental health outcomes in young adulthood. Hurd and Zimmerman's (2010) study also indicates that mentoring may moderate the relationship between stressful life experiences and mental health outcomes. A greater presence of mentoring attenuates the adverse effects of those life experiences. Thus, in addition to being associated with positive mental health outcomes, mentoring may serve as a powerful buffer against environmental stressors (e.g., discrimination).

Mentoring and Academic Self-efficacy

Mental health outcomes are closely linked to academic outcomes (Hurd, Tan, & Loeb, 2016; Jacobi, 1991; Crisp & Cruz, 2006). Thus, in addition to considering the role of mentoring in influencing mental health outcomes, it is also essential to consider its impact on academic outcomes, including academic-self efficacy. The relations between mentoring and academic self-efficacy in college students have been studied in diverse populations (e.g., Chelberg & Bosman, 2020; Defreitas & Bravo, 2012; Feldman et al., 2010), and findings have indicated a direct relationship between mentoring relationships and academic self-efficacy.

While there are several studies indicating the positive effect of mentoring on Latinx college students (e.g., Santos & Reigadas, 2000; Halloway-Friesen, 2019), there is a dearth of literature specifically focused on Black college students. Only one study was found that specifically examined the relationship between mentoring and academic self-efficacy in Black college students (Defreitas & Bravo, 2012). In this study, the authors recruited 249 African American (n = 105) and Latinx (n =144) undergraduates at a Hispanic Serving Institution (HSI). Specifically, they investigated the relations between university mentoring relationships (e.g., faculty involvement) and academic self-efficacy and academic achievement. The researchers

predicted that having mentoring relationships within the university would be positively associated with GPA and that this relationship would be mediated by academic self-efficacy. Although the relationship between mentoring and GPA was not significant, a significant positive association between mentoring and academic self-efficacy was observed for both Black and Latinx participants. While causality between variables cannot be inferred due to the study's cross-sectional design, these findings indicate that mentoring relationships within the university may be valuable for supporting students' academic self-efficacy.

Given the unique challenges that Black undergraduates face (e.g., institutional racism), it is crucial to understand the potential role of mentorship in building support systems for these students. Moreover, it is important to understand how mentorship can buffer the effects of stressful experiences, such as racial discrimination, on Black undergraduates' academic success and self-efficacy. As noted above, there is a dearth of literature examining the relations between these variables for Black college students.

Limitations of Existing Research

Literature on mental health and academic outcomes associated with mentoring is continuously emerging but needs further development (Crisp & Cruz, 2009; Jacobi, 1991; Gershenfeld, 2014; Law et al., 2020). One notable limitation of these studies is that many have measured mentoring relationships with a single item (e.g., Miranda-Chan et al., 2016) or only a few items (e.g., Hurd et al., 2016). Research that comprehensively measures the presence of multiple components of mentoring (e.g., academic support, emotional support) is needed to better understand its linkages with mental health and academic outcomes.

Ragins (1988) asserted that mentoring might be an effective buffer against discrimination in the workplace for women; however, it is unclear whether this applies across

genders and to college populations. Additionally, few studies have examined the potential buffering role of mentoring in college populations, especially against the harmful effects of racial discrimination (e.g., Ragins 1988; 2015). While mentoring has been studied as a buffer between stressful experiences and academic self-efficacy among Black young adults (e.g., Hurd & Zimmerman, 2010), further research is needed to examine the potential role of mentoring in moderating the relations between racial microaggressions and academic and mental health outcomes for Black college students specifically. Providing a better understanding of factors that can ameliorate the deleterious impact of racial microaggressions can help scholars make targeted interventions and grow knowledge that can be used to inform future longitudinal studies on the effects of mentoring.

Goals of Current Study

The current study extends the literature by examining the relationships between racial microaggressions, internalizing mental health symptoms, and academic self-efficacy among Black college students. In addition, the proposed study adds to previous research by investigating whether mentoring relationships moderate the associations of racial microaggressions with mental health outcomes and academic self-efficacy, respectively. Specifically, among Black students, we will investigate the associations between racial microaggressions and 1) general and social anxiety; 2) depressive symptoms; 3) academic self-efficacy. Studies have shown that both African Americans and Afro-Caribbeans experience racial discrimination at similar rates (Pachter et al., 2017) and that ethnicity does not have an interaction effect on the relationship between racial discrimination and depressive symptoms (Molina & James, 2016). Therefore, in the current study, Black participants will include those who identify as Afro-Caribbean, Afro-Latino, African American, and African. Exploratory analyses will be conducted with the larger

samples of African American and Afro-Caribbean participants to determine if the impact of ethnicity is statistically significant.

Based on previous findings, we expect microaggressions to be positively related to general anxiety, social anxiety, and depressive symptoms and negatively related to academic self-efficacy in Black college students. We expect that higher reports of racial microaggressions will be associated with greater social and generalized anxiety and depressive symptoms and lower reports of academic self-efficacy. In addition, we will examine whether mentoring moderates each of these relationships. We hypothesize that mentoring relationships will moderate the relationship between racial microaggressions and anxiety and depressive symptoms such that it serves a protective function. Additionally, we hypothesize that mentoring relationships will moderate the relationship between microaggressions and academic self-efficacy. Hypotheses are summarized as follows:

H1a. More racial microaggressions will predict higher levels of social anxiety. **H1b.** More mentoring will predict lower levels of social anxiety. **H1c.** Mentoring will moderate the relationship between racial microaggressions and social anxiety. The relationship between racial microaggressions and social anxiety will be attenuated for students who report more mentoring support.

H2a. More racial microaggressions will predict higher levels of generalized anxiety. **H2b.** More mentoring will predict lower levels of generalized anxiety. **H2c.** Mentoring will moderate the relationship between racial microaggressions and generalized anxiety. The relationship between racial microaggressions and generalized anxiety will be attenuated for students who report more mentoring support.

H3a. More racial microaggressions will predict higher levels of depression. **H3b.** More mentoring will predict lower levels of depression. **H3c.** Mentoring will moderate the relationship between racial microaggressions and depression. The relationship between racial microaggressions and depression will be attenuated for students who report more mentoring support.

H4a. More racial microaggressions will predict lower levels of academic self-efficacy. **H4b.** More mentoring will predict higher levels of academic self-efficacy. **H4c.** Mentoring will moderate the relationship between racial microaggressions and academic self-efficacy. The relationship between racial microaggressions and academic self-efficacy will be attenuated for students who report more mentoring support.

Methods

Participant recruitment and procedures

All participants were recruited from a public university in the Northeastern United States from January 2019 to December 2019 via two sources. The first, a subject pool of students enrolled in undergraduate psychology courses using an online portal designed for students to participate in research as a course requirement. The second source of potential participants was Black student organizations (e.g., Black Student Union and Historically Black Greek Letter Organizations). Potential participants from the online student pool were emailed the survey directly via the online portal. Those from Black student organizations were invited to complete the online survey via email from their student leaders. The survey was hosted on Qualtrics, a globally utilized online platform that allows users to build, distribute, and store results of customizable virtual questionnaires (Qualtrics, Provo, UT). Survey questions covered topics related to social media use, experiences of online racial discrimination, emotional well-being, and also captured demographic information. The survey took approximately 20 to 30 minutes to

complete. For participation, students either received credit toward their psychology coursework or were entered into a raffle for a $100 Amazon gift card. All study procedures were approved by the Institutional Review Board.

Participants were included in this study if they self-identified as Black race/ethnicity. A total of 1,533 students completed the survey. In the present study, we include 293 students who self-identified as Black race/ethnicity in this analysis.

Measures

Social Anxiety and Generalized Anxiety

Anxiety symptoms were measured using the Screen for Adult Anxiety Related Disorders (SCAARED; Angulo et al., 2018). The SCAARED is an established (e.g., Angulo et al., 2018). instrument designed to measure self-reported frequency or intensity of multiple types of anxiety. For this study, two of the four subscales were used: Social Anxiety (SA; 7 items; e.g., "I am shy.") and Generalized Anxiety (GA; 13 items; e.g., "When I worry a lot, I feel irritable."). Collectively, the 20 total items of these two SCAARED subscales measure anxiety symptoms in social and general situations experienced over the past three months. Participants indicate their responses using a three-point Likert-type scale ranging from 0 (Not true or hardly ever true) to 2 (Very true or often true). SA was operationalized as a sum score with values ranging from 0 to 14. GA score was similarly computed and the values of the sum score range from 0 to 26. The Cronbach's alpha for the SA and GA subscales in the current sample was 0.87 and 0.91, respectively.

Depressive Symptoms

To assess depressive symptoms, the Patient Health Questionnaire-8 (PHQ-8; Kroenke et al., 2009) was included in the survey. The eight-item measure assesses the frequency of

depressive symptoms during the last two weeks using a four-point Likert-type scale ranging from 0 (Not at all) to 3 (Nearly every day). Examples of items in this measure include "feeling tired or having little energy" and "poor appetite and overeating." The PHQ-8 has been found to be a valid and reliable measure across multiple studies (e.g., Mueller et al., 2011; Escoffery et al., 2014), and factor loadings have been verified within undergraduate populations (Alpizar et al., 2018). The sum of items was used to operationalize depressive symptoms in the current study, values ranged from 0 to 24. Cronbach's alpha for the PHQ-8 in the current sample was 0.89.

Academic Self-Efficacy

The Academic Efficacy (AE) subscale of the Patterns of Adaptive Learning Scales (PALS; Midgley et al., 2000) was used to assess academic self-efficacy. The 5-item AE subscale measured students' self-rated competence to complete their work, e.g., "Even if the work is hard, I can learn it." Participants indicated their responses using a five-point Likert-type scale ranging from 1(Not true at all) to 5 (Very true). To measure academic self-efficacy, the five items are summed, and the total score (range 5-25) is used. The AE subscale has been shown to be valid and reliable independently across multiple studies (e.g. Midgley et al., 2000; Rachels & Rockinson-Szapkiw, 2017). Cronbach's alpha for the AE subscale in the current sample was 0.93.

Racial Microaggressions

Racial microaggressions were evaluated by combining four of the six subscales of the Racial and Ethnic Microaggressions Scale (REMS; Nadal, 2011). Specifically: 1) Assumptions of Inferiority (8 items; e.g., "Someone assumed that I would not be intelligent because of my race."); 2) Second-Class Citizen and Assumptions of Criminality (7 items; e.g., "Someone avoided eye contact with me because of my race."); 3) Microinvalidations (9 items; e.g.,

"Someone told me that they 'don't see color.'"); and 4) Workplace and School Microaggressions (5 items; e.g., "I was ignored at school or at work because of my race."). Collectively, the 29 items included in these four subscales measure various types of microaggressions experienced over the past six months. Participants indicated their responses using a five-point Likert-type scale ranging from 1 (or "not in the past six months") to 5 ("10 or more times in the past six months"). To operationalize racial microaggressions the total score was generated by summing the items from each of the four subscales (range 29-136). The REMS has been found to be a valid and reliable measure across multiple studies (e.g., Nadal, 2011; Wong et al., 2014), and its factor structure has been confirmed in undergraduate populations of color (Nadal, 2011). Cronbach's alpha for the current sample was 0.97.

Mentoring Relationships

The College Student Mentoring Scale (CSMS; Crisp, 2009) was used to measure perceived support from mentoring relationships in college. The measure aligns with the four constructs of mentoring support developed by Crisp (2009) to better understand the mentoring relationships that college students feel they have. All 25 items in this measure share the following stem: "When in college, I have had someone in my life who…" The CSMS comprises four subscales, namely: 1) Psychological and Emotional Support (8 items; e.g., "Makes me feel that I belong in college); 2) Degree and Career Support (6 items; e.g., "Discusses the implications of my degree choice"); 3) Academic Subject Knowledge Support (5 items; e.g., "Provides ongoing support about the work I do in my classes"), and 4) Existence of a Role Model (6 items; e.g., "Sets a good example about how to relate to other people"). For each item, participants responded using a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). For the current study, we used the total CSMS score (range 5 – 125) as well as sum

scores of the four subscales to operationalize perceived mentoring relationship support. Cronbach's alpha for the CSMS in the current sample was 0.98.

The CSMS has been found to be a valid and reliable measure across multiple studies (e.g., Nora & Crisp, 2007; Crisp & Cruz, 2010; Baier et al., 2016). Its factor structure has been confirmed in a minority undergraduate population at a Hispanic Serving Institution (Crisp & Cruz, 2010). Crisp (2009) found that the CSMS is a valid measure and can be used with a total score for all items or four subscales.

Analysis Plan

The present study examined the relationships between racial microaggressions and four primary outcomes (depressive symptoms, social anxiety, generalized anxiety, and academic self-efficacy) in Black undergraduate students. This study further assessed whether the role of mentoring relationships would act as a buffer between racial microaggressions and the primary outcomes.

Preliminary Analyses

Descriptive statistics including range, means, and standard deviations were computed for all measures of interest including racial microaggressions, mental health (GA, SA, and depression), mentoring, and academic self-efficacy. It was also of interest to assess bivariate relationships between study measures. Therefore, Pearson correlation coefficients were computed to quantify linear relationship between study outcomes and independent variables.

Primary Data Analysis

A three-step multivariable linear regression modeling approach was taken to examine the relationship between racial microaggressions and each outcome: SA, GA, depressive symptoms, and academic self-efficacy. Step 1 of the linear regression analysis for each outcome included

the independent variable of racial microaggressions as well as control variables sex and age. Sex and age were entered in each multivariable linear regression as control variables, given that a robust body of research has found sex and age differences in reported mental health symptoms (Rosenfield & Mouzon, 2013; Seedat et al., 2009; Keyes & Westerhof, 2012). Step 2 additionally included mentoring relationships. In Step 3, a statistical interaction term for racial microaggressions with mentoring relationships was added to examine potential moderating effects of mentoring relationships. All continuous variables were mean centered for the multivariable linear regression models.

Exploratory Data Analysis

To explore whether there exists heterogeneity in study findings by ethnicity, subgroup analyses were conducted. To conduct this analysis, the sample was first stratified by ancestry, i.e., African American (n=123), West Indian/Caribbean (n=60), or other (n=54). Then, in each stratum, models were implemented for each of the primary outcomes to assess hypothesized relationships. For ease of interpretation, only participants indicating one ethnic background were included. There were 56 participants self-identifying as multiple ethnic subgroups; they were not included in this analysis. The second exploratory analysis involved assessing the moderating effects of each mentoring subscale (versus the full scale) on the relationship between racial microaggressions and the study outcomes in the overall sample of 293 Black students.

Data were analyzed using IBM SPSS version 28 and a significance level of 0.05 was used to indicate statistical significance.

Results

Study Participants

Table 1 presents the description of study participants. Approximately 77% (n = 226) of participants identified as female. Participants ranged in age from 18 to 46 years with a mean age

of 19.74 (*SD* = 3.21). Mean imputation was utilized to estimate the ages for 35 participants with missing information. Most participants identified as African American (*n* =173, 59.04%) or West Indian/Caribbean Black (*n* =96, 32.76%). Of note, participants had the opportunity to select all that apply, therefore a number identified as multiple ethnic backgrounds within the diaspora, e.g., African American, West Indian/Caribbean Black, African, Hispanic Black, Other. Participants scored a mean of 6.25 (SD = 3.90) and a median of 6 in the SA measure; a score of 7 or higher indicates probable SA. Alternatively, for the GA measure a score of 12 or higher indicates probable GA, and the study sample reported a mean of 13.04 (SD = 6.90) and a median of 13. Depression is measured based on severity with a higher score suggesting more severe depressive symptoms (5 or higher). The participants in the current study reported a mean depression score of 8.35 (SD = 5.87) and a median of 8. Academic self-efficacy is measured such that a higher score donates a higher level of academic self-efficacy. In the current study, participants reported a mean AE score of 19.27 (SD = 4.79) and a median of 20. Racial microaggressions are also scored such that a higher score indicates more reported racial microaggressions, participants in the current study endorsed a mean of 49.04 (SD = 22.98) and a median of 39. More mentoring support is indicated when higher scores are reported, in the current study participants reported a mean of 94.90 (SD = 22.62) and a median of 97.

Preliminary Findings

Bivariate correlations between study variables are presented in Table 2. Racial microaggressions had a significant positive correlation to social anxiety ($r = 0.12$, $p = 0.033$), general anxiety ($r = 0.22$, $p < 0.001$), and depression ($r = 0.30$, $p < 0.001$). Higher scores on the racial microaggression measure were associated with significantly higher levels of SA, GA, and depression. Racial microaggressions had no correlation with academic self-efficacy.

Racial microaggressions and the full mentoring measure were only marginally correlated (r=-0.11, p= 0.056). Social anxiety (r=-0.23, p< 0.001), general anxiety (r=-0.13, p= 0.001), and depression (r=-0.16, p= 0.006) each had statistically significant negative correlation with the full mentoring scale. Lower scores on the mentoring measure were associated with significantly higher levels of SA, GA, and depression. Academic self-efficacy (r= 0.18, p= 0.002) was significantly positively correlated with mentoring.

Primary Findings

Social Anxiety

The results of the multivariable linear regression analysis predicting SA are shown in Table 3. In Model 1, more exposure to racial microaggressions was significantly associated with significantly higher levels of SA, adjusting for sex and age, such that for every unit increase in exposure to microaggression, the average increase in SA is 0.09. In Model 2, when mentoring was included in the model, the association between racial microaggressions and SA disappeared. However, there was an independent relationship between mentoring and SA, such that more mentoring predicted lower levels of SA ($\hat{\beta}$=-0.13, p < 0.001). In Model 3, when the interaction variable of racial microaggressions and mentoring is entered, there is no significant moderation effect. Therefore, Model 2 was retained as the final model. The model predicted 10.5% variance in SA, which was statistically significant.

Generalized Anxiety

The results of the multivariable linear regression analysis predicting GA are shown in Table 4. After adjusting for age and sex, Model 1 suggests that more racial microaggressions were associated with higher GA, with a significant increase in GA of 0.15 per unit exposure to racial microaggressions. In Model 2, which adds mentoring, racial microaggressions retains

significance ($\hat{\beta}$=0.14, p< 0.001). However, mentoring does not have a statistically significant relationship with GA. From Model 3, we conclude there is no interaction to between racial microaggressions and mentoring on GA and remove the interaction term. Model 2 accounts for 8.1% of the variance in GA.

Depression

The results of the multivariable linear regression analysis predicting depression can be found in Table 5. Model 1 suggests that, after adjustment for age and sex, a unit increase in racial microaggressions experience was associated with a significant increase in depression symptoms of 0.28 units, on average. From Model 2 we see that mentoring is independently associated with depression such that increased mentoring support experiences were associated with a significant decrease in depression symptomology ($\hat{\beta}$= -0.10, p=0.023). The relationship between racial microaggressions remained significant in this model ($\hat{\beta}$=0.27, p< 0.001). In Model 3, the interaction between racial microaggressions and mentoring does not significantly predict depression. Model 2 accounts for 11.7% of the variance in depression.

Academic Self-Efficacy

The results of the multivariable linear regression analysis predicting academic self-efficacy are shown in Table 6. After adjusting for sex and age, Model 1 shows that racial microaggressions did not significantly predict academic self-efficacy. When adding mentoring to Model 2 more mentoring was independently associated with higher academic self-efficacy ($\hat{\beta}$= 0.18, p = 0.004). Age and sex, and racial microaggression continue to not be significant in the model. Model 3 adds the interaction variable between racial microaggressions and mentoring; however, found that the interaction between racial microaggressions and mentoring did not significantly academic self-efficacy. Mentoring continues to be independently associated with

academic self-efficacy, such that more mentoring is associated with higher levels of academic self-efficacy ($\hat{\beta}$= 0.18, p = 0.004). Overall, Model 2 accounted for 3.1% of the variance in academic self-efficacy (Adjusted R^2 = .031).

Exploratory Findings

Based on the primary findings, as an exploratory analysis, we assessed whether mentoring relationships moderated the association between racial microaggressions and our four study outcomes in strata defined by Black ethnicity (i.e., African American, West Indian/Caribbean, or Other). A statistical interaction between racial microaggressions and mentoring was assessed for each outcome for the three strata to meet this exploratory analysis. To be included in the strata, participants had to identify as only one of the three ethnicities (i.e., African American, West Indian/Caribbean, or Other), participants who identified as multiple African ethnicities (N = 56) were not included. The interaction effect was found significant for one outcome in one stratum. For participants who identified as African American, the interaction between racial microaggressions and mentoring was statistically significant such that, the impact of racial microaggressions on depression is magnified in the presence of mentoring ($\hat{\beta}$= 0.22, p = 0.02). This model predicted for 13.1% of the variance in depression for the African American stratum. All findings for these analyses can be found in Tables 7 – 10.

Additional exploratory analyses examined the mentoring subscales. First, we assessed correlation between the subscales and study outcomes. The four mentoring subscales, psychological and emotional support (r = -0.24, p < 0.001), degree and career support (r = -0.21, p < 0.001), academic subject knowledge support (r = -0.21, p < 0.001), role model support (r = -0.23, p < 0.001) had a significant negative correlation with SA. GA was also negatively correlated to psychological and emotional support (r = -0.13, p = 0.029), degree and career

support (r = -0.12, p = 0.042), and academic subject knowledge support (r = -0.12, p = 0.039). However, there was not a correlation between GA and role model support. Depression also had significant negative correlations with all four mentoring subscales, psychological and emotional support (r = -0.17, p = 0.004), degree and career support (r = -0.15, p = 0.009), academic subject knowledge support (r = -0.16, p = 0.006), and role model support (r = -0.12, p = 0.040). Each of the four subscales of mentoring, psychological and emotional support (r = 0.19, $p < 0.001$), degree and career support (r = 0.18, p = 0.002), academic subject knowledge support (r = 0.19, p = 0.001), role model support (r = 0.12, p = 0.037), were significantly positively correlated with academic self-efficacy.

We also assessed correlation between the subscales of mentoring and racial microaggressions. Results found significant negative correlation between racial microaggressions and mentoring subscales of psychological and emotional support (r = -0.13, p = 0.028) and role model support (r = -0.12, p = 0.046). There was no linear correlation between racial microaggressions and other two mentoring subscales (degree and career support and academic subject knowledge support).

Finally, to assess if the interaction between racial microaggressions and the mentoring subscales would significantly predict the primary outcomes, Model 3, the model including the interaction term, was conducted using each subscale and for each outcome. This resulted in a total of 16 models (4 subscales by 4 outcomes). No significant interaction effect was identified. Model results can be found in Tables 11-14.

Discussion

This study adds to the growing body of research that shows that racial microaggressions significantly impact mental health and well-being in Black college students. Of primary interest was to investigate how experiences of racial microaggressions relate to depression, anxiety, and

academic self-efficacy. As a secondary aim, this study assessed if the presence of more reports of mentoring relationships are associated with lower reports of anxiety and depression and higher reports of academic self-efficacy. Lastly, this study investigated whether positive mentoring relationships can buffer the association between microaggressions and detrimental outcomes. It was explored whether specific components within mentoring relationships (i.e., academic support, role model support, degree support, psychological and emotional support) can attune the relationship between racial microaggressions and the study outcomes. Given the diversity within the Black community and the current sample, the investigation also explored ancestral differences between the two widely represented populations (i.e., African American and Caribbean Black).

Social Anxiety

The hypothesis that increased experiences of racial microaggressions would predict higher levels of social anxiety was supported. This finding is consistent with previous literature that finds a significant positive relationship between racial microaggressions and social anxiety (Liao et al., 2016; Levine et al., 2014). It should be noted that this relationship disappeared when mentoring was added to the model. The secondary hypothesis, that the presence of more mentoring relationships would predict lower levels of social anxiety, was confirmed. It is possible this direct relationship of mentoring with social anxiety partially accounts for the elimination of the original association between racial microaggressions and social anxiety. Several studies suggest that social support benefits college students and reduces social anxiety (e.g., Wonderlich-Tierney & Vander Wal, 2010; Barnett et al., 2021). In addition, the college environment and its opportunities for supportive social interactions and interpersonal relationships with a wide range of individuals may be particularly relevant for protecting racially

minoritized college students. Most undergraduate campuses provide access to resources that foster healthy social behaviors. In New Jersey, for instance, universities statewide offer the New Jersey Educational Opportunity Fund (EOF). EOF is "a program that provides financial assistance and support services (e.g. counseling, tutoring, and developmental course work) to students from educationally and economically disadvantaged backgrounds" (*Educational Opportunity Fund*, n.d.). These opportunities likely mimic mentoring relationships and hold similar benefits. Further research might focus on whether statewide programs like EOF offer a haven that contributes to positive mental health for this population.

Studies also show that higher social anxiety predicts lower mentoring relationships (Calsyn et al., 2005). This may be because mentoring relationships, especially those with faculty, often require the individual to initiate these opportunities. In one recent incident, Goodman-Wilson (2021) found that college students with higher social anxiety and depression were less likely to seek out and take advice from faculty. Continued research with this population can also further explore whether higher levels social anxiety predict less mentoring to inform us of potential obstacles to establishing essential mentoring relationships.

Lastly, it was hypothesized that mentoring would moderate the relationship between racial microaggressions and social anxiety. For students who report more mentoring support, the relationship between racial microaggressions and social anxiety will be attenuated. While adding mentoring to the model made the relationship between racial microaggressions and social anxiety disappear, the interaction into the model was not significant. This finding adds to the inconsistent literature on the buffering model with some studies finding support for the buffering model and others not (Prelow et al., 2006; Clark, 2006; Steers et al., 2019; Ajrouch et al., 2010). While there is a direct relationship between mentoring and social anxiety, it does not serve as a

moderator. This finding is likely due to other unknown factors that moderate the established relationship. Notably, in the present sample, both age and female sex were significant predictors of social anxiety. This may suggest that those who are younger age and female sex experience higher levels of social anxiety. Further research might explore the potential moderating effects of age and sex with this study sample as it may add to existing research aimed at exploring buffers in discrimination and mental health relationships (e.g., Grapin et al., 2022).

Generalized Anxiety

It was first hypothesized that more reported racial microaggressions would predict higher levels of generalized anxiety. This hypothesis was supported, and the relationship remained significant throughout each model regardless of the covariates added. This is also consistent with the literature that shows a strong connection between general anxiety and racial microaggressions (Soto et al., 2011; Williams et al., 2018). This finding suggests that racial microaggressions are associated with generalized anxiety in Black college students. It is likely that Black college students' continued increase in generalized anxiety in the face of various covariates, may speak to the impact of added stress on the experience of students of color. As suggested by Williams et al. (2018) the finding also speaks to the importance of targeted treatments that can potentially reduce the impact of racial microaggressions on generalized anxiety in Black college students. This treatment may look like therapeutic services specifically to deal with racial microaggressions, support groups, and increased access to spaces for Black students.

Secondly, it was expected that more mentoring would predict lower levels of generalized anxiety. Inconsistent with expectations and previous literature, this hypothesis is not supported. Previous literature suggests that mentoring directly relates to reported generalized anxiety (e.g.,

Miranda-Chan et al., 2016; Hurd & Zimmerman, 2010; Hurd et al., 2017). This finding may mean that another factor of support that is not measured in Crisp (2009)'s four constructs of the mentoring measure may have a more significant impact on generalized anxiety than those measured here. As one possibility, a recent study suggests that psychological resilience, or being able to develop core beliefs that allow one to engage with living life in a different way, may offer some protection to the impact that racial microaggressions have on general anxiety (Kogan et al., 2022). So, while not significant in the current model, it may be possible that a mentoring relationship can be used to strengthen one's psychological resilience.

Lastly, we hypothesized that, when the relationship between racial microaggressions and generalized anxiety would be attenuated by mentoring. As with social anxiety, the data does not support this hypothesis. It adds to the inconsistent literature on the moderating effects of social support (Prelow et al., 2006; Clark, 2006; Steers et al., 2019; Ajrouch et al., 2010). Given that mentoring was not directly related to generalized anxiety either, it is understandable that there is no significant interaction effect. Both female gender and age were also significant predictors. This may mean that women and younger college students are more likely to experience generalized anxiety. One study with this same sample has already examined and supported the moderating effects of gender on the relationship between online racial discrimination, discrimination experienced through media, and mental health outcomes (Grapin et al., 2022). While the other study strictly examined the effects of online racial discrimination, it is possible that the results could be replicated with the current study variables. It is important to study gender as the current sample predominantly identified as female (72%), higher than the national average (59%, Belkin, 2021). Age is important as students who are older may have more time and life experiences to build various defense mechanisms that could impact the deleterious

effects that racial microaggressions has on general anxiety. Other important covariates in a college sample could be year in school and whether the student lives on campus or not. These may be important factors to consider, as a student who is further along in school or who lives on campus may have a higher likelihood of experiencing racial microaggressions and generalized anxiety. However, they may also have built resilience factors (e.g., healthy coping and mentoring relationships) that can operate to protect them from negative effects. Future research can explore if these covariates (i.e. age and gender) are strong enough to operate as moderators of the relationship between racial microaggressions and mental health outcomes.

Depression

It was expected that more reports of racial microaggressions would predict higher levels of depression. This hypothesis was supported by the data in this study and remained consistent throughout each model. This finding is consistent with a plethora of literature that finds a robust connection between experiences of racial microaggressions and depression (e.g., Torres et al., 2010; Molina & James, 2016; O'Keefe et al., 2014). This study adds to this body of work and provides insights into Black college students' experiences by confirming the association between perceived racial microaggressions and higher reports of depression.

Secondly, it was hypothesized that more mentoring would predict lower levels of depression. Consistent with existing literature that shows that mentoring relationships can directly affect mental health outcomes (Hurd & Zimmerman, 2010; Hurd et al., 2017; Hurd et al., 2016), this hypothesis was supported by the current study. This finding supports the notion that mentoring experiences at the college level can significantly improve one's depressive symptoms. However, unlike with social anxiety, when mentoring is added to the model, racial microaggressions continued to predict depressive symptoms significantly. This suggests that

while mentoring appears to have a significant negative relationship with depressive symptoms, racial microaggressions continue to exacerbate them.

As with generalized and social anxiety, having a mentor did not moderate the relationship between racial microaggressions and depression in this sample. Therefore, the third hypothesis is unable to be supported. Mentoring as a buffer with this population is mainly unstudied but given previous studies that show social support as a moderator of similar relationships (e.g., Steers et al., 2019), it was expected that mentoring could moderate this relationship. This study adds to inconsistent findings that support or do not support the buffering model between stressors and mental health outcomes (Steers et al., 2019; Prelow et al., 2006; Ajrouch et al., 2010; Clark, 2006). Particularly, Steers and colleagues (2019) found support for the buffering model, which suggested that social support moderated the relationship between racial discrimination and psychological distress. In contrast, other studies found little to no moderating effect of social support when examining the relationship between racial discrimination and mental health outcomes (e.g., Prelow et al., 2006; Clark, 2006). It could be that mentoring does not have enough impact to operate as a buffer, which has been suggested by other researchers (e.g., Hurd & Zimmerman,2010).

Academic Self-Efficacy

The hypothesis that more racial microaggressions would predict lower levels of academic self-efficacy was not supported. The finding that racial microaggressions did not predict lower academic self-efficacy adds to the inconsistent findings that have been published in this area (Forrest-Bank & Jenson, 2015; Forrest-Bank & Cueller, 2018). Previous literature has been mixed, with one study finding a connection between racial microaggressions and academic self-efficacy (Forrest-Bank & Jenson, 2015) and another study not finding support for the

relationship (Forrest-Bank & Cueller, 2018). This finding from the present study may suggest a built resilience to experiences of racial microaggressions that does not allow for experiences of racial microaggressions to interfere with confidence in one's schoolwork in this population. While there is a dearth of research focusing on this topic, the study population may develop a built resilience through various types of supports both those studied in the current study (e.g., academic and career support) and outside entities (e.g., familial support) not assessed. Future research can continue to explore other academic outcomes that experiences of racial microaggressions may impact. In particular, if racial microaggressions are not associated with how a Black student perceives their academic abilities, it would be interesting to see if more reported racial microaggressions negatively impact their grades and sense of belonging on campus.

It was also expected that more mentoring would predict higher levels of academic self-efficacy. This hypothesis was supported in the current study. This finding is consistent with Defreitas & Bravo (2012), who found a connection between mentoring and academic self-efficacy in Black college students. Such support may emphasize the importance of mentoring in bolstering one’s academic self-efficacy. Continued research should further explore which dynamics of the mentoring relationship are most important in improving academic self-efficacy in this population. This information can be used to assist in developing targeted mentoring initiatives.

Lastly, mentoring did not moderate the relationship between racial microaggressions and academic self-efficacy. There does not appear to be any research that specifically supports the notion that mentoring will buffer this relationship. However, previous studies have shown that mentoring can buffer the relationship between stressful experiences and academic self-efficacy

in Black young adults (Hurd & Zimmerman, 2010). This finding does not come as a surprise, as no relationship was found between racial microaggressions and academic self-efficacy in the current study.

Exploratory

To explore potential differences in African ethnicity, participants were separated into three strata, African American, Caribbean/West Indian Black, or other Black (i.e., African, Hispanic Black, or other), and model 3 of the primary analyses was run in each group. Participants who identified as multiple African ethnicities were not included in this exploratory analysis. There was a significant interaction between mentoring and racial microaggressions among African Americans with respect to the depression outcome. Model estimates suggest that the relationship between racial microaggressions and depression in African American students is exacerbated by exposure to mentoring. In short, the influence of racial microaggressions on depression is worsened in the presence of mentoring. To our knowledge, no studies have found similar results. Both quantitative and qualitative, could provide useful context about the experiences of racial microaggression and the mentoring relationship (e.g., the perpetrator of microaggressions including their relation to the student, number of experiences of microaggressions, the type and quality of mentoring relationships.) Such research should investigate whether and how these effects differ by African ethnicity. A qualitative exploration of African American college students might discover qualities specific to this population that influence the mentoring relationship. One possibility is that racial microaggressions experienced from peers differ from that experienced by professors or other faculty. It could also be that the mentoring support received, while impactful, does not prepare African American students for the deleterious effects of racial microaggressions. It is also possible that there is a specific quality of

certain mentoring support that exacerbates internalizing symptoms. For example, literature on youth with anxiety disorders has shown that certain parenting characteristics such as being overinvolved or controlling is strongly associated with anxiety (Ollendick & Grills, 2016). Similarly, mentors who are overly protective or accommodating may reduce opportunities for students to learn to manage challenging situations or inadvertently send a message that they are not capable of doing so, thereby potentially increasing anxiety or depression.

Finally, to investigate whether a specific construct within Crisp (2009)'s conceptual theory may be more likely to have buffering effects, regression analyses were conducted with each construct score with the full Black sample. There were no differences observed, which suggests that the total score of the college mentoring scale adequately represents the Black college student experience.

Limitations

The primary limitation of this study was the small sample size. While the overall sample had over 1300 participants, the study was only interested in participants who self-identified as Black. The researchers made calculated attempts to over represent Black college students through contacting organizations at the university that predominantly serve the Black community. A smaller sample size makes it difficult to apply the results found to all Black students. Despite this, the study provides great insights into the experiences of Black college students, that can largely be validated by other studies, and should be replicated with a larger sample size that has a better distribution of female to male students.

Another limitation is that the sample only draws from one university that is close to a metropolitan area and therefore cannot be generalized to the Black college student experience nationally. This study can go to benefit the university and provide an insight into understanding

the deleterious effects of racial microaggressions in this population. This study should be replicated in universities that are not in metropolitan areas to better understand if there are differences in experiences.

The study is also limited by how mentoring is conceptualized. Crisp (2009) has identified four constructs that appear to be important aspects of the mentoring relationship. However, the study does not assess for the type of mentoring experienced. Ample literature exists that views mentoring as having formal and informal programs with varying effects (Miranda-Chan et al., 2016; Hurd & Zimmerman, 2010; Hurd et al., 2017; Hurd et al., 2016; Calsyn et al., 2005). It is unclear whether participants were a part of a formal program at school or if they were answering the questions based on one mentor or multiple mentors. Additionally, some research suggests people with mentors that have higher-level degrees (Bachelor's degree or higher) typically have better-reported outcomes (Sanchez et al., 2008). The current study does clearly view mentoring based on four clearly defined constructs, which allows for an understanding the components of mentoring that are most impactful for a college student. Future research should collect data on the mentoring experiences of the college students being surveyed.

Implications for Future Research and Conclusion

Taken together, this study suggests several important findings. First, racial microaggressions have a deleterious association with internalizing mental health outcomes (i.e., SA, GA, & Depression) in Black college students. This is an important finding as it can help school faculty and staff better understand the potential impacts these subtle slights may have on this population. Second, mentoring relationships do not buffer the relationship and improve symptoms of SAD and Depression. More mentoring is associated with lower reports of SAD and depression and positively impact academic self-efficacy. This finding highlights the importance

of studying the positive effects that mentoring relationships have on Black college students. It can be used to inform various programs and activities that are geared towards engaging and empowering Black students.

Future research should better conceptualize the mentoring relationship of the study population. Further conceptualizing the mentoring relationship could look like allowing the participant to describe the relationship they have with the mentor as well if it is part of a formalized program and other demographics of the mentor. Additionally, following the population across their college experience (e.g., longitudinal research) to see if changes in mentoring across the span of time correlate to better mental health outcomes and well-being would provide great insight. It is also consistent with previous studies that mentoring's impact, while important, may not be a large one (e.g., Hurd & Zimmerman, 2010; Jacobi, 1991). Future research should also continue to explore the relationship between racial microaggressions and internalizing mental health outcomes in this population to understand better what can potentially buffer the relationship.

This study adds to a growing body of research that looks to understand the impact of racial microaggressions and how mentoring can be used to help some of the deleterious effects that racial microaggressions may cause. As the interaction effect was not found throughout the majority of models, future research can continue to explore if other types of social support (e.g., family, emotional) or if more defined mentoring relationships (e.g., formal mentoring program) could operate as a buffer. It may be possible that, through this exploration, the relationship that racial microaggressions established with mental health outcomes will not be attenuated, and other factors (e.g., age and sex) may play a bigger role. In the one instance in which the interaction was significant, the interaction exacerbated depression in the African American strata

during the exploratory analyses. This may have been due to a small sample size and likely is not generalizable to all college students who self-identify as only African American. Based on the data presented, it is safe to conclude that mentoring may not operate as a buffer for the relationships observed in the current study. However, mentoring's independent significant impact on three of the four study variables is essential. Mentoring support, which is measured as a compilation of psychological and emotional support, degree and career support, academic subject knowledge support, role model support, may improve the mental health and academic self-efficacy outcomes of Black college students.

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Appendix

Table 1

Descriptive Statistics of Study Variables

Measures	Total		
	n (%)	mean (SD)	median (min,max)
All	293		
Outcomes of interest			
Social Anxiety score (SCAARED-SA)	293	6.25 (3.90)	6 (0,14)
Generalized Anxiety score (SCAARED-GA)	293	13.04 (6.90)	13 (0,26)
Academic Self-efficacy score (PALS)	293	19.27 (4.79)	20 (5,25)
Depressive symptoms (PHQ-8)	293	8.35 (5.87)	8 (0,24)
Primary predictor			
Racial microaggressions scale score (REMS)	293	49.04 (22.96)	39 (29,136)
Potential moderator			
Mentoring relationship quality (CSMS)	293	94.9 (22.62)	97 (25, 125)
CSMS - Psych Support (CSMS - PS)	293	30.86 (7.60)	32 (8,40)
CSMS - Degree Support (CSMS -DS)	293	22.40 (5.83)	23 (6,30)
CSMS - Academic Support (CSMS - AS)	293	19.03 (4.68)	20 (5,25)
CSMS - Role Model Support (CSMS -RM)	293	22.51 (5.64)	23 (6,30)
Control variables			
Age, years	293	19.74 (3.21)	19 (18,50)
Sex			
Female	226 (77.1)		
Male	67 (22.9)		

Table 2

Bivariate Correlations Among Study Variables (n=293)

Measures	SCAARED-SA	SCAARED-GA	PHQ-8	PALS	REMS	CSMS
SCAARED-SA	-	-	-	-	-	-
SCAARED-GA	0.62**	-	-	-	-	-
PHQ-8	0.41**	0.63**	-	-	-	-
PALS	-0.074	0.068	-0.017	-	-	-
REMS	0.12*	0.22**	0.30**	-0.05	-	-
CSMS	-0.23**	-0.13*	-0.16**	0.18**	-0.11	-
CSMS - PS	-0.24**	-0.13*	-0.17**	0.19**	-0.13*	0.96**
CSMS -DS	-0.21**	-0.12*	-0.15**	0.18**	-0.067	0.95**
CSMS - AS	-0.21**	-0.12*	-0.16**	0.19**	-0.11	0.95**
CSMS -RMS	-0.23**	-0.11	-0.12*	0.12*	-0.12*	0.94**
Observed Range	0-14	0-26	0-24	5-25	29-136	25-125
M	6.25	13.04	8.35	19.27	49.04	94.9
SD	3.9	6.9	5.87	4.79	22.62	22.97

*$p < 0.05$. **$p < 0.01$.

Table 3

Results of the Multivariable Linear Regression Model Predicting Social Anxiety (n = 293)

		Model 1		Model 2		Model 3	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		0.22	0.25	0.15	0.24	0.14	0.24
REMS[a]		0.09*	0.04	0.07	0.04	0.07	0.04
Sex	Male	--	--	--	--	--	--
	Female	0.20**	0.08	0.21**	0.07	0.21**	0.07
Age		-0.03**	0.01	-0.03**	0.01	-0.03**	0.01
CSMS[b]				-0.13**	0.03	-0.13**	0.03
REMSxCSMS[c]						-0.02	0.04
Model Adjusted R^2		0.062		0.105		0.103	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Table 4

Results of the Multivariable Linear Regression Model Predicting General Anxiety (n = 293)

		Model 1		Model 2		Model 3	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		0.16	0.23	0.12	0.23	0.13	0.24
REMS[a]		0.15**	0.04	0.14**	0.04	0.15**	0.04
Sex	Male	--	--	--	--	--	--
	Female	0.16*	0.07	0.16*	0.07	0.16*	0.07
Age		-0.02*	0.01	-0.02*	0.01	-0.02*	0.01
CSMS[b]				-0.06	0.03	-0.06	0.03
REMSxCSMS[c]						0.01	0.04
Model Adjusted R^2		0.075		0.081		0.078	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Table 5

Results of the Multivariable Linear Regression Model Predicting Depression (n = 293)

		Model 1		Model 2		Model 3	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		-0.04	0.32	-0.09	0.32	-0.07	0.32
REMS[a]		0.28**	0.05	0.27**	0.05	0.28**	0.05
Sex	Male	--	--	--	--	--	--
	Female	0.21*	0.1	-0.22*	0.1	-0.22*	0.1
Age		-0.02	0.01	-0.01	0.01	-0.02	0.01
CSMS[b]				-0.10*	0.04	-0.11*	0.05
REMSxCSMS[c]						0.06	0.05
Model Adjusted R^2		0.104		0.117		0.118	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Table 6

Results of the Multivariable Linear Regression Model Predicting Academic Self-Efficacy (n = 293)

		Model 1		Model 2		Model 3	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		-0.87	0.44	-0.77	0.43	-0.77	0.44
REMS[a]		-0.06	0.07	-0.04	0.07	-0.04	0.07
Sex	Male	--	--	--	--	--	--
	Female	0.15	0.13	0.13	0.13	0.13	0.13
Age		0.03	0.02	0.03	0.02	0.03	0.02
CSMS[b]				0.18**	0.06	0.18**	0.06
REMSxCSMS[c]						0.00	0.07
Model Adjusted R^2		0.006		0.031		0.027	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Table 7

Exploratory Results of the Regression Model Predicting Social Anxiety

		Model 3 - AA		Model 3 - CB		Model 3 - Other	
		n = 123		*n* = 60		*n* = 54	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		0.86*	0.43	0.48	1.11	-0.47	0.55
REMS[a]		0.10	0.06	-0.03	0.08	0.15	0.15
Sex	Male	--	--	--	--	--	--
	Female	-0.09	0.12	0.20	0.19	0.54**	0.17
Age		-0.04	0.02	-0.04	0.05	-0.02	0.02
CSMS[b]		-0.11	0.06	-0.15	0.10	-0.04	0.07
REMSxCSMS[c]		0.08	0.08	-0.06	0.11	0.00	0.13
Model Adjusted R^2		0.077		0.006		0.216	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Note. AA = African American, CB = Caribbean/West Indian Black, Other = African, Hispanic Black, or Other

Table 8

Exploratory Results of the Regression Model Predicting General Anxiety

		Model 3 - AA		Model 3 - CB		Model 3 - Other	
		n = 123		*n* = 60		*n* = 54	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		0.70	0.39	0.03	1.13	0.25	0.55
REMS[a]		0.09	0.06	0.19*	0.09	0.26	0.14
Sex	Male	--	--	--	--	--	--
	Female	-0.07	0.11	0.12	0.19	0.30	0.17
Age		-0.03	0.02	-0.02	0.05	-0.03	0.02
CSMS[b]		-0.04	0.05	0.08	0.10	0.00	0.07
REMSxCSMS[c]		0.13	0.07	-0.03	0.11	0.06	0.13
Model Adjusted R^2		0.054		0.011		0.15	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Note. AA = African American, CB = Caribbean/West Indian Black, Other = African, Hispanic Black, or Other

Table 9

Exploratory Results of the Regression Model Predicting Depression

		Model 3 - AA		Model 3 - CB		Model 3 - Other	
		n = 123		*n* = 60		*n* = 54	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		1.07*	0.52	1.68	1.42	0.42	0.72
REMS		0.13	0.07	0.37**	0.11	0.45*	0.19
Sex	Male	--	--	--	--	--	--
	Female	0.07	0.14	0.30	0.24	0.06	0.23
Age		-0.06**	0.02	-0.12	0.07	-0.02	0.03
CSMS		-0.11	0.07	0.18	0.12	-0.08	0.10
REMSxCSMS		0.22*	0.10	-0.09	0.13	0.19	0.17
Model Adjusted R^2		0.131		0.159		0.097	

*p < 0.05, **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Note. AA = African American, CB = Caribbean/West Indian Black, Other = African, Hispanic Black, or Other

Table 10

Exploratory Results of the Regression Model Predicting Academic Self-Efficacy

		Model 3 - AA		Model 3 - CB		Model 3 - Other	
		n = 123		*n* = 60		*n* = 54	
		B	*SE*	*B*	*SE*	*B*	*SE*
Constant		-1.15	0.74	0.18	2.30	-1.42	0.96
REMS		-0.07	0.10	-0.07	0.18	-0.11	0.25
Sex	Male	--	--	--	--	--	--
	Female	0.21	0.20	-0.49	0.39	0.38	0.30
Age		0.04	0.03	0.03	0.11	0.05	0.03
CSMS		0.20*	0.10	0.34	0.20	0.11	0.13
REMSxCSMS		0.02	0.14	0.32	0.22	-0.02	0.22
Model Adjusted R^2		0.033		0.033		-0.022	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale

[c]= Interaction variable for racial microaggressions and mentoring

Note. AA = African American, CB = Caribbean/West Indian Black, Other = African, Hispanic Black, or Other

Table 11

Exploratory Results of the Regression Model Predicting Social Anxiety (mentoring subscales; n = 293)

		Model 3 - PS		Model 3 - DS		Model 3 - AS		Model 3 - RMS	
		B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Constant		0.13	0.24	0.18	0.25	0.15	0.24	0.15	0.24
REMS		0.07	0.04	0.08*	0.04	0.07	0.04	0.06	0.04
Sex	Male	--	--	--	--	--	--	--	--
	Female	0.21**	0.07	0.21**	0.07	0.21**	0.07	0.21**	0.07
Age		-0.03**	0.01	-0.03**	0.01	-0.03**	0.01	-0.03**	0.01
CSMS subscale		-0.13**	0.03	-0.11**	0.03	-0.11**	0.03	-0.12**	0.03
REMSxCSMSsub		-0.01	0.04	0.01	0.04	-0.02	0.04	-0.05	0.04
Model Adjusted R^2		0.101		0.095		0.094		0.107	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale subscale

[c]= Interaction variable for racial microaggressions and mentoring subscale

Note. PS = Psychological and Emotional Support, DS = Degree and Career Support, AS = Academic Subject Knowledge Support, RMS = Existence of a Role Model

Table 12

Exploratory Results of the Regression Model Predicting General Anxiety (mentoring subscales; n = 293)

		Model 3 - PS		Model 3 - DS		Model 3 - AS		Model 3 - RMS	
		B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Constant		0.13	0.24	0.14	0.24	0.13	0.23	0.14	0.24
REMS		0.15**	0.04	0.15**	0.04	0.15**	0.04	0.15**	0.04
Sex	Male	--	--	--	--	--	--	--	--
	Female	0.16*	0.07	0.16*	0.07	0.16*	0.07	0.16*	0.07
Age		-0.02*	0.01	-0.02*	0.01	-0.02*	0.01	-0.02*	0.01
CSMS subscale		-0.05	0.03	-0.06	0.03	-0.05	0.03	-0.04	0.03
REMSxCSMSsub		0.02	0.04	0.01	0.03	0.01	0.04	0.01	0.04
Model Adjusted R^2		0.078		0.080		0.078		0.075	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale subscale

[c]= Interaction variable for racial microaggressions and mentoring subscale

Note. PS = Psychological and Emotional Support, DS = Degree and Career Support, AS = Academic Subject Knowledge Support, RMS = Existence of a Role Model

Table 13

Exploratory Results of the Regression Model Predicting Depression (mentoring subscales; n = 293)

		Model 3 - PS		Model 3 - DS		Model 3 - AS		Model 3 - RMS	
		B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Constant		-0.09	0.32	-0.05	0.32	-0.09	0.32	-0.06	0.32
REMS		0.28**	0.05	0.28**	0.05	0.28**	0.05	0.28**	0.05
Sex	Male	--	--	--	--	--	--	--	--
	Female	0.21*	0.10	0.21*	0.10	0.22*	0.1	0.22*	0.10
Age		-0.01	0.01	-0.02	0.01	-0.02	0.01	-0.02	0.01
CSMS subscale		-0.10*	0.04	-0.11*	0.04	-0.11*	0.04	-0.07	0.04
REMSxCSMSsub		0.06	0.05	0.05	0.05	0.06	0.05	0.06	0.05
Model Adjusted R^2		0.118		0.119		0.119		0.109	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale subscale

[c]= Interaction variable for racial microaggressions and mentoring subscale

Note. PS = Psychological and Emotional Support, DS = Degree and Career Support, AS = Academic Subject Knowledge Support, RMS = Existence of a Role Model

Table 14
Exploratory Results of the Regression Model Predicting Academic Self-Efficacy (mentoring subscales; n = 293)

		Model 3 - PS		Model 3 - DS		Model 3 - AS		Model 3 - RMS	
		B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Constant		-0.75	0.44	-0.78	0.44	-0.77	0.43	-0.82	0.44
REMS		-0.03	0.07	-0.04	0.07	-0.04	0.07	-0.05	0.07
Sex	Male	--	--	--	--	--	--	--	--
	Female	0.14	0.13	0.13	0.13	0.13	0.13	0.14	0.13
Age		0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02
CSMS subscale		0.18**	0.06	0.17**	0.06	0.18**	0.06	0.11	0.06
REMSxCSMSsub		0.00	0.07	0.03	0.06	-0.03	0.07	-0.01	0.07
Model Adjusted R^2		0.031		0.029		0.031		0.011	

*p < 0.05. **p < 0.01

[a]= Racial and Ethnic Microaggressions Scale [b]= College Student Mentoring Scale subscale
[c]= Interaction variable for racial microaggressions and mentoring subscale

Note. PS = Psychological and Emotional Support, DS = Degree and Career Support, AS = Academic Subject Knowledge Support, RMS = Existence of a Role Model