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RESEARCH ARTICLE



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Gendered racial microaggressions and emerging adult Black women's social and general anxiety: Distress intolerance and stress as mediators

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Abstract

There is robust evidence that gendered racial microaggressions affect Black women's mental health. However, few studies have examined how this form of discrimination affects Black women's social anxiety in addition to their general anxiety, as well as the underlying mechanisms related to gendered racial microaggressions and anxiety.

Objective: The purpose of this study was to examine the associations between gendered racial microaggressions stress (GRMS) and gendered racial microaggressions frequency (GRMF), and Black women's social anxiety and general anxiety symptoms. We also examined the mediating roles of distress intolerance and stress in these associations.

Method: One hundred and sixty-three Black women, between the ages of 18 and 25 years old, completed a cross-sectional survey. Regression analyses were used to examine the associations between gendered racial microaggressions and social anxiety and general anxiety, and mediation analyses examined the indirect effect of gendered racial microaggressions on the outcome variables through distress intolerance and stress.

Results: GRMS was associated with greater social and general anxiety through the mechanisms of distress

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intolerance and stress. GRMF was associated with reduced social anxiety and was not associated with general anxiety. **Conclusions:** Intervention efforts should be aimed to prevent the experience of gendered racial microaggressions to prevent subsequent stress and mental health outcomes for Black women.

KEYWORDS

Black women, distress intolerance, gendered racial microaggressions, general anxiety, social anxiety, stress

1 | INTRODUCTION

Black women's experiences of general anxiety and social anxiety are prevalent, yet understudied (Lacey et al., 2015). General anxiety consists of excessive and persistent anxiety and worry that occurs the majority of days for at least 6 months. Individuals with general anxiety find it difficult to control the worry they experience. Social anxiety is characterized by a fear of social situations in which the individual may be exposed to scrutiny by others. Social situations will often provoke anxiety in a person with social anxiety (American Psychiatric Association, 2013). According to the National Comorbidity Survey done by Harvard Medical School (2005), 5.7% of US adults experience general anxiety during their lives. They also report that 12.1% of US adults experience social anxiety at some point in their lives (Harvard Medical School, 2005). The National Institute of Mental Health (NIMH, 2015) further details that women are twice as likely to be diagnosed with an anxiety disorder when compared with men.

Across Black women and men, the prevalence rate of anxiety disorders is 24.7% (Breslau et al., 2004). Although this is comparable to the general population, Black people tend to report greater chronicity and persistence of said anxiety (Anxiety and Depression Association of America, 2019; Breslau et al., 2004). This same idea can be applied to Black people's experiences with social anxiety. Similar to general anxiety, social anxiety is less prevalent among Black people. However, Black people who experience social anxiety often report heightened severity and functional impairment, including issues such as serious suicide attempts and mobility issues (Himle et al., 2009). Despite general anxiety and social anxiety's lesser prevalence among Black populations, their severity, chronicity, and persistence make these findings more complex and call for further research. Black women's experiences of anxiety especially merit further investigation due to their unique social identities. Although research suggests that Black women may exhibit lower lifetime prevalence of anxiety disorders, they experience greater severity and persistence compared to White women (Graham et al., 2015). Black women's identities consist of at least two marginalized social statuses and with this comes unique challenges such as contending with both racist and sexist discrimination (Crenshaw, 2005), which may force Black women to alter their self-presentation to try and avoid confirming other people's racist and sexist stereotypes (Spates et al., 2020). This double minority status has prompted women of color theorists to suggest that Black women have a higher risk for anxiety disorders such as general anxiety and social anxiety.

2 | THE ROLE OF GENDERED RACIAL MICROAGGRESSIONS

One specific risk factor that may predispose Black women to develop social anxiety and general anxiety symptoms includes gendered racial microaggressions. As defined by Lewis and Neville (2015, p. 291), gendered racial microaggressions are "subtle and everyday verbal, behavioral, and environmental expressions of oppression based

on the intersection of one's race and gender." Some examples of gendered racial microaggressions include labeling Black women as "sassy" or exoticizing and fetishizing Black women, which serves to objectify and dehumanize them. A robust set of research highlights gendered racial microaggressions' association with negative physical and mental health outcomes in Black women. Some of these outcomes include psychological distress, depression, and traumatic stress (Lewis & Neville, 2015; Lewis et al., 2017; Moody & Lewis, 2019; Williams & Lewis, 2019). These studies show that gendered racial microaggressions, while perhaps seemingly innocuous due to their subtlety, have serious repercussions for Black women's well-being. This evidence lays the foundation for further investigation of this link between experiences of gendered racial microaggressions and psychopathology in Black women, specifically general anxiety and social anxiety. Only one study to our knowledge has examined gendered racial microaggressions and Black women's general anxiety (Wright & Lewis, 2020), and none to date have investigated gendered racial microaggressions and social anxiety.

Many qualitative studies highlight Black women's experiences of racism in social environments and how they contribute to negative mental health outcomes. Due to the societal pressure Black women feel to be presentable and not perpetuate any negative stereotypes, they often believe they have to change their appearance and mannerisms in social situations to avoid experiencing discrimination (Spates et al., 2020). This is an example of shifting (Gamst et al., 2020; Johnson et al., 2016). Black women have used shifting to cope with race-related stress. Black women who have higher expectations of experiencing gendered racism (e.g., gendered racial microaggressions) may engage in shifting to minimize the level of discrimination directed at them and fit into their social surroundings. This behavior may contribute to social anxiety because a main symptom of social anxiety includes experiencing worry in social situations because of possible scrutiny by others (American Psychiatric Association, 2013). Studies also show that for Black women in traditional educational or work environments, such as STEM (Science, Engineering, Technology, and Mathematics), many experience imposter syndrome and barriers in social interactions with their department due to the racism they face (McGee & Bentley, 2017; Young, 2011). However, these studies related to Black women and social anxiety have predominantly used qualitative methods. Although these studies provide valuable information, additional quantitative investigation, as conducted in the present study, bolsters the overall research base of this topic to further understand Black women's mental health at the intersection of race and gender.

A few studies have linked racism and gendered racial microaggressions to general anxiety in Black populations. Wright and Lewis (2020) found that Black women who reported greater frequency and appraisal of gendered racial microaggressions also reported greater anxious arousal. Despite minimal research pertaining to gendered racial microaggressions and general anxiety, this one study helps provide support for the necessity of further investigating this link. Considerably more research has investigated the association between racism and general anxiety in Black populations generally. One study found that among Black adults, racism was significantly associated with lifetime prevalence of general anxiety disorder (Soto et al., 2011). Another study reported that racism and microaggressions are associated with greater general anxiety symptoms in Black adults (Williams et al., 2018). Furthermore, Rucker et al. (2010) found that experiences of racism are linked to worry and intolerance of uncertainty (IU), a key feature and symptom of General Anxiety Disorder, in Black adults. Although these studies illuminate the negative repercussions that racism has on Black people's mental health, many of them do not touch on Black women specifically or gendered racial microaggressions. The one study that does investigate these topics (Wright & Lewis, 2020) does not include social anxiety, leaving a gap in the literature.

To our knowledge, no studies to date have examined the association between gendered racial microaggressions and social anxiety in Black women, or even factors associated with social anxiety in Black women in general. One of the only studies examining social anxiety in Black adults generally revealed a link between internalized racism and greater social anxiety in Black young adults (Kline et al., 2021). Internalized racism may be a consequence of experiencing racism such as gendered racial microaggressions, which then are linked to social anxiety. In relation to our study's variables, Black women who experience gendered racial microaggressions may then feel negatively about their own racial identity, which may make them concerned about how people perceive them in social

environments, where people may impose their racist and sexist ideas of Black women onto them (Spates et al., 2020). Our study aims to investigate the association between gendered racial microaggressions and social anxiety, specifically targeting Black women given their dual marginalization and underrepresentation in the literature.

3 | THE PSYCHOLOGICAL MEDIATION FRAMEWORK

The Psychological Mediation Framework provides a useful theoretical framework to explain the need to investigate mediators in the associations between gendered racial microaggressions and anxiety outcomes. This framework postulates that stress acts as an origin point that leads to psychopathology through psychological mediators (i.e., stress \rightarrow psychological mediators \rightarrow psychopathology) (Hatzenbuehler, 2009). This framework, originally developed with sexual minority individuals in mind, focuses on isolating the emotion regulation, interpersonal, and cognitive processes affected by experiences of oppression that may then contribute to psychopathology (Hatzenbuehler, 2009).

The Psychological Mediation Framework has also served as solid theoretical support for numerous studies investigating the relationship between racism and negative health outcomes. One study explored the effect of gendered racism on psychological distress in Black women by examining coping styles as mediators. They found that cognitive emotional coping styles mediated the association between gendered racism and psychological distress, although no other coping styles served as mediators (Thomas et al., 2008). Another study investigated depressive symptoms and drinking coping motives as mediators in the association between racial discrimination and negative drinking consequences in male and female Black college students. They found that depressive symptoms and drinking coping motives partially mediated the relationship between racial discrimination and negative drinking consequences, as well as binge drinking (Desalu et al., 2019). These studies showcase the relevance of examining psychological mediators that may contribute to the association between stressors and mental health outcomes.

4 | STRESS AS MEDIATOR

Stress functions as one important and understudied potential mediator between gendered racial microaggressions and social anxiety and general anxiety. Stress is conceptualized as the degree to which one's life situations are appraised as strenuous (Cohen et al., 1983) and it is often caused by an external trigger (Bystritsky & Kronemyer, 2014). Although stress is a state of mental or emotional tension often caused by an external source, anxiety is mostly fear-based and includes vigilance in expectation of a threat even if the threat is not present (Bystritsky & Kronemyer, 2014). As a mediator stress may work as follows: Greater gendered racial microaggression frequency and stress from gendered racial microaggressions (GRMF and GRMS, respectively) contributes to higher rates of stress which in turn can lead to general anxiety and social anxiety (i.e. greater GRMF/GRMS \rightarrow higher stress \rightarrow higher general anxiety and social anxiety). As emerging adult Black women have more experiences of gendered racial microaggressions and/or appraise them as more stressful, that may contribute to higher rates of stress appraisal in other life situations.

We can point to the autonomic nervous system's stress and anxiety symptoms as evidence of anxiety and stress being linked. Stress and general anxiety symptoms are similar in the autonomic nervous system. For example, one can experience muscle tension with stress and also with general anxiety (Bystritsky & Kronemyer, 2014). The similarity in bodily symptoms for both stress and general anxiety may lead individuals to experience anxiety symptoms after experiencing stress symptoms. Effects of stress positively associated with symptoms of general anxiety (Anyan & Hjemdal, 2016). It can be hypothesized that stress is associated with social anxiety similarly to how it is associated with general anxiety, such that those who experience greater stress may feel greater anxious

arousal about their social interactions with other people. Considering the understudied link between stress and anxiety, the current study aims to contribute to the literature by examining this important mediator.

5 | DISTRESS INTOLERANCE AS MEDIATOR

Distress intolerance also functions as an understudied potential mediator within the literature on gendered racial microaggressions and Black women's mental health. Distress intolerance is conceptualized as an individual's incapacity to withstand negative physical or psychological states (Chowdhury et al., 2018). As a mediator, distress intolerance may work as follows: Greater GRMF/GRMS contributes to high distress intolerance, which in turn can lead to high general anxiety and social anxiety (i.e., GRMF/GRMS \rightarrow high distress intolerance \rightarrow high general anxiety and social anxiety). Having more experiences of gendered racial microaggressions and/or appraising them as stressful may make it difficult for Black women to endure negative psychological states. Gendered racial microaggressions are a form of racism and one past study with both male and female Black college students showed that racism was associated with reduced psychological well-being through the mechanism of increased distress intolerance (Le et al., 2021). This study highlights how racism may erode Black people's capacity to withstand negative psychological states due to its recurring nature and the negative affect it evokes.

Gendered racial microaggressions may work the same way as a form of racial and gendered discrimination. High distress intolerance is related to negative mental health outcomes including general anxiety disorder symptoms. This is especially true for populations that have been exposed to more trauma (Chowdhury et al., 2018), which may include experiences of gendered racial microaggressions. Although there is limited research, the literature shows that distress intolerance is positively associated with general anxiety and social anxiety (Keough et al., 2010). Those who are high in distress intolerance may experience more general anxiety and social anxiety, because they find anxiety-related symptoms overwhelming and are especially reactive to stressful situations. The inability to withstand negative states can further lead an individual to use negative coping techniques (i.e., avoidance), which consequently exacerbate general anxiety and social anxiety (Keough et al., 2010). The current study aims to broaden the research concerning distress intolerance and provide insight into this potential mediator.

6 │ THE PRESENT STUDY

The purpose of the present study was to examine how gendered racial microaggressions may be associated with Black women's social anxiety and general anxiety symptoms, as well as what mechanisms may underlie this association (i.e., distress intolerance, stress). We chose to focus on 18-25-year-old Black women in the current study for two main reasons. First, women and ages 18-29 years report high prevalence of anxiety. According to the NIMH (2015) and data from the National Comorbidity Survey Replication (Harvard Medical School, 2005), female US adults have a higher prevalence of any anxiety disorder (23.4%) over the past year compared to male US adults (14.3%) (NIMH, 2015). Over the same past year, 18-29-year-old individuals had an anxiety disorder prevalence rate of 22.3% (NIMH, 2015). The prevalence rates of lifetime anxiety for both women and young adults are especially high at 36.4% and 32.9%, respectively (Harvard Medical School, 2005). We also focused on emerging adult Black women (18-25 years), because they inhabit a crucial stage in their identity development where they face new demanding challenges and environments, such as college campuses and workplaces, for the first time (Arnett, 2000). During this time, emerging adult Black women go through an era of active identity searching, which can be rewarding as well as psychologically and mentally taxing (Arnett, 2000; Longmire-Avital & Robinson, 2017). Studies have also shown Black women are at risk of experiencing gendered racism on campus (Lewis et al., 2013) and in the workplace (Wingfield, 2007). For Black women transitioning to these environments for the first time, they may experience new manifestations of gendered racial microaggressions. Given the taxing nature of both identity

formation during this time and experiencing discrimination, emerging adult Black women's mental health may be negatively impacted.

The current study examined two main research questions: (1) how do GRMS and GRMF impact emerging adult Black women's general anxiety and social anxiety symptoms; and (2) how do GRMS and GRMF have an indirect effect on general anxiety and social anxiety symptoms through distress intolerance and stress? For Question 1, we predicted that both increased GRMS and GRMF will be associated with increased general anxiety and social anxiety. For Question 2, we hypothesized that GRMF and GRMS would have a positive indirect effect on general anxiety and social anxiety through distress intolerance for emerging adult Black women, based on the research that has shown that distress intolerance has mediated relationships between trauma (e.g., experiences of gendered racial microaggressions) and negative mental health outcomes such as anxiety symptoms (Chowdhury et al., 2018). We also hypothesized that GRMF and GRMS would have a positive indirect effect on general anxiety and social anxiety through stress for emerging adult Black women, based on the research that has found significant, positive associations between stress and general anxiety (Anyan & Hjemdal, 2016), such that Black women who reported higher GRMF/GRMS would report higher stress levels and subsequently higher general anxiety/social anxiety.

7 | METHOD

7.1 | Participants

Our survey received a total of 404 responses. Two hundred and fifteen responses were removed that indicated someone had started the questionnaire but did not answer any items. An additional 22 participants were removed from the final count as they completed fewer than 75% of the items. Furthermore, two participants were excluded because they answered both validity check items incorrectly. Finally, two participants were excluded, because they were over the age of 25 years. This brought our total number of participants to 163, all of whom identified as Black women between the ages of 18 and 25 living in the United States. Participants' ages ranged from 18 to 25 years (M = 19.90, SD = 1.74). The majority of participants identified as heterosexual (76.5%), marked student as their employment status (74.1%) and identified as having completed some college (54.3). Table 1 contains more in-depth demographic information including ethnicity, gender, familial income, and years living in the United States, etc.).

7.2 | Procedures

All procedures for the present study were conducted remotely. Black women between the ages of 18–25 years were recruited via various online distribution channels. The channels consisted solely of social media sites, email listings, and social/educational organizations that served the Black community, and Black women specifically. Examples of such organizations were fraternities/sororities and clubs/organizations from multiple universities across the United States.

For data and demographic collection, we utilized the online survey software, Qualtrics. When accessing the online survey, participants were asked criteria questions to assess eligibility to continue with the study. To proceed with the study, participants must have identified as a Black woman, between the ages of 18 and 25 years, and living in the United States. If participants met these qualifications, they were provided with information about the study and informed consent before they continued onto the questionnaires. The survey duration generally ranged from 30 to 45 min. In addition to the variables of interest for our study, we also included two validity check items (i.e., "For this item, please select Agree.") Once they completed the survey, participants were offered the opportunity to enter a raffle to win one of four \$50 Visa gift cards.

TABLE 1 Sample demographics

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Variable	Frequency	Percent
Race/Ethnicity		
African American	75	46.3
Nigerian	26	16
Salone (Sierra Leone)	1	0.6
Ghanian	4	2.5
Ethiopian	6	3.7
Eritrean	1	0.6
Cameroonian	1	0.6
Jamaican	8	4.9
Guyanese	1	0.6
Trinidian	1	0.6
Haitian	2	0.9
Dominican	1	0.6
Biracial/Multiracial	21	13.0
Not Listed	9	5.6
Age (years)		
18	40	24.7
19	32	19.8
20	36	22.2
21	28	17.3
22	7	4.3
23	6	3.7
24	3	1.9
25	5	3.1
Sexual orientation		
Lesbian	3	1.9
Bisexual	20	12.3
Heterosexual	124	76.5
Not listed	10	6.2
Educational attainment		
High-school diploma/GED	42	25.9
Some college	90	54.3
College degree	18	11.1
Graduate/Professional degree	7	4.3

(Continues)

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TABLE 1 (Continued)

Variable	Frequency	Percent
Household income		
Under \$10,000	3	1.9
\$10,000-\$14,999	3	1.9
\$15,000-\$24,999	4	2.5
\$25,000-\$34,999	7	4.3
\$35,000-\$49,999	12	7.4
\$50,000-\$74,999	20	12.3
\$75,000-\$99,999	21	13.0
\$100,000 or more	58	35.8
Unsure	29	17.9
Employment status		
Student	120	74.1
Full-time employment	4	15.4
Part-time Employment	4	2.5
Unemployed	8	4.9
Years living in the United States		
0-5 years	4	2.5
6-10 years	5	3.1
11-20 years	107	66.0
21+ years	41	25.2

7.3 | Study variables

7.3.1 | Demographics

Participants completed an array of demographic items, including gender, age, and sexual orientation. Items also assessed race/ethnicity (i.e., African American, Nigerian, Salone, Ghanian, Ethiopian, etc.), years lived in the United States (i.e., 0–5 years, 6–10 years, 11–20 years, 21+ years), familial income, the highest level of educational attainment (i.e, high-school diploma/GED, some college, college degree, professional or graduate degree, other), and employment status (i.e., student, employed part-time, employed full-time, unemployed).

7.3.2 | Gendered racial microaggressions

Gendered racial microaggressions were assessed using the Gendered Racial Microaggression Scale (Lewis & Neville, 2015). This 26-item scale assesses the nonverbal, verbal, and behavioral negative racial and gender inequity faced by Black women (Williams & Lewis, 2019). Participants were asked how often (Frequency) they experienced gendered racial microaggression within the year and how stressful those events were (Stress). This frequency was

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measured using a 6-point Likert scale ranging from 0 (*never*) to 5 (*once a week or more*), whereas stress was measured using a 6-point Likert scale ranging from 0 (*this has never happened to me*) to 5 (*extremely stressful*). This scale has shown to have good construct validity through its significant associations with racial/ethnic microaggressions, perceived sexist events, and psychological distress, and its subscales were developed through exploratory and confirmatory factor analyses using a large sample of Black women (Lewis & Neville, 2015). The scale consists of four subscales including assumptions of beauty and sexual objectification, silence and marginalized, strong Black woman, and angry Black woman—all subscales were added together to create a composite score given that we were interested in gendered racial microaggressions broadly. Examples of items include, "Someone assumed that I did not have much to contribute to the conversation" and "Someone made a negative comment to me about my skin color/skin tone." Higher overall scores of the scale indicated higher frequency of gendered racial microaggressions. Cronbach's α in past research with Black women has been high for both the frequency (Cronbach's α = 0.93) and stress (Cronbach's α = 0.94) scores. Cronbach's α for both the GRMF and the GRMS were 0.95 for the present study.

7.3.3 | Stress

Stress was assessed using the unidimensional perceived stress scale (PSS; Cohen et al., 1983), a commonly used psychological instrument that measures the perception of stress. This 10-item scale assesses how unpredictable, uncontrollable, and overloaded participants feel in their lives. Using a 5-point Likert scale, participants were asked how often they related to the item from 0 (*never*) to 4 (*very often*). Four of the items are reverse scored and then all scores are summed. The scale's unidimensional factor structure has been validated through confirmatory factor analyses (Cohen et al., 1983; Klein et al., 2016). The PSS showed sufficient predictive validity through its positive correlations with life-event scores, depressive and physical symptomatology, use of health services, and social anxiety (Cohen et al., 1983). Examples of items include, "In the last month, how often have you felt that things were going your way?" (reverse scored) and "In the last month, how often have you felt that you were unable to control the important things in your life?" This scale has shown adequate reliability (Cronbach's $\alpha = 0.77$) in past research with Black women (Tipre & Carson, 2022). Cronbach's α in the present study was 0.83.

7.3.4 | Distress intolerance

Distress intolerance was measured using the unidimensional Distress Tolerance Scale (DTS; Simons & Gaher, 2005). This 15-item scale was developed to assess people's ability to withstand negative emotions (Simons & Gaher, 2005). DTS measured participants' responses to the items on a 5-point Likert scale from 0 (*strongly disagree*) to 5 (*strongly agree*). Items are summed to create a composite score for total distress intolerance, after reverse coding one item. Simons and Gaher (2005) validated the scale's item structure using factor analysis. Higher scores indicate that participants are more likely to describe distress as unbearable or unmanageable (Simons & Gaher, 2005). DTS has demonstrated adequate convergent validity with positive associations with emotional distress along with solid test-retest reliability and internal consistency ($\alpha = 0.89$; Simons & Gaher, 2005). Examples of items include, "There's nothing worse than feeling distressed or upset and "When I feel distressed or upset, I must do something about it immediately." To our knowledge, no studies have examined this construct specifically with Black women. In one past study, this scale displayed adequate reliability (Cronbach's $\alpha = 0.95$) in a sample of Black adults (Le et al., 2021). Cronbach's α for this measure for the present study was 0.89.



7.3.5 | Social anxiety

Social anxiety symptoms were measured using the unidimensional Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998). The SIAS is a 20-item self-report scale that measures perceived fear and discomfort with being watched and judged by others. The scale has been used to track social anxiety symptoms over time, as well as to assess for social phobia or other anxiety-related disorders. Mattick and Clarke (1998) validated the scale's factor structure using factor analysis. This scale demonstrated adequate convergent validity through a significant and positive correlation with the Social Phobia and Anxiety Inventory (r = 0.86, p < 0.001). Each item on the SIAS scale is measured with a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). Responses to each item are summed with higher scores indicating greater presence of social anxiety symptoms. Example items include, "When mixing in a group, I find myself worrying I will be ignored," and "I become tense if I have to talk about myself or my feelings." To our knowledge, this scale has not been utilized in past research with Black women. Cronbach's α for the present study was 0.93.

7.3.6 | General anxiety

General anxiety symptoms were measured using the anxiety subscale of the Depression, Anxiety Stress Scale-21 developed by Lovibond and Lovibond (1995). Lovibond and Lovibond (1995) validated the measure's subscale structure using both factor analysis and confirmatory factor analysis. The anxiety subscale contains seven items that assess autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. This subscale showed efficient test-retest and split-half reliability with coefficient scores of 0.99 and 0.96, respectively. Participants responded to each item using a 4-point Likert scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). Items were summed with greater scores indicating greater presence of general anxiety symptoms. Example items included, "I was worried about situations in which I might panic and make a fool of myself," and "I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat, etc)." In past research with Black women, this anxiety subscale has displayed adequate reliability (Cronbach's α = 0.85; Wright & Lewis, 2020). Cronbach's α for the present study was 0.86.

8 | RESULTS

8.1 Data screening and preparation

Apart from the study's demographic variables, the range of missing data for our primary study variables was 0.6% (in which four items across all of the study's items were missing one response each) to 1.2% (GRMS; Item 15). No item was missing more than 1.2% of data and 162 participants (99.39%) were missing no data. Little's Missing Completely at Random analysis was executed, which revealed a nonsignificant χ^2 statistic, $\chi^2(337) = 325.12$, p = 0.67, suggesting that data were missing at random. Given the miniscule amount of missing data and that these data were missing at random, we utilized available case analysis procedures, such that mean scale scores were computed without substitution or imputation of values, which provides similar values to multiple imputation (Parent, 2013). Demographic variables were not included in the imputation procedure, because doing so would have provided nonmeaningful values for categorical variables such as race, which would have obscured the demographic data. SPSS Version 26 was used to conduct analyses and mediation analyses were run using the PROCESS mediation macro (Hayes, 2012). The α -values p < 0.05 were considered statistically significant.

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Before conducting analyses, we also examined the data for normality through inspecting their skewness and kurtosis. Our variables' range for skewness (-0.19 to 0.32) and kurtosis (-1.07 to -0.23) were within the acceptable limits (Tabachnick & Fidell, 2007). Thus, we concluded that our data were not significantly non-normal in terms of their distribution.

8.2 | Correlation analyses

Descriptive statistics and correlations between our study's primary variables of interest are reported in Table 2. Stress from gendered racial microaggressions (r = 0.26, p < 0.01), distress intolerance (r = 0.37, p < 0.01), and stress (r = 0.45, p < 0.01) were each positively correlated with increased social anxiety, whereas frequency of gendered racial microaggressions was not (r = 0.10, p = 0.212). Frequency of gendered racial microaggressions (r = 0.44, p < 0.01), stress from gendered racial microaggressions (r = 0.49, p < 0.01), distress intolerance (r = 0.40, p < 0.01), and stress (r = 0.54, p < 0.01) were each positively correlated with increased general anxiety. Given that neither age (r = 0.02, p = 0.806) or income (r = -0.12, p = 0.152) were correlated with social anxiety and neither age (r = -0.02, p = 0.784) or income (r = -0.04, p = 0.664) were correlated with general anxiety, they were not included as covariates in our analyses, as modeled in past research with individuals with multiple marginalized identities (Le et al., 2020).

8.3 | Regression analyses

To examine our research questions pertaining to whether GRMF and GRMS are associated with social anxiety and general anxiety symptoms, we conducted two simple linear regressions, one with social anxiety as the outcome and one with general anxiety as the outcome. GRMF and GRMS explained a significant amount of variance in social anxiety ($R^2 = 0.11$), F(2, 161) = 11.45, p < 0.001. GRMF was negatively associated with increased social anxiety ($R^2 = 0.44$, $R^2 = 0.01$), whereas GRMS was positively associated with increased social anxiety ($R^2 = 0.63$, $R^2 = 0.001$). GRMF and GRMS also explained a significant amount of variance in general anxiety ($R^2 = 0.23$), $R^2 = 0.001$, whereas GRMS was positively associated with increased general anxiety ($R^2 = 0.001$). All of the results of these regression analyses can be found in Table 3.

TABLE 2 Correlation matrix of variables of interest

Variable	Mean (SD)	1	2	3	4	5	6	7	8
1. GRMF	87.33 (29.19)	-							
2. GRMS	93.21 (31.39)	0.84**	-						
3. Distress intolerance	42.87 (11.29)	0.19*	0.25**	-					
4. Stress	32.06 (6.49)	0.28**	0.37**	0.42**	-				
5. Social anxiety	55.27 (16.62)	0.10	0.26**	0.37**	0.45**	-			
6. General anxiety	15.04 (5.68)	0.44**	0.49**	0.40**	0.54**	0.41**	-		
7. Age	20.01 (1.97)	0.02	-0.07	0.03	0.05	0.01	-0.02	-	
8. Income	6.55 (1.80)	-0.02	-0.10	-0.05	-0.15	-0.17	-0.12	-0.21*	-

Abbreviations: GRMF, gendered racial microaggressions, frequency; GRMS, gendered racial microaggressions, stress. *p < 0.05; **p < 0.01.

TABLE 3 Social anxiety and general anxiety regression models

	Social anxie	Social anxiety			General anxiety		
Predictor	В	t	р	В	t	р	
GRMF	-0.44	-3.18	0.002	0.07	0.57	0.567	
GRMS	0.63	4.60	<0.001	0.43	3.36	<0.01	
R^2		0.13			0.24		
Adjusted R ²		0.11			0.23		

Abbreviations: GRMF, gendered racial microaggressions, frequency; GRMS, gendered racial microaggressions, stress.

8.4 | Mediation analyses

To further understand these significant associations, we then executed three mediation analyses that examined distress intolerance and stress as potential mediators between (a) GRMF and social anxiety, (b) GRMS and social anxiety, and (c) GRMS and general anxiety. To run these analyses, we used the bias-corrected bootstrapping method, which employs a repeated random resampling with replacement from the present data set, which creates an empirical estimation of the sampling distribution of a statistic. Bootstrapping elicits confidence intervals (CIs) that have high statistical power and are corrected for bias (Mallinckrodt et al., 2006). We generated 10,000 bootstrap samples to construct the 95% CIs of indirect effects. Our choice to use a mediation analysis with cross-sectional data was informed by the Psychological Mediation Framework (Hatzenbuehler, 2009), which posits that external stressors (e.g., gendered racial microaggressions) may affect psychological processes (e.g., distress intolerance, experience of stress), which may then be associated with health outcomes (e.g., social anxiety and general anxiety symptoms).

Our first model tested the indirect effect of GRMF on social anxiety through distress intolerance and stress. The total indirect effect was not significant (total indirect effect = 0.06, (SE = 0.05, (95% CI: [-0.03, 0.14]), suggesting that these two variables did not significantly mediate the association between GRMF and social anxiety.

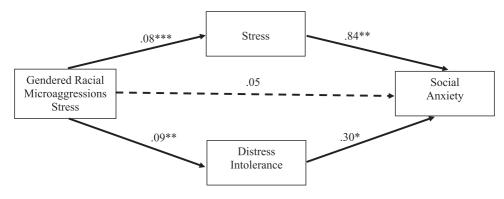
For our second model, the indirect effect of GRMS on social anxiety through distress intolerance was positive and significant (B = 0.03, SE = 0.01, 95% CI: [0.01, 0.06]). Furthermore, the indirect effect of GRMS on social anxiety through stress was positive and significant (B = 0.06, SE = 0.02, 95% CI: [0.03, 0.11]). The direct effect of GRMS on social anxiety was no longer significant when introducing these indirect effects (B = 0.05, SE = 0.04, p = 0.22), suggesting full mediation. Thus, greater stress from gendered racial microaggressions was associated with increased distress intolerance and increased stress, which in turn were associated with greater social anxiety. This model accounted for 14% of the variance in social anxiety.

For our third model, the indirect effect of GRMS on general anxiety through distress intolerance was positive and significant (B = 0.01, SE = 0.01, 95% CI: [0.001, 0.01]). Furthermore, the indirect effect of GRMS on general anxiety through stress was positive and significant (B = 0.02, SE = 0.01, 95% CI: [0.01, 0.04]). The direct effect of GRMS on general anxiety was still significant when introducing these indirect effects (B = 0.09, SE = 0.01, p < 0.001), suggesting partial mediation. Thus, greater stress from gendered racial microaggressions was associated with increased distress intolerance and increased stress, which in turn were associated with greater general anxiety. This model accounted for 9% of the variance in general anxiety. Figure 1 displays both these second and third models.

9 | DISCUSSION

Our study extends previous research by examining the potential mediating roles of stress and distress intolerance in the association between GRMS and GRMF, and general anxiety and social anxiety symptoms in Black women ages 18–25. By investigating an understudied group with an intersectional lens, this study showcases how racist and

Total indirect effect = .09, $(SE = .01, (95\% \text{ CI } [.07, .11]))^{***}$



Total indirect effect = .14, (SE = .04, (95% CI [.06, .22]))**

FIGURE 1 Multiple mediation models with unstandardized beta coefficients depicting indirect effect of gendered racial microaggressions stress on general anxiety and social anxiety through stress and distress intolerance. Nonsignificant pathways are presented with dotted lines. *p < 0.05. **p < 0.01. ***p < 0.001.

sexist discrimination can intertwine to affect general anxiety and social anxiety. Our first hypothesis was partly supported. GRMS was associated with higher general and social anxiety. However, GRMF was associated with reduced social anxiety and not associated with general anxiety. Our second research question was also partly supported, as GRMS had a positive indirect effect on general anxiety and social anxiety through distress intolerance and stress, whereas these two variables did not explain the associations between GRMF and general anxiety and social anxiety.

9.1 | Gendered racial microaggressions and social anxiety

GRMF and GRMS were associated with social anxiety in distinct ways. The positive association of GRMS with social anxiety is a novel finding in the literature. This finding shows that Black women who appraise experiences of gendered racial microaggressions as more stressful may be more likely to experience greater rates of social anxiety symptoms. Gendered racial microaggressions often occur in social settings such as workplaces and school campuses (Lewis et al., 2016). If Black women have experienced higher stress from experiences of gendered racial microaggressions, it makes sense that they may then feel more tense and nervous in subsequent social settings.

This relates back to literature on shifting and how Black women, when faced with race-related stress (e.g., GRMS), may use shifting to mitigate being further targeted in social situations (Gamst et al., 2020). This shifting may contribute to social anxiety. Conversely, GRMF was negatively associated with social anxiety in participants. Although unexpected, this finding may stem from how if Black women experience more gendered racial microaggressions, the more their preconceived expectations of receiving these forms of oppression in social settings gets confirmed. If Black women already expect that they will receive gendered racial microaggressions in a given situation, they may subsequently experience less social anxiety, especially if those gendered racial microaggressions do not elicit high stress. Furthermore, perhaps there was a significant association between GRMF and social anxiety, because these microaggressions may contain an inherently relational element given that they occur in social environments. Research shows that social anxiety often occurs in social environments (e.g., the classroom), which is why many individuals with social anxiety engage in avoidance behaviors of social situations (Clarke & Fox, 2017). Whether interacting with other people, being physically close to others, or having to give a presentation, the social element of social anxiety (Clarke & Fox, 2017; Delacroix & Guillard, 2016) may distinguish it from general anxiety. However, it is important to note that GRMS was still associated with both social anxiety and general anxiety, despite GRMF only being associated with social anxiety.

Distress intolerance and stress both mediated the association between GRMS and social anxiety. First, stress as a mediator supports our proposed mediation model that greater GRMS contributes to higher rates of stress that then leads to higher rates of social anxiety in Black women. Reporting high GRMS can contribute to higher general stress, because if one experiences a discriminatory event as stressful, that stress may then lead to more general facets of stress such as feeling upset, nervous, and out-of-control, all facets of stress.

This finding also supports the Psychological Mediation Framework which posits that underlying psychological processes mediate the association between environmental stressors and health outcomes (Hatzenbuehler, 2009). Greater GRMS contributes to higher rates of distress intolerance that then is associated with elevated social anxiety. Higher rates of GRMS among Black women may make it more difficult for them to cope with negative effect, as it wears down their capacity to withstand negative psychological states. Our findings thus emphasize how external forms of discrimination such as gendered racial microaggressions affect Black women's internal psychological processes, such as distress intolerance, which are associated with mental health outcomes including social anxiety. Along with supporting the Psychological Mediation Framework, this finding builds upon past literature. Distress intolerance has been shown to be associated with reduced psychological well-being in young adult Black populations (Le et al., 2021). This finding helps us explain how high distress intolerance contributes to social anxiety. Black women with a higher incapacity to withstand negative psychological states may find social settings more anxiety inducing and social anxiety symptoms (e.g., tenseness in social settings) even more difficult to withstand.

Conversely, we found that both stress and distress intolerance did not mediate the association between GRMF and social anxiety. Given the unexpected, negative association between GRMF and social anxiety, our original hypothesized mediation model did not serve as an adequate framework to explain this finding. A variable that could explain this relationship is IU. IU is the propensity to have negative reactions in uncertain situations, it is basically a fear of uncertainty (Boelen & Reijntjes, 2009). In their study, Boelen and Reijntjes (2009) found that IU was related to social anxiety symptoms among adults. In our study, IU could work as such: Black women who experience higher rates of gendered racial microaggressions then have less fear of uncertainty (low IU), which contributes to lower social anxiety. However, given that we did not measure IU in the present study, this idea is speculative and necessitates further empirical investigation.

9.2 Gendered racial microaggressions and general anxiety

GRMS was found to be positively associated with increased general anxiety in our population. This means that the more stressful Black women appraised an experience of gendered racial microaggressions, the more general anxiety

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they experienced. This finding supports the previous literature on this topic linking the appraisal of gendered racial microaggressions and other experiences of microaggressions/racism to greater anxious arousal (Williams et al., 2018; Wright & Lewis, 2020). On the other hand, GRMF was not associated with general anxiety. Although many past studies have linked experiences of gendered racial microaggressions and racism to general anxiety (Soto et al., 2011; Williams et al., 2018; Wright & Lewis, 2020), our study showcases that frequency may not be as integral when it comes to general anxiety symptoms, as opposed to how stressful Black women perceive these discriminatory experiences to be.

Stress partially mediated the relationship between GRMS and general anxiety in our population. This means that Black women who appraised experiences of gendered racial microaggressions as more stressful, reported feeling more stressed, and ultimately had higher rates of general anxiety. This corroborates the literature that stress and general anxiety are linked and the effects of stress are positively associated with general anxiety symptoms (Anyan & Hjemdal, 2016; Bystritsky & Kronemyer, 2014). Distress intolerance also partially mediated the relationship between GRMS and general anxiety. Black women who appraised experiences of gendered racial microaggressions as more stressful, had a higher incapacity to withstand negative states, and ultimately had higher rates of general anxiety. GRMS may interact with distress intolerance the same way racism and trauma do. Racism has been shown to take a serious toll on Black populations and negatively affects their capacity to withstand negative emotions (Le et al., 2021). The results of the present study act as the first to our knowledge, which examines distress intolerance in Black women specifically, as opposed to Black populations generally. As Le et al. (2021) writes about racism, GRMS may be a unique form of trauma Black women experience that corrodes their capacity to withstand negative psychological states, leading to higher greater distress intolerance (Le et al., 2021). The stress from gendered racial microaggressions may contribute to negative mental health outcomes, such as general anxiety, because individuals with higher distress intolerance are more likely to be additionally reactive to general anxiety symptoms and anxious situations (Keough et al., 2010).

9.3 | Limitations and future directions

Although our study is the first to our knowledge to examine the effect of GRMS and GRMF on social anxiety, as well as the first to investigate the indirect effect of stress and distress intolerance as they relate to gendered racial microaggressions, general anxiety, and social anxiety, the study still possesses limitations that should be addressed in future research. First, our study is cross-sectional. As our study is cross-sectional, our findings do not showcase how the association between these variables could change or intensify over time. Future longitudinal studies would be helpful in displaying the long term effects of gendered racial microaggressions. Another limitation comes from the specific age range we chose to include in the sample. We chose the age range of 18–25 years old to focus on the experiences of young Black women. However, because of this, our findings cannot be generalized to the experiences of Black women who fall outside of this age range. More questions arise when the age range is expanded. For example, do older Black women experience different types of gendered racial microaggressions than younger Black women? Another question arises concerning the lifetime effect of gendered racial microaggressions on older Black women: How does experiencing gendered racial microaggressions over a long period of time affect Black women's psychopathology? Our findings are just the beginning of the investigation into how gendered racial microaggressions impact Black women.

Another limitation is that we did not examine how other intersections of Black women's identity (e.g., queerness, disability, socioeconomic status, gender diversity, etc.) may interact with their experiences of gendered racial microaggressions. Collins (1990) writes how Black women experience gendered racism based on racist and sexist perceptions of womanhood and rooted in stereotypes and controlling images. Future research can build upon this notion by examining: how do these perceptions change when Black women are also transgender, disabled, queer, and/or part of another marginalized group? Furthermore, how do Black women of different ethnic

backgrounds experience gendered racial microaggressions? Considering the unique experiences of Black women across the diaspora (Jenkins, 2019) and the present study sample's many different ethnic identifications, future research may seek to investigate the experiential differences of Black women across different ethnic backgrounds. These are important questions that need to be examined further to understand how the intersectional identities of Black women may change the types, frequency, or even stress associated with gendered racial microaggressions.

9.4 | Implications

Despite these limitations, our study has important implications for psychologists, mental health professionals on college campuses, and diverse workplace settings to help address the anxiety Black women experience as a consequence of gendered racial microaggressions. This study provides psychologists with more insight into the actual experiences unique to Black women and how their mental health may be affected by intersectional oppression on top of more general everyday life stressors. This information may inform practitioners' work by encouraging them to take into account the intersection of Black women's racial and gender identities as opposed to viewing those identities as separate from one another (Lewis et al., 2016). Psychologists can also use these findings to help Black women practice adaptive coping mechanisms when they experience gendered racial microaggressions to help mitigate the stress, such as leaning on one's support network, using one's voice as power, and resisting Eurocentric standards (Lewis et al., 2013). In relation to our mediators, stress and distress intolerance are important mechanisms that therapists may consider targeting when it comes to their clients' encounters with gendered racial microaggressions. For college campus mental health professionals and workplace psychologists, they may seek to facilitate training programs on campuses and in the workplace that target the perpetuation of gendered racial microaggressions to potentially decrease the chances of Black women experiencing gendered racial microaggressions in the first place. White people and nonblack people of color may also strive to dismantle the transmission of anti-Black and misogynoir-ridden messages through channels such as family socialization and peer socialization, by actively calling out these discriminatory ideas and unlearning their own internalized biases (Atkin & Ahn, 2022; Bowleg et al., 2022).

In addition to these implications, it is important to reflect on Black women's unique experiences and their effect on their mental health. There are many stereotypes regarding the ways Black women act in professional and academic spaces. Many times Black women are labeled as difficult or angry for standing up for themselves, and this assumption is shown through the gendered racial microaggressions they face (Lewis & Neville, 2015). The results from this study highlight how the gendered racial microaggressions Black women experience may be a root cause of why they may be uncomfortable presenting a certain way in these spaces. Black women may be cautious about presenting in ways that confirm other people's discriminatory stereotypes of them, which may then contribute to the general anxiety and social anxiety they feel (Spates et al., 2020). Our study also provides a platform for further discussions, social justice efforts, and interventions specifically on college campuses and in workplaces to ensure antiracist and equitable environments for the Black women present.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request. Data are available upon reasonable request from the third author.

ORCID

PEER REVIEW

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