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ACCEPTANCE

This dissertation, EXAMINING THE INTERACTION BETWEEN MENTAL HEALTH STIGMA, COVID-19 TRAUMATIC STRESS, AND RACE IN PREDICTING HELP-SEEKING, by JALEH DAVARI-DHARIWAL was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education & Human Development, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

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EXAMINING THE INTERACTION BETWEEN MENTAL HEALTH STIGMA, COVID-19 TRAUMATIC STRESS, AND RACE IN PREDICTING HELP-SEEKING

by

JALEH DAVARI-DHARIWAL

Under the Direction of Jeff Ashby

ABSTRACT

Mental health stigma is a major barrier to seeking professional psychological services (Corrigan, 2004). Black college students in particular endorse higher rates of mental health stigma and also have fewer positive attitudes toward seeking mental health help (Cheng et al., 2013; Kuo et al., 2006). As a result, Black young adults underutilize mental health services at higher rates than older Black individuals and White young adults (SAMHSA, 2015). The Black community has also experienced greater adversity from the pandemic, having more coronavirus cases, hospitalizations, and deaths compared to White people in the United States (CDC, 2020). This has led to Black individuals experiencing increased stress and trauma (Kujawa et al., 2020; Sneed et al., 2020). As a result, it is important to explore variables that may prevent use of

psychological services among the Black community, and specifically among Black young adults. The purpose of this study is to examine the relationship between mental health stigma, COVID-19 traumatic stress, and race in predicting help-seeking among a Black and White college student sample. Results showed that, contrary to the study hypothesis, when controlling for gender and depression a three-way interaction of self-stigma by race by COVID-19 traumatic stress was not significant. Results also showed that, as hypothesized, when controlling for gender and depression, there was a positive relationship between depression anxiety and COVID-19 traumatic stress. This study can inform outreach and intervention strategies for mental health professionals to combat stigma and address pandemic trauma among Black young adults specifically.

EXAMINING THE INTERACTION BETWEEN MENTAL HEALTH STIGMA, COVID-19 TRAUMATIC STRESS, AND RACE IN PREDICTING HELP-SEEKING

by

JALEH DAVARI-DHARIWAL

A Dissertation

Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Philosophy

in

Counseling Psychology

in

Counseling and Psychological Services

in

the College of Education & Human Development

Georgia State University

Atlanta, GA

2023

DEDICATION

I dedicate this dissertation to my dog, Neo. Thank you for making the two pandemic years at home more fun and for being a cute, loving dog. As I type this, you are currently laying in my lap, as usual. You make the phrase "man's best friend" absolutely true!

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1 MENTAL HEALTH STIGMA AMONG BLACK YOUNG ADULTS

Few studies have considered the differential effect of culture (shared beliefs, values, and norms of a given racial or ethnic group) on mental health stigma, which is surprising given the diversity of the United States as well as the consensus that culture influences stigma (Abdullah & Brown, 2011). Attending to culturally specific notions of mental health stigma is important as there is evidence that this may discourage help-seeking or give the appearance of treatment being ineffective and threatening (Yorke et al., 2016). The Black community is one group that has received limited attention in this regard, despite having higher rates of mental health stigma compared to White individuals (Anglin et al., 2006; Conner et al., 2010; Conner et al., 2009; Hopkins & Shook, 2017; Latalova et al., 2014; Rao et al., 2007). While one recent literature review has focused on factors that impact Black help-seeking (Taylor & Kuo, 2019), the review addresses Black people generally and does not focus on youth. This is noteworthy since stigma is a salient factor for many young adults, including those with mental health issues (Elkington et al., 2012; Heary et al., 2017; Pedersen & Paves, 2014). Thus, a review of mental health stigma among Black young adults is warranted. This review will discuss the rates and adverse effects of mental health stigma, cultural beliefs about mental illness related to stigma, theoretical frameworks conceptualizing mental health stigma, and clinical implications for counselors in addressing stigma. Due to the lack of stigma research on Black young adults specifically, research focusing on Black adults and young adults will supplement the review.

Rates and Adverse Effects of Mental Health Stigma

Mental health stigma is one of many factors that may contribute to negative attitudes toward help-seeking (Abdullah & Brown, 2011). There are three categories of stigma; public/perceived stigma (how one thinks others would view and treat them), personal stigma

(how one actually would view and treat others), and self-stigma (internalized public stigma) (Corrigan, 2004; Pedersen & Paves, 2014). Both public and internalized (self) stigma can serve as significant barriers to seeking mental health services (Conner et al., 2009; Davari-Dhariwal et al., 2023; Vogel et al., 2007). Given the lower rate of utilization of mental health services by Black people, it is essential to consider the rates and potential adverse effects of stigma among this population.

Stigma Among Black Adults

Stigma is a powerful barrier to psychological help-seeking, especially among the Black community (Taylor & Kuo, 2019). Black people are less likely than White people to seek help for mental health issues (Wells et al., 2001); at the same time, professional psychological help-seeking in the Black community is greatly understudied (Taylor & Kuo, 2019). As Taylor & Kuo (2019) write, gaining a clearer understanding of variables associated with Black help-seeking attitudes and intentions may help fill this population's knowledge and service gap.

While there is limited research investigating stigma among Black young adults, there are several studies with general samples of Black adults. One focus of these studies has been the relationship of stigma to help-seeking, as many Black individuals do not receive appropriate treatment for mental health problems (Alvidrez et al., 2010). Authors also note that several factors may contribute to mental health issues among the Black community specifically. For instance, Vance (2019) writes that the increased incidence of mental health difficulties in the Black community is related to a lack of access to culturally responsive mental health care, prejudice and racism, and historical trauma from the medical field. Vance (2019) adds that economic insecurity and associated experiences such as violence and criminal injustice further increase mental health disparities in this group. Along with the multitude of factors contributing

to increased mental health issues, there are a number of complex factors affecting Black access to and use of mental health services, such as socioeconomic disparities, provider bias and inequality of care, mistrust of health care providers, and discrimination and racism (Gaston et al., 2016; Hankerson et al., 2015; Hopkins & Shook, 2017; NAMI, n.d.).

In addition to these sociocultural factors that impact help-seeking among Black community members (Hankerson et al., 2015), mental health stigma is also a significant barrier (NAMI, n.d.). Several studies have found that Black individuals have greater rates of mental health stigma toward themselves, toward others, and toward seeking treatment compared to White individuals (Anglin et al., 2006; Hopkins & Shook, 2017; Rao et al., 2007). In one extensive review, authors found that men and Black people had higher levels of self-stigma than women and White people (Latalova et al., 2014). Authors also found that Black people demonstrated a less positive attitude toward psychological services than their White counterparts (Latalova et al., 2014). Additional studies confirm greater stigma or negative attitudes toward those who receive mental health care among Black individuals compared to White individuals (Conner et al., 2010; Conner et al., 2009; Williams et al., 2012). Researchers have also found that older Black adults are more likely than older White adults to have public stigma, internalized (self) stigma, and endorse fewer positive attitudes toward seeking mental health treatment (Conner et al., 2010; Conner et al., 2009).

Stigma Among Young Adults

While limited research has focused on mental health stigma in young Black adults, several studies have investigated stigma rates in the general population of young adults (i.e., adolescents or college student age). This research reveals increased rates of stigma and negative attitudes toward seeking mental health help among young adults compared to older adults

(Elkington et al., 2012; Gonzalez et al., 2005; Jagdeo et al., 2009; Mackenzie et al., 2019). Additionally, young adults with mental health concerns have high levels of stigma and tend to have higher levels of public stigma than self-stigma (Denenny et al., 2015; Pedersen & Paves, 2014).

Mental health stigma is related to several adverse effects on young adults. Pedersen and Paves (2014) found that perceived public stigma and personal stigma are associated with less favorable attitudes toward mental health treatment among college students. The authors add that greater reported anxiety symptoms are associated with greater perceptions that others would view and treat young adults negatively if they sought mental health treatment (Pedersen & Paves, 2014). Pedersen and Paves (2014) also note that public stigma can increase the perceived burden of stress in that college students' awareness of discrimination experienced by those with mental health issues make everyday stressors more difficult. Among young adult males in particular, increased public stigma can decrease willingness to confide in others, increasing perceived stress and decreasing the desire to self-disclose (Brown et al., 2018). Young adult males also endorse higher personal stigma levels than women (Pedersen & Paves, 2014). Denenny et al. (2015) write that self-stigma is also associated with adverse effects on mental health, finding that among young adults with low levels of psychotic symptoms who also had lower peer social support, there was a strong relationship between symptom distress and self-stigma.

Stigma Among Black Young Adults

While a number of studies investigating stigma among Black people and young adults have been conducted (Conner et al., 2009; Denenny et al., 2015; Hunter and Schmidt, 2010; Latalova et al., 2014; O'Connor et al., 2018; Oleniuk et al., 2013; Pedersen & Paves, 2014; Sirey et al., 2001), Black young adults have not received as much attention. Of the limited studies that

exist, researchers have found increased rates of mental health stigma among Black young adults compared to White young adults. For instance, Rao et al. (2007) found that Black college students believed people with mental illness were more dangerous and desired greater social distance from people with mental illness than White college students. These findings are consistent with those of DuPont-Reyes et al. (2020), who found that non-Latinx Black adolescent males were less proficient in general mental health knowledge and had fewer positive attitudes regarding mental illness compared with non-Latinx White adolescent females and non-Latinx Black adolescent females. These authors also found that racial/ethnic minority adolescents were more likely to desire social distance from peers with a mental illness, with non-Latinx Black males preferring the greatest social distance.

Black young adults not only have greater negative perceptions of mental health stigma compared to White young adults (e.g., DuPont-Reyes et al., 2020; Rao et al., 2007) but also appear to be more vulnerable to the effects of stigma. In a study examining stigma resistance (opposition to mental illness stereotypes; Thoits, 2011), O'Connor et al. (2018) found that greater stigma resistance was associated more strongly with lower self-stigma for White participants than participants of color. The authors suggest that negative experiences related to race/ethnicity may intersect with experiences of mental health stigma and increased difficulty in resisting stigma. The ramifications of stigma are also present in negative attitudes toward help-seeking among Black young adults (Duncan, 2003).

Cultural Beliefs About Mental Illness Related to Stigma

In order to reduce ethnically-based disparities in mental health and provide appropriate services, factors such as race/ethnicity, faith, and culture need to be considered (Mantovani et al., 2017). Authors have described several cultural factors that better help to conceptualize mental

health stigma among Black young adults. Specifically, the need to be strong, emphasis on family/community, and preference for religious coping.

The Need To Be Strong

One cultural belief that may contribute to mental health stigma is the notion of "needing to be strong" in Black communities. The term "strong Black woman" even exists, mainly as a stereotyped image of Black women having certain behaviors such as caring for the family while supporting the family economically, and specific personality characteristics, such as being persistent and self-reliant (Settles et al., 2008). Settles et al. (2008) write that these traits can protect against a society where Black people have been historically mistreated and racism is active and present. Mental health stigma may be especially stigmatizing to Black individuals due to normative beliefs about the Black community being strong and resistant to mental health concerns (Taylor & Kuo, 2019). For example, Black people with mental illness may be viewed as irresponsible or unreliable, especially if they are faulted for their mental health issue or for being unable to control it (Abdullah & Brown, 2011).

Family/Community

Black individuals may also be exposed to stigmatizing beliefs about mental illness in their families and communities (Williams et al., 2012). Collectivism is evident in the Black community (Carson, 2009). As a result, individual experiences of mental illness may have a greater impact on the group in Black communities, enhancing the likelihood of stigma (Abdullah & Brown, 2011). People with mental illness may be distanced from or discriminated against to avoid association with them (Abdullah & Brown, 2011). Related to the concept of needing to be strong, Abdullah & Brown (2011) write that this may be related to the view that a person with a mental health issue is not able to "step up" when needed to take over a different role, such as

grandparents taking on roles traditionally held by parents, or a mother taking over the role of an absent father. Empirical investigations of the impact of these cultural variables might examine whether and how family and community values (e.g., collectivism and role changing) might contribute to mental health stigma and impact help-seeking behavior among Black young adults, in particular those with mental health issues.

Preference for Religious Coping

Some studies have found that Black individuals have difficulty acknowledging psychological problems, have concerns about mental health stigma, and prefer religious coping (pastoral guidance, prayer) or spiritual counseling over seeking mental health services (Bodnar-Deren et al., 2017; McGowan & Midlarsky, 2012; Vance, 2019; Ward et al., 2013). The National Alliance of Mental Illness (NAMI, n.d.) notes that some members of Black communities in the United States choose to seek help in places of worship, such as churches or mosques, instead of formal mental health treatment. NAMI (n.d.) adds that these faith institutions play a significant role in providing a source of strength by providing support, reducing isolation, and having a place to meet. They also add though that faith communities should not be the only option for treatment. For example, faith communities can sometimes be a source of distress and stigma if they are misinformed about mental health or lack mental health expertise (Mantovani et al., 2017; NAMI, n.d.).

One qualitative study by Mantovani et al. (2017) conducted interviews with Black adults living in London who were faith leaders, regular attendees of Christian churches, or engaged in outreach work. Participants reported that factors contributing to stigma that were obstacles to mental health help-seeking included cultural beliefs about mental illness, practices in faith communities, anticipation/experience of negative consequences, family kinship/relational

structure, and preference for non-disclosure. Authors also found that beliefs about evil spirits, devil possession, and mental illness were paired with assumptions about moral failings of the person in distress, leaving the question as to whether feelings such as guilt or shame exist for these individuals.

Conceptualizing Mental Health Stigma

Stigma has been conceptualized from many theoretical frameworks with scholarship beginning in the 1980s, with most articles appearing in the 2000s. In addition to conceptual models, researchers have used various models to frame empirical studies of mental health stigma with Black adult, young adult, and Black young adult samples.

Conceptual Studies

Sociocultural Model of Anxiety

The Sociocultural Model of Anxiety is a framework that identifies stigma as a link to differing rates of anxiety diagnoses (Hunter & Schmidt, 2010). In their Sociocultural Model of Anxiety in Black Americans, Hunter and Schmidt (2010) describe stigma as leading to Black people's hesitancy to endorse anxiety symptoms, contributing to difficulty in assessing anxiety issues. They propose that mental health stigma may lead to underreporting subjective anxiety symptoms among Black individuals, decreasing the likelihood of accurate diagnosis. The authors note that this underreporting is intentional and unintentional: intentionally underreporting symptoms due to stigma and unintentionally underreporting due to the preference for explaining somatic anxiety symptoms as symptoms of physical illness. This focus on physical illness is based on health disparities and increased awareness in the Black community of the adverse effects of physical diseases, such as hypertension and diabetes (Hunter & Schmidt, 2010; Morenoff et al., 2007). The Sociocultural Model of Anxiety may extend to other areas of mental

health, in that there may be hesitancy for Black individuals to endorse other mental health symptoms due to stigma.

Double Stigma and Triple Jeopardy

Double Stigma and Triple Jeopardy are closely related models that may help explain how mental health stigma impacts minorities, including Black individuals. Gary (2005) describes Double Stigma as negative outcomes associated with minority discrimination and the burden of living with a mental health issue. Gary notes that the stigma of minority discrimination combined with mental health stigma creates a distinct barrier to mental health treatment. Results from a study by Yu et al. (2022) provide evidence for the impact of double stigma on help-seeking among Black adults with behavioral health disorders. Specifically, they found a significant positive relationship between racial stigma and help-seeking barriers, with the relationship partially mediated by internalized self-stigma and depressive symptoms. Double Stigma may affect different cultural groups in specific ways (Gary, 2005); thus, it's important to acknowledge the experiences of individuals in various minority groups.

Similar to Double Stigma, Mantovani et al. (2017) describes a "triple jeopardy" for Black and ethnic minority groups diagnosed with mental illness – rejection by their families, stigma and alienation from their communities, and internalized (self) stigma. African-descended cultures have high regard for family honor; thus, mental health issues may be seen as negatively impacting the extended family and potentially the entire community (Mantovani et al., 2017). Each of these models suggests a specific vulnerability for members of minority groups and highlights the interaction of mental health stigma with other factors in predicting help-seeking.

Developmental Intergroup Theory

Developmental Intergroup Theory (DIT) offers a framework for conceptualizing the development of mental health stigma (Heary et al., 2017). Focusing on the development of mental health stigma in adolescents, Heary et al. (2017) noted that children's cognitive constraints and abilities impact their construction of social groups, leading them to select specific types of environments in which to interact, interpreting their interactions in these environments differently, and thereby shaping their attitudes (Bigler & Liben, 2006). Heary et al. (2017) contend that mental health stigma may develop as environmental and developmental factors which interact to develop stereotypes of mental illness since, from a young age, children establish the salience of a group, categorize members of that group, and then form stereotypes about that group. They indicate that one advantage of framing mental health stigma using DIT is that it encourages asking questions about ways to reduce stigma associated with mental health issues by using interventions that minimize bias and increase empathy towards different groups.

Models Framing Empirical Studies

Modified Labeling Theory

One theoretical framework used to understand how stigma affects health and well-being, including psychiatric symptoms (Hunter et al., 2017), is Modified Labeling Theory (MLT). MLT (Link et al., 1989) holds that when a person not yet diagnosed with a mental health issue becomes aware of socially-constructed negative beliefs about mental health, they are more likely to perceive people experiencing mental health challenges to be devalued by society. A person may shift from embracing public stigma beliefs to internalizing experienced (self) stigma when they receive a mental health diagnosis, as they become part of the stigmatized group (Hunter et al., 2017). In a sample of adults receiving mental health and/or addiction treatment, Hunter et al. (2017) found that MLT processes such as rejection experiences, stigma management, and social

support mediated the relationship between mental health stigma and psychiatric symptoms.

Using the Secrecy Coping scale (Link et al., 1997) to assess participants' use of secrecy related to substance use or mental health disorders (e.g., "Do you sometimes hide the fact you have a mental illness?"), the authors found that Black adults reported using significantly lower levels of secrecy coping than White adults, which is the opposite of what was expected. Hunter et al. (2017) note that while research indicates higher levels of stigma among Black adults compared to White adults, more research is needed to understand racial differences in stigma management strategies.

MLT has also been used as a framework to investigate stigma in young adults. In a sample of primarily White adolescents diagnosed with severe emotional disturbance in a wraparound program, Moses (2009) used MLT constructs to explore the effects of stigma-related experiences on adolescents. As previously mentioned, MLT posits that a shift from public to internalized (self) stigma happens when a person receives a mental health diagnosis and becomes part of the stigmatized group (Hunter et al., 2017). MLT also posits that stigma will negatively affect self-concept and depression. Moses (2009) found evidence supporting these relationships, as adolescents who experienced more public stigma endorsed more self-stigma, lower selfesteem, and increased depression. MLT serves as an explanation for how people in treatment may experience stigma and also how stigma may lead to less help-seeking. For example, adolescents with more public and self-stigma would be less likely to seek mental health services, based on the inverse relationship between stigma and help-seeking (Conner et al., 2010; Davari-Dhariwal et al., 2023; Topkaya, 2014; Vogel et al., 2007). Since self-esteem generally begins to decrease in early adolescence (Baldwin & Hoffman, 2002), any mental health stigma experienced may lower self-esteem even further.

Biopsychosocial Model of Mental Disorders

The biopsychosocial model of mental disorders is a theory that helps to explain beliefs about mental illness, and thus may provide insights into mental health stigma. This model is an integrative framework that states that mental disorders reflect a reciprocal relationship among biological, psychological, and social factors in the current context, with those variables influencing presentation and recovery (Kaslow et al., 2007). In a sample of Black men, Ward and Besson (2013) found that consistent with this biopsychosocial model, most men believed mental illness could be caused by several factors, including family history of mental illness, trauma, and day-to-day stressors, as opposed to religious or spiritual elements. Participants in the study preferred combining professional treatment with community support from family and friends and spiritual support from religious beliefs and practices. They were also optimistic about seeking professional treatment and encouraged others to seek it (Ward & Besson, 2013). One reason for this apparent openness to treatment may be that 1/3 of the participants were already diagnosed with a mental health issue and thus may have already had contact with mental health professionals. Nevertheless, findings from this study could provide a framework to better understand Black men's conceptualization of mental health, stigma, barriers to treatment seeking, and openness to treatment seeking (Ward & Besson, 2013).

Communicated Narrative Sense-Making Theory

Communicated Narrative Sense-Making Theory (CNSM) provides a framework for understanding the impact of narratives told within families about mental illness (Flood-Grady & Koenig Kellas, 2019) and thus may help to conceptualize the way stigma functions. CNSM explains that the stories families hear and tell have a lasting impact on members' values, beliefs, attitudes, behaviors, and identities (Koenig Kellas, 2018). Flood-Grady and Koenig Kellas

(2019) utilized CNSM to examine retrospective storytelling to understand the socializing impact of narratives told in families about mental illness. Authors found that parents primarily told *struggle* narratives and *caution* narratives; *struggle* narratives minimized stigma and negative attributions about the family member with mental illness, while *caution* narratives attributed deviant behavior to the mental illness (Bochner et al., 2000; Flood-Grady & Koenig Kellas, 2019). In struggle narratives, parents may have helped to minimize potential self-blame or self-stigmatization that could result for their children who are struggling with or might develop mental health issues. Conversely, parents who told *caution* stories may have reinforced negative perceptions of mental illness, potentially socializing younger family members to stigmatize people with mental illness as a result (Flood-Grady & Koenig Kellas, 2019). CNSM theory provides a helpful framework for parents of young children, including young Black children, and might be one strategy to prevent mental health stigma among young adults.

Social Identity Theory

A theory used to explore the role of group identification in mental health stigma (Moses, 2014) is Social Identity Theory (SIT). SIT posits that people use social group memberships as a basis for self-evaluation and identity (Tajfel & Turner, 2004). For adolescents discharged from inpatient treatment, for example, Moses (2014) writes that youth who identify with a higher-status group may experience stigmatization from in-group members who see someone with a mental health label as threatening. They continue that these adolescents may experience less stigma if they have peers who also struggle with mental health issues or are less inclined to value conformity. To test this theory, Moses (2014) utilized a sample of primarily White female adolescents six months following their first psychiatric hospitalization. The study used SIT to explain findings of 70% of adolescents experiencing at least one aspect of mental illness stigma.

The stigma reported was primarily devaluation, disrespect, emotional insult, and being underestimated by others. Predictors of more stigma among adolescents included having higher social status (being "popular"), greater severity of internalizing and externalizing symptoms, and poorer school functioning. These factors might translate to Black adolescents as well and provide a starting point for social factors to address when trying to prevent/reduce mental health stigma among young adults.

Unified Theory of Behavior

Fewer theories of stigma have been tested among Black young adults, compared to Black adults and young adults, but one empirical study with this population utilized the Unified Theory of Behavior (UTB). Lindsey et al. (2013) state that the UTB helps to identify micro and macrolevel factors associated with help-seeking and perceptions of mental health services to inform intervention development. Results from their focus groups revealed that negative attitudes about treatment existed, especially among adolescents with no mental health treatment history. Further, adolescents expressed that they anticipated emotional difficulty when seeking mental health treatment due to fears that may be revealed to a therapist, which would lead to questioning of their family, such as allegations of abuse. Adolescents also feared that their friends might stigmatize them for seeking services or that family members would be offended if they sought professional treatment as opposed to utilizing family support. As the UTB constructs of attitudes, expectancies, and social norms resonated most for this group, treatment engagement strategies targeting these behaviors could lead to stronger connections to mental health treatment for Black adolescents and their caregivers (Lindsey et al., 2013).

Theory of Planned Behavior

While there is no consensus in the literature on a single theory that best conceptualizes mental health stigma, the Theory of Planned Behavior (TPB; Ajzen, 1991) has been the most widely used. The TPB is an extension of the theory of reasoned action (TRA; Fishbein & Ajzen, 1975), in which a central factor of the theory is an individual's intention to perform a given behavior. Intentions indicate how much effort people are planning to exert in order to perform a behavior (Fishbein & Ajzen, 1975). Ajzen (1991) writes that the TPB improves the TRA by addressing behaviors people cannot completely control. The perception of control is distinguished from actual behavioral control, which includes resources and opportunities available to a person (Ajzen, 1991). According to the TPB, attitudes, subjective norms (social pressures), and perceived control typically predict behavioral intentions (a person's aim to act) with high accuracy (Azjen, 1991; Compton & Esterberg, 2005; Skogstad et al., 2006). Thus intentions, along with perceived behavioral control, are the main factors in determining whether or not someone will perform a behavior (Ajzen, 1991; Shepherd & Rickard, 2012). According to the TPB, people are more likely to engage in a behavior if they have favorable attitudes towards it, if they believe that people whose views they value think they should carry out the behavior, and if they feel they have the necessary resources and opportunities to engage in the behavior (Mo & Mak, 2009).

In relation to mental health services, a favorable attitude about accessing support may imply a greater willingness to seek professional psychological help (Li et al., 2017). Subjective norms can also influence mental health service use because if close others expect someone to seek treatment, they will be more likely to do so (Li et al., 2017). Behavioral intention is the precursor to actual future help-seeking behavior – thus, the TPB's premise is that people who intend to seek help will do so when the opportunity arises (Hammer et al., 2018). The TPB is one

of the most cited social scientific theories in help-seeking research and has been commonly used by researchers (Hammer et al., 2018; Shepherd & Rickard, 2012). The TPB highlights the potential importance of stigma in predicting help-seeking intention with various groups (Mo & Mak, 2009; Skogstad et al., 2006; Song et al., 2019).

TPB and Black Adults. Several researchers have used the TPB to explain how stigma affects help-seeking among Black adults. For instance, in a sample of Black family members of patients hospitalized for psychosis, Compton & Esterberg (2005) found that as perceived stigma increased, perceived behavioral control decreased. Perceived behavioral control refers to external factors that may interfere with a behavioral response, as well as perceived power. Consistent with the TPB, their finding suggests that perceived stigma leads to the perception of increased barriers, which then leads to a longer delay in treatment (Compton & Esterberg, 2005).

Taylor & Kuo (2019) similarly assert in their literature review that the TPB helps to explain mental health stigma and help-seeking among Black adults. The authors note that stigma is a powerful barrier to help-seeking, especially in the Black community (Taylor & Kuo, 2019). For example, a Black person's attitude toward a behavior may be harmful with thoughts like "If I see a mental health professional, people will think I am weak" (Taylor & Kuo, 2019). Taylor and Kuo (2019) continue stating Black individuals exposed to anti-help-seeking beliefs and messages from family, friends, and the community could demonstrate subjective norms. Last, an example of perceived behavioral control includes thoughts such as "I will not be able to find a therapist who understands my experience" (Taylor & Kuo, 2019).

TPB and Young Adults. Some researchers have framed the role of stigma and help-seeking among young adults including stigma and help-seeking among Australian university students (Li et al., 2018); stigma and help-seeking intention among Korean college students (Lee

& Shin, 2020); stigma and help-seeking behavior among Chinese college students (Li et al., 2017; Shi & Hall, 2021; Song et al., 2019); male college students' stigma and intention to seek help (Shepherd & Rickard, 2012); and the relationship of stigma and perceived campus attitude to help-seeking intention (Chen et al., 2016). Of these, one study found that subjective norms (social pressures) were the strongest predictor of help-seeking intention (Shi & Hall, 2021). Another study found that all three TPB variables predicted intention to seek help (Lee & Shin, 2020). Li et al. (2017) found that attitudes and subjective norms (social pressures) directly contributed to help-seeking intention but perceived behavioral control did not. It appears that the TPB assists in explaining help-seeking intention among young adults, but there is a lack of consensus on the specific mechanisms at work.

TPB's Applicability Toward Black Young Adults. There are no studies to date that use the TPB to investigate stigma in Black young adults, but one related article may provide helpful context. Song et al. (2019) investigated a cultural help-seeking model for professional psychological services by adding a cultural-contextual level to the TPB three-level model. The authors then compared their four-level Cultural Help Seeking (CHS) model to the TPB using college students from the US and China. Findings showed that the CHS provided a better fit for both samples than the TPB, giving more weight to the importance of cultural context for stigma and help-seeking models. Consistent with past research, findings also showed that public stigma was linked to intention through attitudes for seeking counseling for both US and Chinese students. The CHS model could help to bridge the gap between the TPB's numerous studies on young adults by making it more relevant among Black young adult samples.

Summary

Conceptual articles exploring mental health stigma among Black adults and young adults provide thoughtful examples of how stigma can be conceptualized and understood. For instance, Black individuals with mental health issues may experience more stigma due to minority discrimination they experience, rejection from their families, and community-based stigma (Double Stigma and triple jeopardy; Gary, 2005; Mantovani et al., 2017). Black individuals also may underreport due to stigma and/or preference for explaining somatic symptoms with physical illness, as opposed to discussing mental health symptoms (Sociocultural Model of Anxiety; Hunter & Schmidt, 2010). Further, from a young age children establish the salience of a group, categorize members of that group, and then form stereotypes about that group (DIT; Heary et al., 2017). These include stereotypes toward people with mental health issues.

Empirical studies on the mental health stigma of Black adults, young adults, and Black young adults provide mixed findings. Anticipated findings include stigma developing within families based on how parents tell their children stories about family members with mental illness (CNSMT; Flood-Grady & Koenig Kellas, 2019). As children age into adolescence, predictors of mental health stigma include other factors such as being popular, having more severe internalizing symptoms (withdrawal, anxious, depressed, e.g.), having more severe externalizing symptoms (aggression or delinquent behavior), and worse school functioning (SIT; Moses, 2014). Adolescents who experience more public stigma then may endorse more self-stigma, and lower self-esteem and increased depression as a result (MLT; Moses, 2009). When taking into account both age and race, findings reinforce the notion that Black adolescents may believe they will be stigmatized for seeking services, may interpret utilizing formal services as a sign of weakness, and may believe they need to be self-reliant as opposed to asking for help

(UTB; Lindsey et al., 2013). Adolescents in the Lindsey et al. (2013) sample were from low-income communities and may be effected by having fewer resources available.

Unanticipated findings in the literature are also present that suggest a more positive aspect of the relationship between stigma and help-seeking. In one study, Black adults reported less secrecy coping (hiding their mental illness, e.g.) related to substance use or mental health disorders compared to White adults (MLT; Hunter et al., 2017). Another study also found Black men were optimistic about seeking professional treatment and encouraged others to seek professional treatment, consistent with the biopsychosocial model of mental disorders (Ward & Besson, 2013). These findings suggest a greater openness to seeking therapy among the Black community.

Implications for Clinical Practice

Outreach

Mental illness-related stigma solidifies early in life and persists into adulthood (DuPont-Reyes et al., 2020). Thus, there is a need to tailor anti-stigma messages to at-risk adolescent populations (DuPont-Reyes et al., 2020). Additionally, most current mental health promotion interventions do not address how culture contributes to mental health stigma's impact on help-seeking attitudes (Taylor & Kuo, 2019). DuPont-Reyes et al. (2020) write that interventions aimed at reducing stigma and promoting mental health service use among school-aged populations would benefit from taking into account the greater stigma for non-Latinx Black boys in particular. Further research on mental health stigma outreach interventions specific to Black young adults is warranted, but several outreach strategies employed so far may be considered.

When considering outreach designed to reduce stigma in Black communities, it is essential to note that addressing mental health stigma among Black and all ethnic minority

populations should involve addressing structural discrimination, racism, and other barriers to treatment (Knifton, 2012). Community development workshops that involve dialogue and engagement that address these issues may also reduce stigma (Knifton, 2012). Taken from their research on the biopsychosocial model of mental disorders, Ward & Besson (2013) write that outreach programs with a psycho-educational format are needed to educate Black men in particular about mental illness, treatment options, and community resources. Increased education around these factors may help to de-mystify mental health issues by clearing up any misconceptions related to stigma (i.e., being weak for seeking therapy), providing a space to answer participant questions, and discussing the positive outcomes of attending counseling, which may ease potential anxieties about receiving therapy as a result. Additionally, outreach efforts would benefit by including family, friends, and religious leaders in Black communities. Ward and Besson (2013) propose that mental health therapists should partner with community leaders, community advisory boards, community mental health clinics, and agencies to identify community needs and explore how services can be delivered with Black men in mind.

Studies have shown that mental health stigma outreach efforts for Black individuals that include incorporating consumer voices and peer counseling are promising (Alvidrez et al., 2010; Ward & Besson, 2013). Alvidrez et al. (2010) state that the opinion of consumers, especially Black consumers, is often absent from psychoeducation interventions. With that in mind, some authors have incorporated consumer voices into psycho-educational materials for Black adults about stigma and other barriers to mental health treatment (Alvidrez et al., 2010). In conducting qualitative interviews with Black mental health consumers, Alvidrez et al. (2010) found they were able to include Black experiences of stigma and strategies to cope with stigma into a booklet that not only addressed issues relevant to the local Black community, but may be helpful

for Black individuals deciding whether or not to seek psychological services. Peer counseling also provides a promising area for intervention -- an area that is understudied among Black men in particular but may be beneficial. Ward and Besson's (2013) research found that Black male participants who were knowledgeable about mental health care encouraged other men to seek services and had greater compassion for people with mental health issues.

Outreach to reduce stigma for young adults is often done through social contact. For example, a meta-analysis by Na et al. (2022) examined the efficacy of interventions on public stigma around mental illness and found that interventions targeting students successfully reduced behavioral stigma toward those with mental illness. Na et al. (2022) continue stating these interventions facilitated social contact through individuals' testimonies of lived experiences with mental illness and recovery and by centering the individual with mental illness as the expert. Relatedly, Chen et al. (2016) developed a program model for contact-based anti-stigma and identified domains for young people that contribute to reducing mental health stigma. Based on their review, the authors evaluated 18 anti-stigma programs and developed a program model with the theme "engaging contact reduces stigma". The model included speakers with lived experience of mental illness who interacted directly with participants. As an important part of the model, the authors emphasized having speakers interact with students to embody a recovery story, as opposed to programs that only discuss the signs and symptoms of mental illness. A similar social contact study by Martínez-Hidalgo et al. (2018) found that, among a sample of young adults and adolescents, there was a significant decrease in self-stigma for participants with mental health problems and a smaller reduction in public stigma and a modest increase in selfesteem.

Additional outreach strategies for young adults with the aim of decreasing mental health stigma also exist. Taken from their research incorporating Social Identity Theory, Moses (2014) writes that anti-bias and anti-bullying programs in schools should address social discrimination aimed toward those with mental health problems, as well as other attributes which are stigmatized. Heary et al. (2017) echo this based on their research on Developmental Intergroup Theory, highlighting the importance of developing anti-stigma interventions for children, specifically under the age of twelve. From their research on the Theory of Planned Behavior, Li et al. (2017) note that community advertising and education may decrease stigma and promote help-seeking. Participants in their study were recommended on-campus psycho-educational seminars and workshops on mental health disorders, diagnosis, symptoms, and treatment (Li et al., 2017). They further note that psycho-educational campaigns should be disseminated to the community to encourage positive attitudes toward professional mental health services (Li et al., 2017).

While studies investigating stigma outreach among Black young adults are limited, Lindsey et al. (2013) write that educational strategies could target stigma and increase understanding of mental health symptoms and treatment sources among this group. The authors note that educational strategies could also target any negative perceptions Black parents have of managing their child's mental health problems by helping them to know their limits and clarify misconceptions about mental illness (Lindsey et al., 2013). Mantovani et al. (2017) state that one-size-fits-all approaches cannot effectively meet the needs of diverse populations, and more research on outreach strategies for Black young adults is necessary to determine the most successful ways mental health stigma may be reduced.

Therapy

Counselors need to work with families and community members to gain their input on intervention development and ways to reduce barriers to mental health help-seeking, including reducing stigma (Mantovani et al., 2017). This is important for Black youth especially, where family and community ties are often a strong value and integral to well-being. Counselors should also be aware of the impact of possible labeling and feedback regarding early symptoms and their potential for increasing mental health stigma among clients in the future (Denenny et al., 2015). Conner et al. (2009) write that clinicians should recognize the impact of internalized (self) stigma on attitudes toward seeking psychological services and that internalized stigma may be easier to change than public stigma. Authors suggest decreasing internalized stigma may be a treatment goal or a separate intervention (Conner et al., 2009).

Vance (2019) writes that normalizing mental health and increasing understanding of mental health as an essential part of well-being can destignatize mental health treatment in the Black community (Vance, 2019). Vance (2019) also notes that a lack of cultural responsiveness from therapists, cultural mistrust, and potential negative views from the therapist associated with stigma impact the use of mental health services among Black individuals. Ward and Besson (2013) write that counseling psychologists should implement cultural competence training for clinicians to improve the care provided to Black clients. They further note that counseling psychology clinical interventions could include family counseling, consultation with clients' religious leaders, and services in community settings to facilitate easy access to therapy (Ward & Besson, 2013), interventions which all have the potential to reduce mental health stigma.

Treatment from clinicians other than psychologists and counselors could also reduce stigma among Black people in a therapeutic space. In a study by Cheng and Robinson (2013), researchers found that among Black Americans and Black Caribbeans, stigma towards mental

health treatment significantly increased the likelihood of using social work services for treatment, as opposed to another type of mental health care provider. Interestingly, fewer than one percent of participants indicated stigma was a barrier to mental health or substance use services (Cheng & Robinson, 2013). Cheng and Robinson (2013) contend that minority individuals are either more comfortable utilizing social workers than other professionals or may need to see social workers due to court mandates.

Specific strategies to address mental health stigma within therapy are lacking for young adults. Heary et al. (2017) highlight the need to develop adolescent interventions to reduce stigma, and several studies suggest directions for these proposed interventions. Flood-Grady and Koening Kellas (2019) use study findings from their research involving Communicated Narrative Sense-Making Theory to propose narrative interventions designed to increase understanding, reduce stigma, and improve treatment-seeking for mental health issues. They also encourage certain types of parent-child storytelling (e.g., *struggle stories* that emphasize hardships and stressors that accompany the development of mental illness) to increase empathy, in addition to training parents in effective storytelling socialization techniques. Moses (2009) writes that more knowledge about stigma risk factors, stigma protective factors, and coping strategies for youth should be developed to inform future interventions.

The use of the internet may be another way to address the issue of stigma as a barrier to mental health services. Li et al. (2017) state that telehealth services can help students' stigma concerns regarding publicly accessing treatment. Students who are reluctant to utilize campus/community counseling services due to fears of being seen by others would likely be more willing to use services virtually, especially if their public stigma is high. The COVID-19

pandemic has made virtual therapy more accessible than before, likely a positive change in terms of increasing help-seeking behavior.

Finally, there are specific things therapists can do to reduce mental health stigma further once young adults arrive to the counseling room. For example, a study by Seidman et al. (2022) found that college students who completed a single session of interpersonal process group counseling reduced self-stigma and promoted positive attitudes toward counseling. Additionally, completing self-affirmation interventions (pen-and-paper tasks rank ordering the personal importance of values and character strengths; Peterson & Seligman, 2004) reduced post-session perceptions of public stigma (Seidman et al., 2022). Both group counseling and self-affirmation interventions may be helpful techniques for therapists to implement prior to or in conjunction with individual therapy.

Self-Help

Another consideration in decreasing stigma includes the availability of online interventions developed to improve mental health and increase help-seeking, but few have evaluated whether help-seeking is actually improved (Kauer et al., 2017). For example, one program based on the Theory of Planned Behavior called the *Link* program is designed to change attitudes towards help-seeking, improve subjective norms (e.g., retaining participant anonymity, selecting an issue from a list of mental health issues to normalize stigma, etc.), and increase perceived behavioral control in a sample of young adults (Kauer et al., 2017). The program allows young adults to virtually enter information about an issue they are experiencing, including its severity and the type of services they would like, and then recommendations are provided (Kauer et al., 2017). While Kauer et al. (2017) focused on the development of the *Link* program, they do outline a planned pilot study, randomized controlled trial, and longitudinal study to

follow. This would provide a foundational step for a theoretical-based intervention accessible to Black young adults, which may help reduce mental health stigma and thereby increase help-seeking behavior.

Conclusion

A preponderance of research results shows that Black young adults have higher rates of mental health stigma and have fewer positive attitudes toward seeking psychological services (Austin et al., 1990; Cheng et al., 2013; Kuo et al., 2006; Rao et al., 2007). The research also suggests that stigma is an obstacle to seeking mental health services among Black young adults (Masuda et al., 2012), which is problematic considering Black young adults endorse greater distress than White young adults (Kearney et al., 2005). While these findings are relatively consistent, there is a need for more stigma research among different populations, including Black young adults, to understand better how stigma functions in various communities. In addition, findings from the research reviewed highlighted differences across gender when examining stigma and help-seeking behavior (e.g., DuPont-Reyes et al., 2020; Pedersen & Paves, 2014). Finally, future studies could examine the impact of intersecting identities including Black young adults who are, for example, queer, have different socioeconomic backgrounds, or are multiracial to help understand how stigma may act as a barrier among these groups.

The literature also suggests several implications for clinicians. Heary et al. (2017) note that stigma research would be improved by being more interdisciplinary and including foci on prejudice or mental health stigma among adults to help inform the design and evaluation of stigma interventions in adolescence and for Black individuals. Consistent with this view, research might take a more overt social justice-oriented approach to research that would inform practice. Until then, clinicians may utilize the outreach, therapeutic, and self-help interventions

that currently exist that are designed to reduce stigma in Black young adults while keeping cultural beliefs about mental illness related to stigma in mind. In addition, these interventions may also be utilized in educational or supervision settings by informing students or supervisees about such approaches.

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2 EXAMINING THE INTERACTION BETWEEN MENTAL HEALTH STIGMA, COVID-19 TRAUMATIC STRESS, AND RACE IN PREDICTING HELP-SEEKING

In January 2020, the World Health Organization (WHO, 2020) announced the outbreak of COVID-19 as a Public Health Emergency of International Concern. In March 2020, the WHO described COVID-19 as a pandemic (World Health Organization [WHO], 2020). As of February 2023, there have been over 755 million confirmed coronavirus cases worldwide, including over 6 million deaths (WHO, 2023). As was in the beginning of the pandemic, the United States is still leading all other countries claiming the most coronavirus cases and deaths in the world, with over 101 million confirmed cases and over 1 million deaths as of January 2023 (Center for Disease Control and Prevention [CDC], 2023; WHO, 2023).

In the US, during the beginning of the pandemic, Black communities suffered the most compared to other races, with Black people experiencing far more casualties due to COVID-19 (CDC, 2020b; The COVID Tracking Project, n.d.). As a result, Black individuals have increased fear, stress, and trauma related to the pandemic (Sneed et al., 2020). In addition, young Black people underutilize mental health services at higher rates than older Black people and their White peers (Substance Abuse and Mental Health Services Administration [SAMHSA], 2015), giving cause for attention to Black youth during a time of increased need for services due to the pandemic. One significant barrier to mental health services is mental health stigma (Corrigan, 2004). Black college students endorse higher mental health stigma rates and have fewer positive attitudes toward seeking psychological services (Cheng et al., 2013; Kuo et al., 2006). Although higher rates of mental health symptoms are related to increased stigma among Black college students (Cheng et al., 2013), it remains unclear whether the stigma and help-seeking relationship hold in the context of the pandemic. The purpose of the current study is to

investigate the interaction between mental health stigma, COVID-19 traumatic stress, and race in predicting help-seeking among a Black and White college student sample.

Literature Review

COVID-19, Black College Students, and Mental Health

COVID-19 has negatively impacted the United States, with one outcome being a sharp increase in mental health symptoms. In a study analyzing Google Trends of mental health-related search themes from April 2019 to April 2020, researchers propose that after the WHO declared a pandemic on March 11, 2020, there was an immediate increase in worry and panic followed by the onset of anxiety symptoms (Hoerger et al., 2020). A poll affirms these trends from the Kaiser Family Foundation conducted in mid-July 2020, in which 53% of adults in the United States reported a negative impact on mental health because of COVID-19 worry and stress. This trend represents an increase from 32% in March (Kaiser Family Foundation, 2020). Additionally, data from US adults surveyed online during the week of March 23, 2020, revealed that the sample endorsed an average of high depression symptoms (16+ on the Center for Epidemiologic Studies Depression scale) and more than 1/4th of the sample endorsed moderate to severe anxiety symptoms (Fitzpatrick et al., 2020). This research is supported by WHO (2022) data that found in the first year of the pandemic, global prevalence of anxiety and depression increased 25%. Another study found that in Italy, students ages 18-30 reported worse depressive symptoms during the COVID-19 lockdown than 6 months before isolation (Meda et al., 2021). Due to the threat of death, the coronavirus pandemic has been referred to as a collective, global, and unique traumatic stressor that represents multiple complex traumas (Kira et al., 2020).

One community that has suffered especially adverse effects of the coronavirus in the US, and have increased mental health issues as a result, is the Black community. Compared to White

people in the US, in the beginning of the pandemic, Black individuals had 2.6 times as many coronavirus cases, 4.7 times as many hospitalizations, and 2.1 times as many deaths (CDC, 2020c). In addition, Black Americans suffered more COVID-19-related deaths than any other racial group (CDC, 2020b; The COVID Tracking Project, n.d.). As of December 2022, Black individuals have 1.1 times as many coronavirus cases, 2.1 times as many hospitalizations, and 1.6 times as many deaths compared to White individuals in the US (CDC, 2022). As a result, Black people are experiencing increased stress and trauma on multiple levels. Detrimental social and psychological effects of the pandemic have caused Black communities to have heightened concerns about contracting COVID-19, fear of racial bias in testing and treatment, stress from continuous experiences of grief and loss, and re-traumatization of their communities (Sneed et al., 2020). During June 24-30, 2020, results from web-based surveys found that Black people experienced disproportionately worse mental health outcomes, increased suicidal ideation, and increased substance use compared to White individuals (CDC, 2020a). This is consistent with findings from Kim et al. (2022) who found that among undergraduate college students who were surveyed between October 2019 and May 2020, an upward trend in depression was stronger among Black students compared to White students. Further, findings from Mental Health America (2022) screenings found that Black individuals in the US had the largest increase in anxiety symptoms during the pandemic, compared to other races/ethnicities.

In addition to the increased mental health needs among Black people, young people also have increased mental health needs due to the pandemic. College students specifically are reporting increased stress, depression, and anxiety (Cohen et al., 2020; Huckins et al., 2020). These increases are reflected by the rise in college counseling center use due to the pandemic, with counseling center providers preparing to treat mental health symptoms, including trauma,

depression, and anxiety in the beginning of the pandemic (American Psychological Association [APA], 2020). One study by Kujawa et al. (2020) developed the Pandemic Stress Questionnaire and found that, among a sample of emerging adults, stressful events were highly prevalent in May 2020, especially among younger female Black emerging adults. Findings suggest emerging adults are at high risk for depression and anxiety related to the pandemic (Kujawa et al., 2020). This increased risk has been supported by the CDC (2020a) as well, with 18-24 year old's having the highest rates of anxiety disorder and depressive disorder during June 2020, as well as a WHO (2022) briefing that found that during the first year of the pandemic, COVID-19 affected the mental health of young people and that they are disproportionately at risk of suicidal and selfharm behaviors. Further, a critical review by Manchia et al. (2022) explains that across 2020 and 2021, the pandemic challenged stress, resilience, and mental health outcomes among vulnerable populations, including children and adolescents. Overall, research shows that Black people and young adults are suffering from more mental health issues due to the pandemic. Given the relationship between trauma exposure, stress, and risk for mental health consequences into adulthood, investigations of the impact of the coronavirus on youth of color, including Black youth who are already at heightened risk, are warranted (Fortuna et al., 2020).

Stigma, Help-Seeking, and Black College Students

With the increase in mental health symptoms during the pandemic, it is essential to determine factors that may be a roadblock to mental health treatment. One potential roadblock to accessing psychological services is mental health stigma. Stigma has been cited as a significant public health concern, as it is a major barrier to seeking help (Corrigan, 2004). Mental health stigma is associated with depressive symptoms, anxiety, decreased self-esteem, negative attitudes toward seeking treatment, and decreased willingness to seek treatment (Andrade et al., 2014;

Brown, 2017; Corrigan et al., 2006; Curcio & Corboy, 2020; Davari-Dhariwal et al., 2023a; Vogel et al., 2017; Vogel et al., 2007). Stigma is categorized into three types; public/perceived stigma (what people do to a stigmatized group when they endorse the prejudice about that group), personal stigma (personal stigmatizing attitudes), and self-stigma (internalized public stigma) (Corrigan, 2004; Griffiths et al., 2008). Each type of mental health stigma has implications for help-seeking, prognosis, adjustment, and treatment outcomes for people with mental health issues (Corrigan & Penn, 1999; Curcio & Corboy, 2020). However, several studies have shown that self-stigma is most strongly related to help-seeking attitudes and behavior and, as a result, is an ideal point of intervention to increase mental health treatment (Conner et al., 2010; Davari-Dhariwal et al., 2023a; Topkaya, 2014; Vogel et al., 2007).

Young adults appear to be more susceptible to mental health stigma and negative attitudes toward seeking professional psychological help, while positive attitudes toward help-seeking are associated with being older (Gonzalez et al., 2005; Jagdeo et al., 2009; Kuo et al., 2006; Leaf et al., 1987; Mackenzie et al., 2019). Research by Cheng et al. (2013) found that, across groups of Black, Asian American, and Latinx American college students, higher levels of psychological distress and perceived racial/ethnic discrimination predicted higher levels of mental health stigma for seeking psychological help. While research results have shown that younger adults have higher levels of mental health stigma (e.g., Gonzalez et al., 2005), Black youth especially have increased susceptibility to mental health stigma and decreased help-seeking behavior. For example, Rao et al. (2007) found that Black students believed people with mental illness were more dangerous and wanted more separation from people with mental health issues than White students, highlighting greater stigma among Black as compared to White students. Further, stigma is a major obstacle to seeking professional psychological services for Black college

students (Masuda et al., 2012). Masuda et al. (2012) found that mental health stigma and self-concealment were negatively associated with help-seeking attitudes in a sample of Black college students. Younger Black college students specifically had less favorable help-seeking attitudes. Overall, a preponderance of research findings indicates that stigma is problematic for Black youth.

In addition to mental health stigma, Black students have fewer positive attitudes toward seeking psychological services than White students (Austin et al., 1990; Kuo et al., 2006). Black college students endorse greater distress than White college students, underutilize psychological services compared to White students, and attend fewer therapy sessions once in counseling (Ayalon & Young, 2005; Kearney et al., 2005). Among a sample of Black male college students, those who were older, had lower socioeconomic status, and had lower cultural mistrust had more positive attitudes toward seeking mental health assistance (Duncan, 2003). Although there are within-group differences in readiness to seek help among Black college students, overall findings suggest that Black youth have higher levels of mental health stigma and lower levels of help-seeking (Davari-Dhariwal et al., 2023b).

Present Study

The higher rates of mental health stigma, fewer positive attitudes toward help-seeking, and lower rates of help-seeking among Black college students compared to their White peers are particularly problematic given the increased mental health needs for Black students during the pandemic. Although there is currently an increase in mental health symptoms (Hoerger et al., 2020; Kaiser Family Foundation, 2020), research is mixed regarding whether stress or mental health issues encourage or discourage mental health help-seeking (Cheng et al., 2018; Kuo et al., 2006; Lannin et al., 2019). For instance, researchers (e.g., Cheng et al., 2013) have found that

higher rates of mental health symptoms are related to increased self-stigma and other (public) stigma of seeking psychological help among Black college students. Conversely, Mental Health America (2022) reported that the number of people looking for online help (via taking a mental health screen) with their mental health increased significantly from 2019-2021. In general there is not enough research on the mental health of Black young adults (Calhoun, 2021), so focusing on this group is an important contribution to the literature.

Given the relationship between mental health stigma, help-seeking, and psychological distress, the purpose of this study is to determine the differences in associations between mental health stigma and COVID-19 traumatic stress in predicting help-seeking among Black and White college students. More specifically, given higher levels of mental health stigma and negative attitudes toward help-seeking among Black vs. White youth – and greater COVID-19 trauma for Black vs. White youth, the study examined whether there is an interaction between COVID-19 traumatic stress and stigma predicting help-seeking– and whether that interaction varies by race.

Because studies have suggested that men have higher levels of mental health stigma and less favorable intentions of seeking help than women (e.g., Kuo et al., 2006; Mackenzie et al., 2006; Mackenzie et al., 2019; Topkaya, 2014), analyses in the current study controlled for gender. The study also included measures of depression and anxiety, constructs positively related to stigma (e.g., Brown, 2017; Curcio & Corboy, 2020), to assess the degree to which the sample of students endorsed mental health symptoms. Depression and anxiety are the two most frequent presenting concerns among student clients at counseling centers and fall in the top three concerns for Black student clients, in addition to stress (Pérez-Rojas et al., 2017). Relatedly, 18-25-year-olds most commonly report symptoms of anxiety disorders or depressive disorders (CDC, 2020a). Depression and anxiety also appear to be significantly related to COVID-19 traumatic

stress (Kira et al., 2020). Thus, the analyses planned to control for depression and anxiety to ensure the model's variables are accounted for and not attributed to extraneous variables, as they correlate with COVID-19 traumatic stress and mental health stigma.

When discussing self-stigma, it is important to differentiate related terminology, such as mental health stigma, or negative perceptions. Tucker et al. (2013) write that studies should either focus on self-stigma associated with mental illness or self-stigma associated with seeking psychological help. They confirmed the two types of self-stigma with confirmatory factor analyses, and also found that among their participants, the self-stigma of seeking psychological help explained more variance in attitudes and intentions to seek help than the self-stigma of mental illness did (Tucker et al., 2013). Tucker et al. (2013) suggest that as a result, help-seeking stigma may be more relevant than mental illness stigma in decisions to seek help. Thus for the purpose of this study, while both types of stigma are discussed, this study focuses on self-stigma of seeking help. Any mentions of stigma/self-stigma refer to self-stigma of seeking help specifically.

Regarding help-seeking terminology, the literature describes a combination of help-seeking intention, help-seeking attitudes, and help-seeking behavior. Measuring actual help-seeking behavior is more challenging as it requires many resources to be able to utilize longitudinal and experimental design (Hammer & Spiker, 2018). As a result, help-seeking intention is often investigated instead, as it is the closest measure to actual help-seeking behavior (Hammer & Spiker, 2018). Thus for the purpose of this study, while all types of help-seeking are referenced, this study focuses on help-seeking intention.

Hypotheses of the studies include: 1) There will be higher levels of mental health stigma among Black students compared to White students. 2) There will be higher levels of COVID-19

traumatic stress among Black students compared to White students. 3) There will be lower levels of help-seeking among Black students compared to White students. 4) There will be a positive relationship between depression and anxiety and COVID-19 traumatic stress. 5) There will be a main effect of increased stigma relating to decreased help-seeking. 6) COVID-19 traumatic stress will moderate the relationship between stigma and help-seeking, such that higher stigma will be related to decreased help-seeking. 7) There will be a three-way interaction such that COVID-19 traumatic stress will moderate the relationship between stigma and help-seeking such that higher stigma will be related to decreased help-seeking, and this will differ by race when controlling for gender, depression, and anxiety. The relationship for Black students will be stronger as they will have more self-stigma, more COVID-19 traumatic stress, and less help-seeking intention than White students. More specifically, under high COVID-19 traumatic stress, the association between stigma and race will result in higher help-seeking for Black students, and even higher help-seeking for White students. Under low COVID-19 traumatic stress, the association between stigma and race will result in low help seeking for White students, and even lower help-seeking for Black students. Hypotheses 1-5 are consistent with previous studies (Kira et al., 2020; Kuo et al., 2006; Rao et al., 2007; Sneed et al., 2020; Vogel et al., 2007), while hypotheses 6 and 7 are new potential contributions to research.

Method

Procedure

After obtaining IRB approval, participants were recruited via the online research participation system (SONA) at a large public university in the Southeastern United States.

These participants were granted course credit in exchange for their participation in the study. The SONA system provided participants with a link to Qualtrics, an online survey platform. On

Qualtrics, participants were presented with informed consent material followed by the measures listed below, with items within measures presented in random order. Some students at this university were compensated with extra credit by their respective instructor for taking the study. These students did not take the study through SONA, but instead were provided with the Qualtrics link. Psychology departments from other universities also recruited participants, and this author provided them with the link to Qualtrics. These participants were not compensated for their participation in the study. Data collection began January 2021 and ended December 2021.

Participants

Inclusion criteria for study participants were Black or White college/university students in the city of Atlanta. The initial sample consisted of 1,325 participants. Data from 198 participants were removed for missing data (e.g., less than 90% of each survey scale). Data from 99 participants were excluded due to either not completing the study, failing at least one of two attention checks (e.g., please select "disagree" for this item), inability to pass bot checks, taking the study too quickly (in three minutes or less), or being an outlier. Outliers were defined as standardized values that are +/-3.29 standard deviations from the mean (Tabachnick & Fidell, 2006). The range of missing data for these participants was between 0.0% and 0.8%. Overall missingness was less than .3%, no variable had more than 10% of data missing, and about 10% of subjects were missing at least one data point. The remaining 1,028 participants included individuals who completed the question, "how do you currently describe your gender identity?". Several participants selected the write-in "other" option on this question. Upon closer inspection, most of these participants wrote in options that corresponded to either cisgender male or cisgender female (e.g., "straight man" or "heterosexual female"). These participants were recoded, and the remaining 7% of non-cisgender participants were removed for analysis purposes.

The remaining 959 participants included races/ethnicities other than Black/African American or White American. These 326 participants were excluded, leaving a final participant count of 633.

Participants included 458 Black and 175 White college students from universities in a large metro city in the Southeast, with the vast majority of participants (99%) from a single minority-serving public university. Participants ranged in age from 18 to 72, with a mean age of 23.85 (SD = 6.39). Approximately 67% of participants were cisgender women, and 33% were cisgender men (7% of participants identified as either a transgender woman, transgender man, gender nonbinary, gender questioning or unsure, or other before removal). Regarding sexual orientation, 81.6% of participants identified as heterosexual or straight, 8.4% identified as bisexual, 6.5% identified as gay or lesbian, and the remaining 3.5% identified as either pansexual, questioning or unsure, or other. Roughly 49% of participants were seniors, 37% were juniors, 10% were sophomores, 1% were freshmen, 1% were graduate students, and less than 1% were post-baccalaureate students. 48.3% of participants reported their socioeconomic class as middle class, 43.0% reported working class, 5.7% reported poor, and 3.0% reported affluent. Regarding generational status, approximately 69% grew up in the United States with both parents/caregivers, 21% were second-generation immigrants, and 10% were first-generation immigrants.

As part of the demographics questionnaire, participants were also asked about the coronavirus pandemic. About 76% of participants followed news about COVID-19 fairly closely or very closely. Approximately 85% of participants spent up to three hours per day either reading something, viewing something, or communicating with someone about the coronavirus over the past two weeks. About 64% of participants sheltered in place a moderate amount or a lot. Roughly 19% of participants had previously tested positive for the coronavirus. About 1% of

participants had been hospitalized due to the coronavirus. Approximately 83% of participants had one or more family members or close friends who had been infected with the coronavirus. About 37% of participants' neighborhoods were infected (exposed) with the coronavirus either a moderate amount, a lot, or a great deal. Roughly 60% of participants did not complete any portion of the COVID-19 vaccine series. About 57% of participants would either want to receive the coronavirus vaccine or would definitely want to receive the coronavirus vaccine if they had access to it (whether they had received it or not). About 61% of participants felt a moderate amount of stress, a lot of stress, or a great deal of stress regarding the coronavirus. Each reported percentage is from a separate question; thus participants were able to endorse more than one answer.

Participants also answered questions specific to COVID-19 vaccines. After data collection had begun, this author added these questions to the study once vaccines became available to the general public. Thus, only about 59% of the sample completed these questions. Of those who did, roughly 66% indicated their optimism for the COVID-19 vaccine was moderate, a lot, or a great deal. About 47% reported they would not take the COVID-19 vaccine if they had to pay for it. Approximately 76% indicated that vaccination is the greatest way to protect from communicable diseases, and about 14% reported they would refuse the COVID-19 vaccine even if it were 100% effective. Roughly 20% would not receive the vaccine because they believe being exposed to diseases naturally is safer for the immune system than being exposed through vaccination, and about 31% would not get vaccinated because they believe social distancing and masking are sufficient. Approximately 59% reported they would not receive the vaccine because a vaccine developed in an emergency is potentially dangerous, has unknown side effects, and can lead to people becoming sick. Finally, about 39% indicated they would not

receive the vaccine due to distrusting the pharmaceutical industry/medical profession. Each reported percentage is from a separate question.

Measures

Demographic Questionnaire

The demographic questionnaire assessed age, race/ethnicity, gender, sexual orientation, the highest level of education completed, current GPA, socioeconomic status (family income), and generational status (immigration history). In addition, as is the standard of other COVID-19 studies, this author included several questions specific to participants' coronavirus exposure to understand the sample better (Cohen et al., 2020; Peterson et al., 2020; Pirutinsky et al., 2020).

Self-Stigma

The 10-item Self-Stigma of Seeking Help Scale was used to assess individuals' stigma towards themselves if they were to seek psychological help (Vogel et al., 2006). Participants reported their views about what seeking help would mean for them. Sample items include "I would feel inadequate if I went to a therapist for psychological help" and "I would feel worse about myself if I could not solve my own problems." Participants indicated how they might react in each situation ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). To calculate a score, ratings of items were reverse scored as appropriate and then summed, with higher scores indicating higher self-stigma. Test-retest reliability was .72 in a sample of college students, with the scale being able to accurately determine college students who sought mental health treatment from those who did not (Vogel et al., 2006). Internal consistency rating in a sample of BIPOC students in which about 1/2 identified as Black was .86, and .71 in a sample of community members, of which 70% identified as Black/African American (Cheng et al., 2013; Fripp & Carlson, 2017). The internal consistency rating for the current study was .56.

COVID-19 Traumatic Stress

The 12-item COVID-19 Traumatic Stress Scale was used to measure COVID-19 as complex traumatic stress (Kira et al., 2020). Items from this measure were chosen from a pool of questions taken from a pre-print study (Conway et al., 2020) and the Understanding America Study Coronavirus Tracking Survey (Center for Economic & Social Research, 2020). Participants indicated the negative impact the coronavirus has had on them. The scale has three subscales: Threat/Fear of Future Infection/Death, Economic Traumas, and Routine Disturbance. Analysis for this study focused on the Threat/Fear of Future Infection and Death subscale and its five items due to evidence of higher internal consistency at the time of this study proposal for that subscale compared to the others (Kira et al., 2021a; Kira et al., 2021b). This subscale, compared to the other subscales from the measure, also had questions specific to death or loss and thus arguably had a stronger likelihood for there being a COVID-19 trauma response among participants. Sample items from this subscale include "I am stressed around other people because I worry I'll catch the coronavirus (COVID-19)" and "over the past two weeks, I have felt nervous and fearful about the future because of the coronavirus." Participants indicated which statements are most accurate for them on a scale of 1 (i.e., not true at all) to 5 (i.e., true nearly all the time). To calculate a score, ratings of items were summed, with higher scores indicating higher amounts of coronavirus traumatic stress specific to COVID-19 threat. The scale has adequate predictive and convergence validity and a McDonald's omega of .92 in a US adult sample, in which about \(\frac{1}{4} \) of the sample identified as Black or African American and about \(1/3 \) were university students (Ashby et al., 2022). The internal consistency rating of the current study's Threat/Fear of Future Infection/Death subscale was .91.

Help-Seeking

The 3-item Mental Help Seeking Intention Scale was used to assess participants' intention to seek help from a mental health professional if they had a mental health concern (Hammer & Spiker, 2018). Sample items include "If I had a mental health concern, I would intend to seek help from a mental health professional" and "If I had a mental health concern, I would try to seek help from a mental health professional." Participants indicated the extent they would seek help on a scale of 1 (*extremely unlikely*) to 4 (*extremely likely*). To calculate the mean score produced by all three items, scores were added for all items and then divided by three. The measure has good predictive validity, with almost 70% accuracy in predicting future help-seeking behavior of community adults with mental health issues (Hammer & Spiker, 2018). Internal consistency is .92 in a sample of primarily White community adults (Hammer & Spiker, 2018). The internal consistency rating for the current study was .96.

Depression

The 9-item Patient Depression Questionnaire (PHQ-9) was used to measure depression (Kroenke et al., 2001). Participants were asked to indicate how often they have been bothered by several depressive symptoms. Sample items include "Little interest or pleasure in doing things" and "Feeling bad about yourself or that you are a failure or have let yourself or your family down." Participants indicated the extent items applied to them over the past two weeks on a scale of 0 (not at all) to 3 (nearly every day). To calculate a score, items were summed, with 0-4 indicating minimal depression, 5-9 mild depression, 10-14 moderate depression, 15-19 moderately severe depression, and 20-27 severe depression. The scale has demonstrated criterion, construct, and external validity, with construct validity established with a strong association between PHQ-9 scores and functional status, disability days, and symptom-related difficulty (Kroenke et al., 2001). Several studies with Black adults have used the measure

(Hankerson et al., 2015; Reese et al., 2012). Alpha rates among college students of color ranged from 0.87 to 0.90 (Goodwill & Zhou, 2020). The internal consistency rating for the current study was .88.

Anxiety

The 7-item Generalized Anxiety Disorder (GAD-7) scale was used to measure general anxiety (Spitzer et al., 2006). Participants were asked to indicate how often they have been bothered by several anxiety symptoms. Sample items include "Feeling nervous, anxious, or on edge" and "Worrying too much about different things." Participants indicated the extent each item applied to them over the past two weeks on a scale of 0 (*not at all*) to 3 (*nearly every day*). To calculate a score, items were summed, with 0-5 indicating mild anxiety, 6-10 moderate anxiety, 11-15 moderately severe anxiety, and 15-21 severe anxiety. In a sample of Black and White older adults, the measure was found to have good convergent, discriminant, and predictive validity (Shrestha et al., 2020). In the same sample, the total internal consistency was 0.85, with 0.86 in the Black subsample and 0.81 in the White subsample (Shrestha et al., 2020). The internal consistency rating for the current study was .91.

Analyses

This is a cross-sectional study in which variables including self-stigma, COVID-19 traumatic stress, help-seeking, depression, and anxiety were measured among Black and White college students. Analyses were performed to evaluate factorial invariance of the measures across Black and White samples. Evaluation of factorial invariance is necessary to determine whether the constructs in the study "are comparably measured across the sub-populations" (Little et al., 2007). Configural invariance was tested, and if supported, metric invariance was tested. If metric invariance was supported, scalar invariance was then tested. Demographic variables were

analyzed using independent samples t-tests, comparing Black and White students. Preliminary bivariate correlations examined the relations between study variables.

Hierarchical multiple regression was then used to test a model for predicting help-seeking behavior from participants' mental health stigma scores, COVID-19 traumatic stress scores, and race. Predictor variables were centered before creating multiplicative interaction terms to aid the interpretation of regression effects. In addition, covariates of gender identity and depression were controlled for. A complete interaction model positioned self-stigma as the predictor, COVID-19 traumatic stress and race as moderators, and help-seeking as the outcome. Thus, the primary analysis included a three-way interaction of COVID-19 traumatic stress x self-stigma x race.

Results

Measurement Invariance

Analyses were conducted with IBM SPSS Version 28 (2021) and Mplus Version 8.7 (Muthén & Muthén, 1998-2021) using maximum likelihood estimation with robust standard errors (MLR estimator). The steps outlined in this paragraph follow the recommendations of both Brown (2015) and Putnick and Bornstein (2016). Measurement invariance testing was completed to ensure that measures of self-stigma, COVID-19 traumatic stress, and help-seeking have comparable psychometrics for both Black and White college student participants. Measurement invariance across populations is analyzed through multigroup confirmatory factor analysis (CFA) (Cheung & Rensvold, 2002; Kang et al., 2016). Measurement invariance is a series of tests that become more stringent with each subsequent test. First, a configural invariance model tests whether the overall factor structure is supported and is similar across groups. If configural invariance is supported, the next step is to test for metric invariance. Metric invariance models indicate that the factor loadings are equivalent in both groups. If metric invariance is supported,

the next step is to test for scalar invariance. Scalar invariance models indicate equal item intercepts or thresholds in both groups. Finally, if scalar invariance is supported, residual invariance is then tested, which means that the sum of specific variance and error variance is similar across groups. Researchers often do not test residual invariance though as it is not necessary to test mean differences, as residuals are not part of the latent factor (Vandenberg & Lance, 2000).

During a CFA, one option to analyze measurement models is to use effects coding to scale latent variables. Additionally, a series of models are estimated, and invariance is tested by comparing one model's statistics with another model with additional between-group constraints (Cheung & Rensvold, 2002; Kang et al., 2016). These statistics, known as goodness of fit (GFI), include the χ^2 statistic, Comparative Fit Index (CFI), Root Mean Square Error Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and McDonald's Noncentrality Index (MNCI) (Cheung & Rensvold, 2002; Sass, 2011). GFI criteria include CFI of .90 or above for acceptable fit, while .95 or above CFI is considered good (Cheung & Rensvold, 2002; Hu & Bentler, 1999; Sass, 2011). MNCI is interpreted similarly to the CFI (Rice & Taber, 2019). RMSEA (at a 90% CI) and SRMR values of .06 or less are considered good, while .10 or less are acceptable (Hu & Bentler, 1999; Sass, 2011). When comparing baseline with constrained models, invariance should be supported by Δ CFI < -.01, Δ MNCI < -.01, Δ SRMR < .03 for metric models, and Δ SRMR < -.01 for scalar models (Chen, 2007; Cheung & Rensvold, 2002; Kang et al., 2016).

Self-Stigma

CFAs were completed to test the fit of the unidimensional factor structure of the Self-Stigma of Seeking Help Scale (Vogel et al., 2006) with both samples. When testing configural invariance, the CFI suggested a poor model fit (.810), and the RMSEA (.08) and SRMR (.08) indicated acceptable fit. Items 5 and 9 had the lowest standardized factor loading estimates for the Black (.46 and .46, respectively) and White (.55 and .53, respectively) groups. Item 5, "My view of myself would not change just because I made the choice to see a therapist" and item 9, "My self-confidence would remain the same if I sought professional help for a problem I could not solve," were two of the five questions on this measure which were reverse-scored. When examining these items, both indicate specific wording regarding self-view/confidence remaining the same, which might be the reason for their lower values. In a review of samples from 6 countries, Vogel et al. (2013) assessed the cross-cultural validity of the Self-Stigma of Seeking Help Scale. In this study, item 5 was a variant item for different country samples more often than item 9 when trying to obtain both metric and scalar invariance. Thus, item 5 was first removed and the subsequent CFI (.906) suggested acceptable model fit, and the MNCI (.945), RMSEA (.06), and SRMR (.06) suggested good model fit, indicating the same factor structure across groups.

With configural invariance supported, metric invariance was then examined to determine the equality of factor loadings. The CFI for the metric model suggested acceptable fit (.909), and the MNCI (.947), RMSEA (.06), and SRMR (.06) suggested good model fit. The metric model also had good comparison to the configural model (Δ CFI = .003, Δ MNCI = .002, Δ SRMR = .00), indicating the same factor loadings across groups. Finally, the fit of the new model was compared to the previous model utilizing scalar invariance. The CFI (.894) for the scalar model suggested poor fit, the MNCI indicated adequate fit (.939), and the RMSEA (.06) and SRMR (.06) indicated good fit. The Δ CFI = -.015 had poor comparison to the metric model, while the Δ MNCI = -.008 and Δ SRMR = 0.00 had good comparisons to the metric model. Since scalar

invariance was not obtained, the factor mean differences between groups cannot be tested for self-stigma, but correlations or path coefficients can be compared. All subsequent analyses used this modified scale, with item 5 removed from this measure.

COVID-19 Traumatic Stress

CFAs were also completed to test the fit of the Threat/Fear of Future Infection/Death subscale of the COVID-19 Traumatic Stress Scale (Kira et al., 2020) with both samples. The CFI (.989) and MNCI (.987) suggested good model fit, the RMSEA suggested acceptable fit (.07), and the SRMR suggested good fit (.02) for configural invariance, indicating the same factor structure across groups. Metric invariance was then examined due to configural invariance being supported. The CFI (.986) and MNCI (.984) of the metric model suggested good fit, the RMSEA suggested acceptable fit (.07), and the SRMR suggested good fit (.03). It also had good comparison to the configural model, Δ CFI = -.003, Δ MNCI = -.003, Δ SRMR = .01, indicating the same factor loadings across groups. Finally, scalar invariance was then examined as metric invariance was supported. The CFI (.984), MNCI (.982), RMSEA (.06), and SRMR (.04) of the scalar model all suggested good fit. It also had good comparison to the metric model, Δ CFI = -.002, Δ MNCI = -.002, Δ SRMR = .01, indicating the same item intercepts across groups.

Help-Seeking

CFAs were completed to test the fit of the unidimensional factor structure Mental Help Seeking Intention Scale (Hammer & Spiker, 2018) with both samples. When testing configural invariance, the CFI (1.000), MNCI (1.000), RMSEA (.00), and SRMR (.00) all suggested good model fit, indicating the same factor structure across groups. Metric invariance was then examined, in which the CFI (.995), MNCI (.999), RMSEA (.05), and SRMR (.03) of the metric model also suggested good fit. It also had good comparison to the configural model, Δ CFI = -

.005, Δ MNCI = -.001, Δ SRMR = .03, indicating the same factor loadings across groups. Finally, scalar invariance was conducted in which the scalar model also suggested good fit (CFI .989, MNCI .997, RMSEA .06, and SRMR .02). The scalar model also had good comparison to the metric model, Δ CFI = -.006, Δ MNCI = -.002, Δ SRMR = -.01, indicating the same item intercepts across groups.

Depression

CFAs were completed to test the fit of the unidimensional factor structure Patient

Depression Questionnaire (PHQ-9) (Kroenke et al., 2001) with both samples. When testing

configural invariance, CFI (.887) and RMSEA (.11) results suggested poor model fit, while the

SRMR (.06) suggested good model fit. Results from several studies provide greater support for a

two-factor model of the PHQ-9 for somatic and non-somatic symptoms of depression (Elhai et
al., 2012; Krause et al., 2010; Richardson & Richards, 2008). Somatic questions were about
sleep difficulties, fatigue, appetite changes, concentration difficulties, and psychomotor
agitation/retardation (Elhai et al., 2012). Non-somatic questions were about anhedonia, depressed
mood, feelings of worthlessness, and thoughts of death (Elhai et al., 2012).

CFAs were subsequently completed to test the fit of this two-factor structure of the PHQ-9 by comparing somatic and non-somatic items. When testing configural invariance, the CFI (.993), MNCI (.989), RMSEA (.05), and SRMR (.02) suggested good model fit, indicating the same factor structure across groups. Metric invariance was then examined and good model fit was determined (CFI .987, MNCI .980, RMSEA .06, and SRMR .04), as well as good comparison to the configural model, Δ CFI = -.006, Δ MNCI = -.009, Δ SRMR = .02, indicating the same factor loadings across groups. Finally, scalar invariance was conducted in which the CFI (.983), MNCI (.975), RMSEA (.06), and SRMR (.04) of the scalar model suggested good fit

as well as good comparison to the metric model, $\Delta CFI = -.004$, $\Delta MNCI = -.005$, $\Delta SRMR = .00$, indicating the same item intercepts across groups. Due to the high correlation between somatic and non-somatic items though (.71), a single score of depression will be used in lieu of two scores (e.g. González-Blanch et al., 2018).

Anxiety

CFAs were completed to test the fit of the unidimensional factor structure of the Generalized Anxiety Disorder scale (GAD-7; Spitzer et al., 2006) with both samples. CFI suggested good model fit (.950), MNCI (.924) and RMSEA (.10) suggested acceptable fit, and SRMR suggested good fit (.04) when testing configural invariance, indicating the same factor structure across groups. Metric invariance was then conducted in which the CFI of the metric model suggested good fit (.946), MNCI (.918) and RMSEA (.10) suggested acceptable fit, and SRMR suggested good fit (.05) as well as a good comparison to the configural model, Δ CFI = -.004, Δ MNCI = -.006, Δ SRMR = .01, indicating the same factor loadings across groups. Finally, scalar invariance was examined and acceptable fit was determined for the majority of indices (CFI .933, MNCI .899, and RMSEA .10), with SRMR (.05) suggesting good fit. It also had good comparison to the metric model, Δ CFI = -.013, Δ MNCI = -.019, Δ SRMR = .00, indicating the same item intercepts across groups.

Descriptive Analyses

To test the hypothesis that there would be a positive relationship between depression and anxiety and COVID-19 traumatic stress, partial correlations were performed while controlling for gender identity (cisgender male or cisgender female). Assumptions of multiple regression, including linearity, normality, multicollinearity, homoscedasticity, independence of residuals, and influential cases, were met. Results may be interpreted with caution though, as for linearity, the

scatterplot extends beyond +/-3. Additionally for normality, data points are close to the line of normality but do not always touch it. These analyses showed that depression, anxiety, and COVID-19 traumatic stress correlated in expected directions for both Black and White participants as all had small (COVID-19 traumatic stress with depression and anxiety) or large (depression with anxiety) significant positive relationships. Correlations, means, and standard deviations for Black participants are reported in Table 1. Correlations, means, and standard deviations for White participants are reported in Table 2. Factored correlations between the COVID-19 Traumatic Stress Scale and Patient Depression Questionnaire for Black and White participants are reported in Tables 3 and 4. Factored correlations between the COVID-19 Traumatic Stress Scale and Generalized Anxiety Disorder scale for Black and White participants are reported in Tables 5 and 6. Note that the hypothesis indicates there would be higher levels of self-stigma among Black students compared to White students, using an independent samples ttest. Scalar invariance for self-stigma was not obtained; thus, the factor mean differences between groups could not be tested and analyses could not be performed (Dimitrov, 2010). This is due to the origin of the scale possibly differing across groups, and because of the presence of item bias (Dimitrov, 2010).

Table 1Black Participant Correlations Among Scales, Reliabilities, Means, Standard Deviations,

Observed Ranges of Variables (N=458)

Variables	1	2	3	4	5
1. Self-Stigma	1	.05	06	.17**	.14**
2. COVID-19 Traumatic Stress		1	.05	.18**	.25**
3. Help-Seeking			1	12**	15**
4. Depression				1	.75**
5. Anxiety					1
Mean	2.71	2.66	5.47	1.81	1.94
Standard Deviation	.33	1.03	1.46	.63	.75

Note. Self-Stigma = Self-Stigma of Seeking Help Scale; COVID-19 Traumatic Stress = COVID-19 Traumatic Stress Scale; Help-Seeking = Mental Help Seeking Attitudes Scale; Depression = Patient Depression Questionnaire (PHQ-9); Anxiety = Generalized Anxiety Disorder (GAD-7) scale.

^{*} p < .05, ** p < .01.

Table 2White Participant Correlations Among Scales, Reliabilities, Means, Standard Deviations,

Observed Ranges of Variables (N=175)

Variables	1	2	3	4	5
1. Self-Stigma	1	07	18*	.11	.08
2. COVID-19 Traumatic Stress		1	.08	.25**	.25**
3. Help-Seeking			1	09	.01
4. Depression				1	.74**
5. Anxiety					1
Mean	2.71	2.56	5.32	2.04	2.22
Standard Deviation	.31	1.09	1.42	.72	.83

Note. Self-Stigma = Self-Stigma of Seeking Help Scale; COVID-19 Traumatic Stress = COVID-19 Traumatic Stress

Scale; Help-Seeking = Mental Help Seeking Attitudes Scale; Depression = Patient Depression Questionnaire (PHQ-9); Anxiety = Generalized Anxiety Disorder (GAD-7) scale.

^{*} p < .05, ** p < .01.

Table 3

Black Participant Factored Correlations Among COVID-19 Traumatic Stress Scale and Patient

Depression Questionnaire (PHQ-9) (N=458)

Items	Ctrauma1	Ctrauma2	Ctrauma3	Ctrauma4	Ctrauma5
PHQ91	0.998	0.994	0.996	0.992	0.994
PHQ92	0.998	0.994	0.996	0.992	0.994
PHQ93	0.994	0.990	0.992	0.988	0.990
PHQ94	0.994	0.990	0.992	0.988	0.990
PHQ95	0.998	0.994	0.996	0.992	0.994
PHQ96	1.000	0.996	0.998	0.994	0.996
PHQ97	0.994	0.990	0.992	0.988	0.990
PHQ98	0.998	0.994	0.996	0.992	0.994
PHQ99	0.996	0.992	0.994	0.990	0.992

Note. Ctrauma = COVID-19 Traumatic Stress Scale items; PHQ9 = Patient Depression Questionnaire items.

Table 4White Participant Factored Correlations Among COVID-19 Traumatic Stress Scale and Patient

Depression Questionnaire (PHQ-9) (N=175)

Items	Ctrauma1	Ctrauma2	Ctrauma3	Ctrauma4	Ctrauma5
PHQ91	0.995	1.000	1.000	0.995	1.000
PHQ92	0.989	0.995	0.995	0.989	0.995
PHQ93	0.995	1.000	1.000	0.995	1.000
PHQ94	0.995	1.000	1.000	0.995	1.000
PHQ95	0.995	1.000	1.000	0.995	1.000
PHQ96	0.995	1.000	1.000	0.995	1.000
PHQ97	0.974	0.979	0.979	0.974	0.979
PHQ98	0.989	0.995	0.995	0.989	0.995
PHQ99	0.995	1.000	1.000	0.995	1.000

Note. Ctrauma = COVID-19 Traumatic Stress Scale items; PHQ9 = Patient Depression Questionnaire items.

Table 5

Black Participant Factored Correlations Among COVID-19 Traumatic Stress Scale and Generalized Anxiety Disorder (GAD-7) scale (N=458)

Items	Ctrauma1	Ctrauma2	Ctrauma3	Ctrauma4	Ctrauma5
GAD71	0.998	0.994	0.996	0.992	0.994
GAD72	0.998	0.994	0.996	0.992	0.994
GAD73	0.994	0.990	0.992	0.988	0.990
GAD74	0.994	0.990	0.992	0.988	0.990
GAD75	0.998	0.994	0.996	0.992	0.994
GAD76	1.000	0.996	0.998	0.994	0.996
GAD77	0.994	0.990	0.992	0.988	0.990

Note. Ctrauma = COVID-19 Traumatic Stress Scale items; GAD7 = Generalized Anxiety Disorder scale items.

Table 6White Participant Factored Correlations Among COVID-19 Traumatic Stress Scale and Generalized Anxiety Disorder (GAD-7) scale (N=175)

Items	Ctrauma1	Ctrauma2	Ctrauma3	Ctrauma4	Ctrauma5
GAD71	0.995	1.000	1.000	0.995	1.000
GAD72	0.984	0.989	0.989	0.984	0.989
GAD73	0.995	1.000	1.000	0.995	1.000
GAD74	0.995	1.000	1.000	0.995	1.000
GAD75	0.995	1.000	1.000	0.995	1.000
GAD76	0.984	0.989	0.989	0.984	0.989
GAD77	0.995	1.000	1.000	0.995	1.000

Note. Ctrauma = COVID-19 Traumatic Stress Scale items; GAD7 = Generalized Anxiety Disorder scale items.

The next hypothesis of the study was that there would be higher levels of COVID-19 traumatic stress among Black students compared to White students while controlling for gender identity and depression, which was tested utilizing ANCOVA. Depression was chosen as a covariate due to the high correlation between depression and anxiety (.75 in the Black sample and .74 in the White sample, as shown in Tables 1 and 2), in order to avoid multicollinearity, including any redundant information which may be captured in both anxiety and depression. Additionally, the Black and White student distributions were sufficiently normal for conducting ANCOVA (i.e., skew < |2.0| and kurtosis < |9.0|; Schmider et al., 2010). The assumption of homogeneity of variances was tested and was satisfied via Levene's F test, F(1, 631) = .62, p =.43. The covariate value of gender, F(1, 631) = 39.41, p < .001 indicating that gender identity significantly adjusts the association between race and COVID-19 traumatic stress. There was also a main effect for the covariate value of depression, F(1, 631) = 26.72, p < .001, indicating that depression significantly adjusts the association between race and COVID-19 traumatic stress. The ANCOVA was not statistically significant, F(1, 631) = 2.72, p = .10. Thus, after controlling for gender and depression, Black students did not have significantly higher levels of COVID-19 traumatic stress than White students.

To test the hypothesis that there would be lower levels of help-seeking among Black students compared to White students while controlling for gender identity and depression, an additional ANCOVA was performed. The assumption of homogeneity of variances was tested and was satisfied via Levene's F test, F(1, 631) = 1.39, p = .24. There was a main effect for the covariate value of gender, F(1, 631) = 15.78, p < .001 indicating that gender identity significantly adjusts the association between race and help-seeking. There was also a main effect for the covariate value of depression, F(1, 631) = 8.23, p = .00, indicating that depression

significantly adjusts the association between race and help-seeking. The ANCOVA was not statistically significant, F(1, 631) = .25, p = .62. Thus, Black students did not have significantly lower levels of help-seeking intention than White students after controlling for gender and depression.

Interaction Analyses

A three-way interaction model was examined using the PROCESS macro for SPSS (Hayes, 2013), in which the association of interest was the effect of self-stigma by COVID-19 traumatic stress by race (1 = Black/African American, 2 = White American) on help-seeking while controlling for gender identity and depression. Results of the regression model are provided in Table 7. The overall model was statistically significant. Results indicated that self-stigma, COVID-19 Traumatic Stress, and race, along with all two-way interactions and three-way interactions, accounted for 5% of the variance in help-seeking, F(9, 623) = 3.43, p < .001, $R^2 = .05$.

Table 7Regression Models of the Interaction Between Self-Stigma, COVID-19 Traumatic Stress, and Race Predicting Help-Seeking Intention

Variables	Estimate	t	р	95% CI of	Estimate
			_	LL	UL
SS	33	-1.79	.07	69	.03
COVID	.12	1.85	.06	01	.24
Race	04	33	.74	29	.21
SS x COVID	.09	.50	.61	26	.45
SS x Race	47	-1.14	.26	-1.29	.34
COVID x Race	.06	.48	.63	19	.31
SS x COVID x Race	.26	.64	.52	53	1.05

Note. SS = Self-Stigma; COVID = COVID-19 Traumatic Stress

The conditional effects of self-stigma based on other variables in the model (b = -.33, t[623] = -1.79, p = .07, 95% CI [-.69, .03]), COVID-19 traumatic stress based on other variables in the model (b = .12, t[623] = 1.85, p = .06, 95% CI [-.01, .24]), and race based on other variables in the model (b = -.04, t[623] = -.33, p = .74, 95% CI [-.29, .21]) did not significantly predict help-seeking. In addition, the two-way interaction effects of self-stigma by race (b = -.47, t[623] = -1.14, p = .26, 95% CI [-1.29, .34]), self-stigma by COVID-19 traumatic stress (b = .06, t[623] = .50, p = .61, 95% CI [-.26, .45]), and race by COVID-19 traumatic stress (b = .06, t[623] = .48, p = .63, 95% CI [-.19, .31]) were not significant. Finally, the three-way interaction of self-stigma by race by COVID-19 traumatic stress (b = .26, t[623] = .64, p = .52, 95% CI [-.53, 1.05]) was also not significant.

Discussion

Black young adults underutilize mental health services at higher rates than older Black individuals and White young adults (SAMHSA, 2015). This study was designed to examine the relationship between mental health stigma, COVID-19 traumatic stress, and race in predicting help-seeking in Black and White college students. Results showed that, contrary to the study hypothesis, when controlling for gender and depression, a three-way interaction of self-stigma by race by COVID-19 traumatic stress predicting help-seeking was not significant. These results have implications for future research and practice among Black college students.

Descriptive Analyses Findings

After running invariance analyses, scalar invariance for the self-stigma variable was not obtained. Thus, the first hypothesis of higher levels of mental health stigma among Black students compared to White students could not be tested. Prior research would suggest that Black participants have higher levels of self-stigma than White participants (Conner et al., 2010;

Latalova et al., 2014). Interestingly, a more recent study by Lannin et al. (2020) found that Black students report significantly lower self-stigma than White students and also clicked on a link to receive online mental health information at higher rates, suggesting that a more nuanced assessment of stigma may be warranted. Lannin et al. (2020) hypothesize that their findings might differ from those of past research due to measuring Black participants' concerns about the counseling process, as opposed to stigma. Of note in this and several other previous studies, results should be interpreted with caution as researchers frequently did not run invariance analysis or, if they did, found significantly different model fits.

ANCOVA was used to test the second hypothesis of the study and results indicated that, when controlling for gender identity and depression, Black students did not have significantly higher levels of COVID-19 traumatic stress than White students, which was contrary what was expected. This finding was consistent with those of Ashby et al. (2022) who found no significant difference between a Black and White sample when examining the interaction between race/ethnicity and COVID-19 traumatic stress in the prediction of PTSD symptoms. The findings in this study may be related to shifts in the pandemic's effects from 2020 to 2022. At the beginning of the pandemic, Black communities experienced far more causalities than other races in the US (CDC, 2020b, August 28). More recently, Hispanic/Latinx and American Indian/Alaska Natives have experienced higher rates of COVID-19 cases and deaths (CDC, 2022, October 19). While the Black community still experiences traumatic stress from COVID-19, the impact may not currently be substantially worse than the trauma White individuals experience. Because the sample was collected from university students in a major metropolitan area with comparatively high rates of infection, hospitalization, and COVID-19 related deaths, Black participants may have taken extra precautions (masking, social distancing, getting

vaccinated, etc.) beyond what other Black individuals in the US were taking, protecting them from getting COVID-19 and reducing their hospitalization and death rates. For example, while this study did not ask about participants masking and social distancing specifically, on the question "To what extent have you sheltered in place (stayed home except for essential outings)?", Black participants reported sheltering in place more frequently (M = 3.45) compared to White participants (M = 3.10). Additionally, Black participants in this sample endorsed completing the coronavirus vaccine series (M = 2.29), endorsed plans to receive the coronavirus vaccine sometime in the near future (M = 2.28), and endorsed wanting to receive the coronavirus vaccine if they had access to it (M = 2.54) all at higher rates than White participants (M = 2.18, 2.07, and 1.95 respectively).

ANCOVA was also used to test the third hypothesis of the study, which found that when controlling for gender identity and depression, there were no significant differences in levels of help-seeking among Black students compared to White students. This was contrary to the study hypothesis and previous research findings (Masuda et al., 2012; Taylor & Kuo, 2019). For example, Lipson et al. (2018) found that compared to White students, Black students were significantly less likely to meet the criteria for a mental health problem, be diagnosed with a mental health condition, be prescribed psychotropic medication in the past year, receive mental health therapy in the past year, receive psychotropic medication and/or mental health therapy in the past year, or seek help for any informal mental/emotional health concerns in the past year (Lipson et al., 2018).

Changes in therapy service modality that resulted from COVID-19 may explain unexpected findings from this study. Shortly after the pandemic began, many mental health care providers switched from primarily in-person services to primarily or only telehealth services.

This may have led to an increase in help-seeking intention among this sample. A study by

Franciosi et al. (2021) found that when comparing 2019 clinic visits with 2020 telehealth visits at
the University of Massachusetts Memorial Medical Center, more telehealth patients were
younger, did not speak English, and used Medicaid or Medicare when compared to clinic visits.

This highlights that virtual services can potentially reduce barriers for underserved populations,
such as transportation needs and approved time off work (Franciosi et al., 2021). It also allows
for the ability to receive confidential services without informing caregivers due to travel needs or
to avoid stigma (Evans et al., 2020). Additionally, telehealth provides increased access to
providers for college students in the event that their university counseling center is full. One or
more of these reasons may have been the case for the Black participants in this study.

Adolescents and young adults are likely to be open to telehealth services as they have grown up
using virtual technology to build social connections (Villanti et al., 2017), making virtual therapy
a viable option even once the COVID-19 pandemic subsides.

ANCOVA was used to test the fourth hypothesis of the study which found that, as hypothesized, when controlling for gender identity and depression, there was a positive relationship between depression anxiety and COVID-19 traumatic stress. This is consistent with the results of a study which found depression and anxiety are significantly related to COVID-19 traumatic stress (Kira et al., 2020). In addition, over the last decade, rates of mental health issues for young adults increased dramatically and appear to be further amplified by the pandemic (CDC, 2020a; WHO, 2022), making mental health research and treatment among college students all the more important.

Interaction Analyses Findings

Contrary to the fifth hypothesis, there was no main effect of increased stigma related to decreased help-seeking, indicating that self-stigma did not significantly predict help-seeking intention. This finding is contrary to the results of previous research, which found that self-stigma is a significant negative predictor of help-seeking intention/willingness to seek counseling, either directly or through attitudes toward counseling (Davari-Dhariwal et al., 2023a; Topkaya, 2014; Vogel et al., 2007). Shannon et al. (2022) found a similar result among a sample of Black male college students, in that public stigma and self-stigma significantly influenced help-seeking intentions. In addition, in this study, COVID-19 traumatic stress did not moderate the relationship between self-stigma and help-seeking intention (hypothesis six). Contrary to the seventh hypothesis, there was no significant interaction between self-stigma, COVID-19 traumatic stress, and race in predicting help-seeking intention. Meaning, the relationship between stigma and help-seeking was not significantly moderated by the interaction between COVID-19 traumatic stress and race.

The results of the current study suggest that, even when controlling for factors such as gender identity and depression, the relationship between stigma, race, COVID-19 traumatic stress, and help-seeking is not straightforward. The overall total model was significant, but none of the interactions were significant. Meaning the combination of the variables explained significant variation in help-seeking but none of the individual predictors, controlling for the others, was significant. This shows promise for the selected variables and model. However, there may be moderating effects that were not detected in this study, an issue with the study design, or a larger sample size may have led to significant interaction effects.

Limitations and Future Directions

While the focus on the impact of mental health stigma and COVID-19 on Black college students is a strength of the current study, the study also has several limitations. For instance, the data was collected over several months while the experience of the pandemic was changing (e.g., vaccines became available to the public). In addition, the study utilizes a college student sample from primarily a single university. Future studies should consider longitudinal data collection to capture whether changes in self-stigma and COVID-19 traumatic stress over time may coincide with changes in help-seeking. Additionally, given the college student sample, results may not generalize to individuals older or younger than a college sample or to students at other universities (e.g., rural, private). Further, because participants were recruited primarily from a minority-serving institution, this may impact study results as these students may differ from students from a traditional undergraduate institution. Future studies might replicate the study with older and younger Black and White samples and across various university settings. Not asking participants about the modality of help-seeking intention (i.e. in-person or virtual counseling) was another limitation of the study, as this may have impacted study findings. Furthermore, the Black sample (n = 458) was more than twice as large as the White sample (n =175). The large imbalance in sample sizes may have been an issue for invariance analyses. Yoon and Lai (2018) suggest using a subsampling method to correct the undesired effects of unbalanced sample sizes, which is an important consideration for future invariance research.

Other study limitations relate to the measures chosen. Only one subscale (Threat/Fear of Future Infection/Death) from the COVID-19 Traumatic Stress Scale was used, as opposed to the entire measure. Additionally, item 5 ("My view of myself would not change just because I made the choice to see a therapist") was removed from the SSOSH scale during the invariance process. A study by Brenner et al. (2021) performed an IRT analysis of the SSOSH scale in

which they removed three of the four reverse-scored items on the 10-item measure, taking the measure down to 7 items. They also created a 3-item version of the scale in this study. In this study, the alpha rate for the SSOSH scale was only .56. Item-total statistics analyses show that if item 2 ("My self-confidence would NOT be threatened if I sought professional help") were removed, the Cronbach's Alpha would increase to .72, an acceptable alpha rate. Item 2 was included in the 7-item version of the scale, but it was not included in the 3-item version. It could be that the 3-item version of the SSOSH scale would have led to a better alpha rate with this sample. Interestingly, item 5 ("My view of myself would not change just because I made the choice to see a therapist"), which was removed, was not included in the 7 or the 3-item versions of the SSOSH scale.

In designing future studies considering self-stigma in the context of COVID-19 traumatic stress, it may be important to consider how different BIPOC individuals may have differences in help-seeking tendencies. For example, many Asian Americans had a unique pandemic experience in that it was more racist, and more violent as a result (HealthAffairs, 2022). Additionally, among Black individuals, older Black adults may have had higher rates of COVID-19 traumatic stress due to older age being a vital factor that increased the likelihood of death by COVID-19.

Compared to 18-29-year-olds, 65-74-year-olds are 60 times more likely to die from COVID-19, 75-84-year-olds are 140 times more likely to die from COVID-19, and people who are 85 and older are 340 times more likely to die from COVID-19 (CDC, 2022). It's possible that when combined with mental health stigma, older Black adults' likelihood of seeking therapy decreased. Thus, future research might examine how race/ethnicity or age affects help-seeking. Withingroup correlations in this study provided interesting findings in that self-stigma and help-seeking were both significantly correlated with both depression and anxiety for Black participants, but

not for White participants. Thus, future studies might also further explore the way mental health issues impact stigma and help-seeking among Black populations. Finally, future research may investigate help-seeking during events which are similar to a pandemic, such as natural disasters, to see if the associations for Black and White young adults hold.

Implications and Conclusion

Despite the limitations of the study, there are several implications. This study is the first to examine the variables of race, mental health stigma, and COVID-19 traumatic stress to predict help-seeking, thus highlighting additional mental health treatment barriers Black young adults experience. Black young adults in this sample had a higher help-seeking intention than anticipated which, though counter to the study hypothesis, is an encouraging finding. Ng et al. (2022) looked at the accessibility and utilization of telehealth services among older adults during the pandemic and found that Hispanic and non-Hispanic Black individuals were more likely to report using telehealth services when offered compared to White individuals. Authors argue this is likely due to awareness of the high risk of COVID-19 for both groups (Ng et al., 2022). Thus, mental health clinicians may benefit by continuing to use telehealth services to access Black and other minoritized populations. Clinicians can also discuss ways to target stigma with minority clients to reduce disparities in mental health utilization (Armstrong et al., 2022).

Findings from this study demonstrate that the relationship between self-stigma, COVID-19 traumatic stress, and race are complex in their influence on help-seeking. These results suggest that more research is necessary to better understand factors influencing help-seeking intention. Such research could inform interventions to increase mental health service utilization among Black young adults.

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