2022

Processes Underlying Black American College Students' Mental Health: Examining the Roles of Mental Health Literacy, Ethnic-Racial Identity, and Mental Health-Related Behaviors

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A dissertation defense submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

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Acknowledgements

I would like to thank and acknowledge the members of my dissertation committee. Thank you, Dr. Chelsea Williams, for your guidance and encouragement throughout my graduate training. I feel fortunate to have you as an advisor and I have grown so much through your mentorship. Thank you, Dr. Fantasy Lozada, for your involvement in this dissertation study, as well as your encouragement throughout my graduate training. More importantly, I appreciate every affirming conversation we've had around my growth as a scholar and the mentorship you have provided me. Thank you, Dr. Kristina Hood, for sharing your perspective and valued input in the work that has led me to the completion of this dissertation. Additionally, I truly appreciate your support and mentorship you have provided me during my graduate training. Thank you, Dr. Marcia Winter, for your insight and excitement for this work. I have enjoyed your perspective and valued input. Thank you, Dr. Nicole Corley, for aiding the extension of my work around centering Black students' strengths. Your thoughtfulness and expertise are truly valued. Lastly, I would like to give a special thanks to all of the students who participated in the research study. This project would not have happened without your involvement, thank you.

Personal Acknowledgements

The completion of this dissertation was supported by family, friends, and colleagues. I would like to thank the EMPOWER Youth Lab and my lab members (Maria Cisneros-Elias, Eryn DeLaney, Arlenis Santana). You all were always willing to help, and most importantly, willing to provide words of encouragement throughout this dissertation project. Thank you, Dr. Sabrina Scott-Lorestill for your listening ear throughout my dissertation process. Your mentorship assisted me in maintaining my work-life balance. B.L.A.C.K and BGM, thank you for all of your encouragement and support over the years. I would also like to thank my best friends, Malcom Banks, Shakierah Clark, MBA, Sarah Davis, and Alazzia Hasty, Esq. You all have always been there to encourage me, ground me, and remind me of my accomplishments. I am truly grateful for our friendship. To my Goddaughter, Rayne Reed, watching you grow inspires me daily and you are such a blessing to my life. May you know that being authentically who you are is enough.

Thank you to my family for your invaluable support, grace, and endless encouragement. You all have helped me finish strong. To my mother, Cynthia Barnes, I can't thank you enough for the numerous sacrifices and encouragement you have provided throughout my academic career. I am truly grateful. To my siblings, cousins, aunts, uncles and other close friends that I cherish as family, thank you for your continuous support and encouragement. To my brother, Adrian Walker, thank you for the reminders to selfcare and to fix my posture during this dissertation project. Lastly, I dedicate this dissertation to my father, John Walker, and grandmothers, Willie B. Best and Grace Walker Hayes. I am proud to start the legacy of Drs. in our family. Thank you for your guidance and I will continue to make you proud. God, I thank You.

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Abstract

Addressing the mental health of college students is a persistent and increasing priority (Auerbach et al., 2018), especially among Black American individuals. Given prevalent mental health disparities, it is critical to understand the association between Black American emerging adults' mental health literacy (MHL) and mental health outcomes including promotive mental health-related behaviors (MHRBs) and symptoms (i.e., anxiety and depressive symptoms), and the modifiable underlying factors that inform them. Guided by the Theory of Planned Behavior (Ajzen, 1991) and the Identity-based Motivation theory (Oyserman & Yoder, 2007), the present study aimed to examine the relation between mental health literacy and mental health outcomes (i.e., promotive MHRBs and symptoms). Mediation analysis was used to examine whether each promotive MHRB mediates the relation between MHL and anxiety and depressive symptoms. Direct paths were included as part of the mediation analyses. To test whether ERI functions as a moderator between MHL and each promotive MHRBs the hypothesized models included interaction terms between each dimension of ERI (i.e., affirmation, exploration, resolution, centrality) and MHL predicting mental health symptoms via each promotive MHRBs. Findings indicated promotive benefits of resolution as a moderator of the relation between MHL and promotive MHRBs (i.e., psychological, emotional and spiritual selfcare). Additionally, greater MHL predicted fewer mental health symptoms via promotive MHRBs (i.e., emotional selfcare, mental health help-seeking intention). Overall, findings highlight the promotive benefits of ERI on the association between MHL and mental health outcomes (i.e., promotive MHRBs and mental health symptoms), and the importance of promotive MHRBs in strengthening the association between MHL and positive mental health outcomes among Black American college students.

Processes Underlying Black American College Students' Mental Health: Examining the Roles of Mental Health Literacy, Ethnic-Racial Identity, and Mental Health-Related Behaviors

Addressing the mental health of college students is a persistent and increasing priority (Auerbach et al., 2018). Recent reports have indicated that 66% of students feel overwhelming anxiety and 45% express difficulty functioning due to depression (Active Minds, 2020). Specifically, for Black American individuals in the developmental period of emerging adulthood, symptoms of certain mental illnesses may appear (SAMHSA, 2017), and individuals experience a time of change and stress (e.g., racial discrimination; Estrada-Martínez et al., 2012; Hope et al., 2015) as they transition into adulthood. Further, previous reports have shown that Black American adults are 20 percent more likely to report serious psychological distress than White adults (U.S. Department of Health and Human Services Office of Minority Mental Health, 2019) and often receive poorer quality of mental health care and lack access to culturally competent care (Primm & Lawson, 2010). Black Americans in the United States (U.S.) have continuously experienced traumatic race-related stress, violence, and racial bias (Centers for Disease Control and Prevention, 2019), which continues to have a generational impact on Black American individuals' mental health and well-being.

Critical Race Theory within population health research (CRT; Bell, 1995; Crenshaw et al., 1995; Graham et al., 2011) illuminates the racial biases that have been embedded within society through institutional rules, structural systems, policies and cultural norms that continue to perpetuate inequalities in access to knowledge around mental health and quality mental health care for communities of color. For example, eurocentrism and white cultural norms have been universally presented as the standard of professionalism that explicitly and implicitly privileges whiteness and discriminates against non-Western and non-white professionalism standards (e.g.,

dress code, speech). The notion of white cultural norms being the standard may play a significant role in Black American individuals' mental health and well-being as they navigate professional spaces (Graham et al., 2011). As another example, the U.S. implemented a redlining policy[1] that has affected the placement of hospitals and access to mental health services, creating a lasting effect on Black American individuals' mental health and well-being. Recent work found associations between historically redlined neighborhoods and current-day prevalence of cancer, asthma, and poor mental health (Nardone et al., 2020). Thus, a long history of mistreatment paired with the current racial climate and present-day racism has led to many inequalities surrounding health care systems, such as mistrust, as well as a lack of access to and delivery of quality mental health care for Black American individuals. Additionally, stigma related to mental health illnesses and mental health care services continues to broaden the disparities around mental health within the Black American community. Research in this area has tended to focus on stigma and the preventative role that perceived sigma plays in mental health-related behaviors and outcomes (e.g., Beasley et al., 2020; Eisenberg et al., 2009), however, we really know less about the positive mental health-related behaviors that may play a promotive role in alleviating disparities around mental health within the Black American community.

Despite persisting mental health disparities, Black Americans have unique cultural resources and strengths that may be beneficial to understanding the processes underlying the association between mental health literacy (MHL), promotive mental health-related behaviors (MHRBs) and mental health outcomes (i.e., anxiety and depressive symptoms). For example, existing research has identified that cultural factors, such as ethnic-racial identity (ERI; Umaña-Taylor et al., 2014) is an important factor in improved mental health (e.g., Brittian et al., 2013),

[1]Discriminatory practice that took place in the US, starting in the 1930s, in which services (e.g., financial lending, real estate) were denied to residents of certain neighborhoods on the basis of their race or ethnicity (Jackson, 1987; Greer, 2013).

which may also play a role in the association between mental health literacy and mental health outcomes among Black American college students. Given the prevalence of mental health disparities, it is critical to understand Black American emerging adults' mental health outcomes and the modifiable, protective underlying factors that may inform them.

Therefore, the current study examined whether multiple dimensions of ERI moderated the associations between MHL and promotive MHRBs among Black American college students. Additionally, we examined the association between MHL and mental health symptoms (i.e., anxiety and depressive symptoms) via promotive MHRBs. The following subsections will discuss (a) theoretical framework and prior research for: (a) the relation between MHL and promotive MHRBs, (b) ERI as a moderator of the association between MHL and promotive MHRBs, and (c) the association between MHRBs and mental health outcomes (i.e., anxiety and depression symptoms).

Mental Health Literacy and Promotive Mental Health-Related Behaviors

Prior research has established that health behaviors include any behaviors or activities undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining one's health, whether or not such behavior is objectively effective (Nutbeam, 1986). Accordingly, promotive MHRBs include any behaviors or activities undertaken by an individual to promote or maintain one's mental health (e.g., help-seeking, journaling, diet, etc.).

Regarding an underlying factor, mental health literacy (MHL; Jorm, 2012) has been associated with promotive mental health-related behavior (Furham & Swami, 2018; Kim et al., 2015). MHL has helped improve individual's attitudes toward people with mental health symptoms, as well as reduced stigma around mental health topics (Eack et al., 2012) fostering

promotive MHRBs (Loreto, 2017). Defined as, the "knowledge and beliefs about mental disorders which aid individuals recognition, management or prevention" (Jorm et al., 1997), MHL has been conceptualized to include seven primary components, including recognition of mental disorders, knowledge of how to seek mental health information, knowledge of mental health risk factors, knowledge of etiology/causes of mental illness, knowledge of self-treatment, knowledge of professional help available, and attitudes that promote recognition of appropriate help-seeking behavior. Given that MHL has been associated with promotive MHRBs (Furham & Swami, 2018; Kim et al., 2015), a consideration of how mental health literacy predicts promotive MHRBs among Black American college students is important.

A theory that is helpful in understanding the relation between mental health literacy and promotive MHRBs is the Theory of Planned Behavior (TPB; Ajzen, 1991, 2005; Ajzen et al., 2011). TPB (Ajzen, 1991) posits that beliefs about a behavior are assumed to guide intentions and the likelihood of an individual to do the actual behavior. The theory identifies behavior beliefs (i.e., beliefs about the behavior's likely consequences), normative beliefs (i.e., beliefs about the expectations and behaviors of others or subjective norms) and control beliefs (i.e., beliefs about potential facilitating or inhibiting factors). Individuals' attitudes, subjective norms and perceptions of control are jointly considered to, in turn, produce intention to do the behavior that may then lead to the likelihood for an individual to do the actual behavior. Thus, for the relation between MHL and promotive MHRBs, it may be that having more knowledge and normative beliefs regarding mental health disorders may facilitate college students' intentions to take part in promotive mental health-related behaviors (e.g., mental health help-seeking), leading to a higher engagement in promotive MHRBs.

Prior research examining MHL and promotive MHRBs (e.g., mental health help-seeking behavior) among young adults and college students broadly provides support for these relations (Cohen, Graham & Lattie, 2020; Gulliver et al., 2010), however, less research has focused specifically on Black American emerging adults. Existing research has indicated that education about mental health is necessary for improving an individual's ability to recognize mental health disorders, increase help-seeking knowledge, and reduce negative attitudes around promotive MHRBs among young people and adults in the US, Australia, and United Kingdom (Clement et al., 2015; Kelly et al., 2007; Wright et al., 2007). Research among university students outside of the U.S. (i.e., in Canada) has found similar results that educational approaches around mental health may increase symptom recognition, early identification of mental illnesses, help-seeking behaviors and can reduce prejudice and discriminatory behaviors (Arboleda-Florez & Stuart, 2012; Kusan, 2013). Another study provides support for this relation, which tested whether MHL predicted mental health outcomes (i.e., help-seeking intention, psychological distress, mental well-being) among university students in the United Kingdom. Findings indicated that MHL predicted greater mental health help-seeking intentions, however, no relation was found between MHL and distress or well-being (Gorczynski et al., 2017).

Given the increase in mental health concerns, disparities in care for Black American individuals, and the challenges that may come with navigating college as an emerging adult (e.g., increase in independence, diversity in peers and social contexts), MHL may play an important role in the use of promotive MHRBs. Black American college students may find using promotive MHRBs necessary to navigate their daily experiences. Yet, limited work has examined the association between MHL and promotive MHRBs among Black American college students, and the few studies that have done so are inconclusive, with one study finding a significant relation

between MHL and promotive MHRBs (Ayalon & Alvidrez, 2007) and one study finding no significant relation (Ofuani, 2015). In particular, Ayalon and Alvidrez (2007) found that the lack of information about various services and treatment options for mental health concerns prevented Black American individuals from seeking help. In another study among Black American college students, MHL was not associated with help-seeking behavior (Ofuani, 2015). Research thus far examining MHL and promotive MHRBs among Black American college students has mainly focused on help-seeking behavior as the assessment of MHRBs, with less emphasis on other promotive behaviors like self-care, diet and physical activity. Even though work assessing the association between MHL and promotive MHRBs among Black college students is limited, there are many cultural ways that Black American individuals engage in promotive MHRBs. For example, individuals may use supportive networks within the Black community that hold space for Black individuals to connect with and be their authentic selves, such as community-based centers, barbershops, or salons (Palmer et al., 2021). Additionally, centering one's identity by doing activities like saying affirmations about one's identity, capability and worth or even watching shows that promote positive and nuanced identities of Black individuals are also cultural ways that Black individuals may engage in activities to better their mental well-being (Ubozoh, 2021). Work by Cohen and colleagues (2020) qualitatively examined other strategies, such as mental health support strategies (e.g., self-help or mobile apps with mental health relevant resources), suggested by both diverse college students and clinicians, that could be necessary for ensuring that college students receive the care they need (Cohen et al., 2020). This research suggests the importance of exploring other promotive MHRBs in addition to help-seeking behaviors that may be essential in supporting college students' positive mental health outcomes.

ERI as a Moderator of Relations between MHL and MHRBs

Black American individuals have unique cultural resources and strengths that may be beneficial to understanding the association between MHL and promotive MHRBs. One such cultural factor is ethnic-racial identity (ERI), which is a multidimensional construct (Umaña-Taylor et al., 2014) that involves multiple dimensions across the lifespan, including awareness, affiliation, attitudes, behaviors, and knowledge (Williams et al., 2020). Relevant to the current study, *ethnic-racial behaviors* involve the processes in which individuals try to gain a sense of their ethnic-racial group, such as *ERI exploration* (i.e., searching and learning more about one's ethnic-racial group; Umaña-Taylor et al., 2004) and *ERI resolution* (i.e., gaining a sense of clarity about being a member of one's ethnic-racial group; Umaña-Taylor et al., 2004). Also relevant to the current study, ERI attitudes capture individuals' evaluation of their ethnic-racial group and can include ERI affirmation (i.e., the positive or negative feelings one has toward being a member of their ethnic-racial group, which is also commonly referred to as ERI pride; Umaña-Taylor et al., 2004) and ERI centrality (i.e., how much one's ethnic-racial group membership is key to one's self-concept; Sellers et al., 1998). During emerging adulthood, individuals may experience an increase in independence and opportunities (e.g., going to college, experiencing diversity in peers and social settings; Arnett, 2014), leading them to think more about their own ethnic-racial group membership (Syed & Azmita, 2009). Previous work involving ERI has mainly focused on how it is associated with mental health symptoms (see Rivas-Drake et al., 2014 for a review), and no studies to our knowledge have tested ERI as a moderator of the relation between MHL and promotive MHRBs.

To understand how ERI dimensions may serve as moderators, the Identity-based Motivation (IBM) theory (Oyserman & Yoder, 2007) is useful and posits that individuals engage

in behaviors that are consistent with the norms of their social identity that is most important to them (i.e., individuals are identity-congruent). Ethnicity and/or race is one such social identity that informs how individuals assess whether particular behaviors are identity-congruent or not (Oyserman et al., 2014). According to IBM theory, accessible identities (e.g., ERI) and the meaning ascribed to them cue readiness to act (e.g., engage or disengage in health promoting or health undermining behaviors). They are the meaning-making lens through which others are understood and provide an interpretation of difficulty in thinking about and engaging (or disengaging) in health-relevant action. Therefore, guided by IBM theory (Oyserman & Yoder, 2007), it is possible that individuals who have a higher level of ERI (i.e., feel greater pride in being Black American, explored more about their culture, have a sense of clarity around what it means to be Black American and feel that being Black American is more central to their self-concept) will be more likely to translate MHL into actionable behaviors to improve their mental health. On the other hand, individuals who have lower ERI (i.e., less affirmation, exploration, resolution, and centrality) may be less likely to translate their MHL into actionable behaviors to improve their mental health. In the U.S., where race is salient and often shapes individuals' daily experiences, forming a positive and healthy ERI can be protective. However, no studies to date have tested how components of ERI impact relations between MHL and promotive MHRBs. This is a major gap in the literature, and work that explores this topic may be particularly beneficial in understanding how Black American college students' attitudes, experiences, and culture shape the activities they take part in, that may promote or maintain their mental health.

Promotive Mental Health-Related Behaviors and Mental Health Symptoms

It is important to not only focus on the ways in which MHL and cultural factors predict promotive MHRBs, but also on how MHRBs, in turn, impact mental health symptoms. Research

examining the association between promotive MHRBs and mental health symptoms has mainly included few promotive MHRBs (e.g., physical activity, nutrition) while research has focused less on others such as self-care and culturally relevant behavior (i.e., haircare) as promotive MHRBs predicting anxiety and depressive symptoms. In the current study, we focus on multiple types of MHRBs, including physical activity, nutrition, selfcare, recent mental health help-seeking, mental health help-seeking intention, and haircare. Below we review existing research that has tested the impact of each type of MHRB on mental health.

Physical activity. Prior meta-analytic data provides support for the efficacy of exercise in reducing symptoms of depression suggesting that physical activity plays a preventative role in the development of clinical depression and alleviates mild to severe depressive symptoms among adults (Craft & Perna, 2004). The majority of the studies in the meta-analysis included predominately White adults and young adults (e.g., Craft, 2005, Morrow & Nolen-Hoeksma, 1990). Research with predominately White college students examining physical activity (i.e., exercise) and depressive symptoms revealed similar findings, such that exercising has been associated with lowered risk of depressive symptoms (Mackenzie et al., 2011). A study with Black American adult women, 18 years and older that examined walking and depressive symptoms, found that increased frequency of walking was associated with lower odds of depressive symptoms (Torres et al., 2015). However, recent research among African American women found that physical activity (i.e., running, calisthenics, golf, gardening, or walking for exercise) was not a protective factor of anxiety symptoms (Wright & Lewis, 2020). Additionally, a recent systematic review and meta-analysis assessing research conducted in North America, Europe, Australia and Asia among predominately White adults aged 25 - 48 suggested that physical activity may prevent anxiety (McDowell et al., 2019). These studies

highlight that physical activity may prevent negative mental health symptoms. However, less is known about the relation between physical activity, and anxiety and depressive symptoms among Black American college students specifically.

Nutrition. Regarding recent work that has assessed nutrition as a MHRB, and its association with mental health symptoms, one study that included diverse college students from New Zealand and the U.S. found that raw fruit and vegetable consumption predicted greater well-being (i.e., flourishing), but was not associated with depressive symptoms (Wickham et al., 2020). Related work among Black American urban-dwelling older adults found that eating green vegetables and total fruit vegetable intake showed protective effects regarding clinically relevant levels of depressive symptoms (Ribeiro et al., 2017). Given that this work was among older Black American adults and did not examine anxiety symptoms, further work is warranted among Black American college students to assess if similar findings emerge.

Selfcare. To continue, selfcare, defined as self-initiated activities/behaviors that maintain and promote physical and emotional health (Myers et al., 2012), is beneficial for students' well-being, daily stress management, and overall mental and physical health. Practicing self-care is one way that college students can manage the ups and downs of college life. Research in this field has found that some self-care practices (i.e., healthy sleep patterns, perceived social support, mindful acceptance, expressive suppression, and positive cognitive reappraisal) were negatively associated with perceived stress, while other self-care practices (i.e., engagement in exercise, mindful awareness, and frequency of formal mindfulness) were unrelated to stress among clinical psychology graduate students (Myers et al., 2012).

Building on Myers' (2012) research, another study examined relations between college students' engagement in multiple self-care practices (i.e., healthy eating, mindful awareness,

mindful acceptance, physical exercise, actively seeking social support, and sleep hygiene) and general well-being among students at an Australian public university. Findings indicated that sleep, self-initiated social support behaviors, and mindfulness acceptance predicted general well-being, and mindfulness awareness and physical activity did not predict well-being (Moses et al., 2016). Additional research in this area with college students has mainly focused on physical (e.g., regular exercise, Chase & Hutchinson, 2015) and/or psychological self-care practices (e.g., having hope and optimism, Robinson & Snipes, 2009) predicting stress-related or academic-related outcomes (i.e., perceived stress, stress management, academic performance or academic motivation). Intervention research in this area has evaluated the relation between some self-care practices on participant health and/or well-being. However, these studies focus more on planned and highly structured self-care activities (e.g., programs that increase self-care practices) and less on the frequency of self-initiated, naturally occurring self-care practices (e.g., healthy eating, mindfulness). Further, the majority of the research in this area has included none to relatively small samples of Black American individuals.

Relationship selfcare. Regarding relationship self-care, defined as actively seeking, building, and maintaining supportive interpersonal relationships, previous related social support literature among college students has suggested a negative association between social support and psychological outcomes such that having more social support predicted less anxiety and depressive symptoms (Hefner & Eisenber, 2009). However, recent research has revealed no relation between social support and anxiety symptoms among college students (i.e., Mahmound et al., 2015). Prior research in this area has tended to examine perceived social support from others. Thus, less is known about how the frequency of actively seeking, building, and maintaining supportive relationships predicts mental health outcomes among Black American

college students. One notable study among first-year underrepresented students at a Predominately White Institution (PWI) examined the influence of perceived social support from multiple sources predicting mental health (i.e., anxiety and depressive symptoms, perceived stress). Findings indicated that students who reported the most frequent support from peers, their parent/caregiver, and a nonparental adult mentor in their first semester of college experienced a reduction in depressive symptoms, anxiety symptoms, and perceived stress by their second semester of college (Hurd et al., 2018). Findings from this study suggest that first-year underrepresented students who attend a PWI may require more frequent perceived support to have better mental health. Given this, it could be that Black American college students who actively build and maintain a supportive network or relationship(s) may also maintain better mental health outcomes, however, additional research assessing relationship self-care among Black American college students is warranted.

Spiritual selfcare. Similarly, regarding research on spiritual self-care, defined as engaging in any ritual or practice that furthers a connection with oneself and/or higher power, and mental health symptoms, a related study among Black American adults examined spiritual well-being (i.e., perception of spiritual quality of life) and psychological behavioral outcomes (i.e., suicidal ideation, depressive symptoms, hopelessness; Gaskin-Wasson et al., 2018). Findings from this study suggests that having spirituality may serve as an effective coping mechanism against negative psychological outcomes. However, less is known about the frequency of engaging in spiritual behaviors as a part of self-care (e.g., meditating, practicing gratitude) in relation to mental health symptoms (i.e., anxiety and depressive symptoms) and about these relations among Black American college students. Given the challenges and stressors that may come with the transition to college (e.g., increase independence, responsibility to

maintain one's own health) in addition to the mental health disparities that Black American individuals disproportionally face, it is important to examine the associations between psychological, emotional, workplace or academic, spiritual and relationship self-care practices predicting mental health symptoms (i.e., anxiety and depression symptoms). This is essential among Black American college students for understanding which promotive MHRBs may play an important role in protecting and enhancing Black American college students' mental health.

Mental health help-seeking. Even less work has focused on mental health help-seeking behaviors and intentions predicting anxiety and/or depressive symptoms. A foundational framework related to health help-seeking suggests that an individual's perceived severity of an illness may motivate the individual to adopt the behavior (e.g., seek health services; Health Belief Model, Becker, 1974; Champion & Skinner, 2008). More specific to mental health help-seeking behavior and intention, prior research has conceptualized the mental health help-seeking process as beginning with the awareness and appraisal of having symptoms that may need an intervention. Next, the process of mental health help-seeking includes having the ability to express the symptoms and the need for support for the symptoms. Lastly, the process of mental health help-seeking includes the availability of resources to help relieve the symptoms, and the willingness and ability to actively seek help (Rickwood et al., 2015). However, it has not been a priority to explore how mental health help-seeking behaviors and intentions may predict mental health outcomes (i.e., anxiety and depressive symptoms).

Haircare. Lastly, prior research has indicated that the influence of culture on university students' mental health is an underexplored research area (Eshun & Gurung, 2009; Hernandez-Torrano et al., 2020). Research has explored the context of salons and barbershops as an open space to discuss important health topics, and haircare as a culturally meaningful health-

related behavior used to address health disparities within Black communities (Linnan & Ferguson, 2007; Palmer et al., 2021). Thus, hair care may also be a culturally relevant promotive MHRBs used to address mental health outcomes (Mangum & Woods, 2011). Prior research in this area suggests that the utilization of Black hair care spaces and mental health conversations during hair care promotes better mental health outcomes (Mbilishaka, 2018). One study that included psychotherapy and hair care, coined *Attachment tHAIRapy* (Ashley & Brown, 2015), among African American female youth in foster care found that participants had improvements in their self-esteem after each tHAIRapy session, which is key to positive mental health and well-being. Accordingly, including haircare may be a means to improve mental health outcomes among Black youth (Ashley & Brown, 2015). Research so far in this area has mainly included Black adolescents and girls, with less focus on anxiety and depressive symptoms. However, similar processes among Black American college students may take place with haircare and may also play a promotive role in mental health outcomes.

Overall, limited work has focused on physical activity, nutrition, self-care, and haircare as promotive MHRBs predicting mental health symptoms (i.e., anxiety and depressive symptoms). Additionally, no current studies have examined mental health help-seeking behavior and intention as predictors of mental health outcomes among Black American college students. Related research and prior conceptualizations provide support that promotive MHRBs may play a role in better mental health outcomes, revealing the importance of assessing the relation between promotive MHRBs and mental health symptoms for Black American college students.

The Current Study and Hypotheses

We have yet to fully understand the influence of mental health literacy on promotive MHRBs, and in turn, mental health symptoms among Black college students and how an

individual's ERI may play a moderating role. Therefore, the aim of the present study was to examine the mediational process in how mental health literacy informs promotive MHRBs and, in turn, mental health symptoms. Further, moderation analyses were used to examine whether ERI affirmation, exploration resolution, and centrality moderate the relation between MHL and promotive MHRBs (Figure 1).

Given that prior research has indicated differences in the processes between MHL and promotive MHRBs based on individuals' gender and whether students have taken a psychology course (e.g., Gorcynski et al., 2017; Miles et al., 2020), gender identity and prior psychology coursework status were included as covariates. Additionally, given that the coronavirus pandemic has disproportionately impacted the mental well-being of Black American individuals (Egbert & Clary, 2020; Poulson et al., 2020), and research suggests that there has been an increase of knowledge and use of mental health resources, particularly among college students (Son et al., 2020), the impact of the COVID-19 pandemic on students' mental health was included as a control.

Aim 1. The first aim of my dissertation was to examine the association between MHL is and promotive MHRBs (i.e., physical health, nutrition, self-care, culturally relevant behavior, mental health help-seeking experiences and behavior, and mental health help-seeking intention) among Black American college students. The current study hypothesized that greater MHL will be associated with more promotive MHRBs, and that less MHL will be associated with less promotive MHRBs.

Aim 2. Secondly, this study aimed to examine whether ERI exploration, resolution, affirmation and centrality moderated the relation between MHL and promotive MHRBs among Black American college students. The current study hypothesized that students with greater ERI

exploration, resolution, affirmation, and centrality will have stronger relations between MHL and promotive MHRBs, and students with lower ERI will have weaker associations between MHL and promotive MHRBs.

Aim 3. The third aim of my dissertation was to examine whether MHL is associated with mental health outcomes (i.e., anxiety and depressive symptoms) via promotive MHRBs among Black American college students. The current study hypothesized a significant mediation from MHL to mental health symptoms via promotive MHRBs such that, greater MHL is associated with more promotive MHRBs and, in turn, less anxiety and depressive symptoms.

Method

Participants and Procedure

The sample from the current study was from a larger study called the Black Students' Mental Health and Cultural Experiences Study. The goal of the study was to increase the knowledge and understanding of mental health literacy, mental health-related behaviors and outcomes among Black students between the ages of 18 and 25 who are enrolled at a diverse but predominately White institution (45.8% White) in the mid-Atlantic region of the U.S. The study began in the summer of 2021 and data collection is ongoing. Individuals who were a college student, 18 years or older, and identified as Black/African American were invited to participate in the self-report survey.

Participants were recruited through an online research posting via SONA-Systems©, a university-wide newsletter announcement, and through email advertisements sent to faculty teaching undergraduate courses (e.g., Lifespan Developmental Psychology, Introduction to Psychology, Abnormal Psychology) one time each semester (when classes started for each summer course and at the beginning of the fall semester). Students completed a set of measures

hosted on Qualtrics through the confidential SONA-Systems© or were sent an email with the direct link to the Qualtrics survey. Students were notified that their participation was optional. Individuals who completed the informed online consent form were permitted to participate. Students had the option to receive credit for their participation in the study through the confidential SONA-Systems© or to be entered into a raffle of 1 of 4 $25 gift cards upon completion of the survey. Study data were collected and managed using the Qualtrics survey website. The study was approved by the Institutional Review Board. At the time of the present study that included data from summer 2021 and fall 2021, there were 176 students who responded to the survey. Anyone who answered only demographic questions (n = 1), did not indicate their age (n = 5), and were 26 years of age or older (n = 4) were excluded. Thus, 166 participants were included in the current study. Of the 166 participants, students were 18-25 years old (M = 19.48, SD = .74) and self-identified as Black or African American. Additionally, the majority of the participants self-identified as female (n = 147).

Measures

Predictor variable. MHL was included in the current study as a predictor.

Mental Health Literacy. To assess mental health literacy, we used form B of the Mental Health Literacy Assessment for College Students (MLA-c; Rabin et al., 2021). The MLA-c is an 18-item multiple choice assessment that measures *knowledge* of more than 20 mental health disorders from the *DSM*-5 including their etiology, risk factors, diagnoses, symptoms, treatment, course, and outcome (11 items; e.g., “Which of the following plays an important role in causing bipolar disorder?”), as well as the *application* of this knowledge to real-world situations (7 items; e.g., “A college student has been court-ordered to see a counselor for problems stemming from her alcohol and cocaine use. Which of the following is the counselor likely to be working to

change?"). Each item had a correct or incorrect answer, with no partial credit awarded. Scores were summed across items to create an overall score. Support for validity and reliability have been found for this measure among Black American college students (Miles et al., 2020; Rabin et al., 2021).

Dimensions of ERI as the Moderator. Exploration, resolution, affirmation and centrality were included in the current study as moderators of the relations between mental health literacy and MHRBs.

Exploration, Resolution, Affirmation. To assess ethnic-racial identity, the 9-item brief form of the Ethnic Identity Scale (EIS-B; Douglass & Umaña-Taylor, 2015) was used. The EIS-B measures three dimensions of ERI: Exploration (3-items; e.g., "I have attended events that have helped me learn about my ethnicity."), Resolution (3-items; e.g., "I know what my ethnicity means to me."), and Affirmation (3-items; e.g., "I dislike my ethnicity", reverse coded). Responses are rated on a 4-point Likert Scale, in which (1) *Does not describe me at all*, and (4) *Describes me very well*. All six items in the EIS-B exploration and resolution subscales are positively worded, so higher scores indicate greater ERI exploration and resolution. The three items from the affirmation subscale are negatively worded, so they are reverse scored so that higher scores represent higher levels of affirmation. Support for validity and reliability have been found for all three subscales in this measure among Black American college students (Brittian et al., 2013; Walker et al., 2020).

Centrality. The centrality subscale from the Multidimensional Inventory of Black Identity (MIBI; Sellers et al., 1997) was used. The centrality scale of the original MIBI developed for Black Americans, includes 8 items (e.g., "Overall, being Black is an important part of my self-image.") scored on a 7-point Likert scale ranging from (1) *Strongly disagree* to

(7) *Strongly agree*. Higher scores indicated higher centrality. Support for validity and reliability has been provided for the subscale among racial and ethnic minority college students (Hurd et al., 2013; Rowley et al., 1998).

Covariates. Gender identity, psychological coursework, and the mental health impact of the coronavirus pandemic were included as covariates in the current study.

Gender. Students answered various demographic questions, including their self-reported gender identity (coded as 0 = f*emale*, 1 = *male*, 2 = *transgender female*, 3 = *transgender male*, 4 = *gender variant/non-conforming*, 5 = *other*). Given that prior research has shown gender differences in regard to mental health literacy and in the relation between promotive MHRBs and mental health outcomes (e.g., Gorcynski et al., 2017), the possibility that processes may vary by individuals' gender identity was considered. However, given the limited sample size of identified as cisgender males (n = 17), transgender female (n = 0), transgender male (n = 0) and gender variant/non-conforming (n = 2), we were unable to test differences in our hypothesized models based on gender identity. Therefore, the current study controlled for gender identity of participants in all analyses. Given sample size, participants' gender was recoded as 1 = *cisgender female* (n = 147) and 2 = *cisgender male and gender variant/non-conforming* (n = 19).

***Psychology Coursework*.** Students answered various demographic questions, including if they have ever taken a class focused on psychological issues and/or disorders (coded as 1 = *yes*, 0 = *no*). Students' psychology coursework status was included as a covariate.

***Impact of COVID-19*.** Additionally, students self-reported on if the coronavirus crisis changed their stress levels or mental health (e.g., "How has the coronavirus crisis changed your stress levels or mental health?"). This item was scored by participants using a 5-point scale, 1 =

worsened them significantly to 5 = *improved them significantly*). The impact of the COVID-19 pandemic on students' mental health was included as a control.

MHRBs as Mediators. Physical activity, nutrition, self-care (i.e., psychological, emotional, workplace or academic, spiritual, relationships), mental health conversations during haircare, recent mental health help-seeking behavior, and mental health help-seeking intention were included as mediators of the relations between MHL predicting anxiety and depressive symptoms in the current study.

Physical activity and nutrition. Physical activity and nutrition were measured by the nutrition and physical activity subscales of the Health-Promoting Lifestyle Profile II (HPLPII; Walker, 1995). This questionnaire includes six subscales (health responsibility, physical activity, nutrition, spiritual growth, interpersonal relationships, and stress management) and 52 items rated on a 4-point Likert scale ranging from (0) *Never* to (3) *Routinely*. The measure can be used as an overall score or as separate scores on individual subscales. The current study used the physical activity and nutrition subscales, and higher scores indicated greater physical activity and better nutrition.

The physical activity subscale included 8 items and assessed regular participation in light, moderate, and/or vigorous activity (e.g., "do stretching exercises at least 3 times per week"). Participation may occur within a planned and monitored program for the sake of fitness and health or incidentally as a part of daily life or leisure activities (Bouchard et al., 1990). The nutrition subscale included 8 items involving knowledgeable selection and consumption of foods essential for sustenance, health, and well-being. It assessed choosing a healthful daily diet consistent with guidelines provided by the Food Guide Pyramid (e.g., "Eat 2-4 servings of fruit each day"; Ardell, 1986; USDA, 1992). Support for validity and reliability have been found for

these subscales among racial and ethnic minority college students (Mackey et al., 2008; Robinson et al., 2019).

Self-care. To measure self-initiated activities/behaviors that maintain and promote physical and emotional health, termed as self-care (e.g., healthy eating, sleeping, exercising, and socializing behaviors; Myers et al., 2012), the current study used an adapted version of the Self Care Assessment (Saakvitne, Pearlman, & Staff of TSI/CAAP, 1996; adapted by Lisa D. Butler, PhD). The inventory consists of everyday activities that individuals can do to maintain and promote their physical and mental health. The current study included a total of 28 items across four different types of self-care (i.e., psychological, emotional, workplace or academic, spiritual, relationships), with the option for participants to indicate their own activities and areas of self-care that are relevant to themselves (i.e., "other _____"). The items were rated on a 4-point scale (0) *I never do this* to (3) *I do this well.* Sample items include psychological self-care (e.g., "Have my own personal psychotherapy"), emotional self-care (e.g., "Give myself affirmations, praise myself"), workplace/academic self-care (e.g., "Arrange workspace so it is comfortable and comforting"), spiritual self-care (e.g., "Meditate/pray/sing"), and relationship self-care (e.g., "Stay in contact with faraway friends and family"). Higher scores indicated better self-care. Support for validity and reliability has been found for this measure among racial and ethnic minority college students (Brouwer et al., 2021; Smith, 2015).

Mental Health Conversations during Haircare. To measure culturally relevant behavior, the current study used an item (i.e., "How often in the past year have you talked with a hairstylist or barber about mental/emotional health during haircare appointment (s)?") created for the purposes of the current study. The item was assessed on a 5-point Likert-type scale ranging from

(0) *Never* to (5) *Always*. A higher score indicated more frequently talking with a hairstylist or a barber about mental/emotional health in the past year.

Recent mental health help-seeking. To assess recent mental health-seeking behavior, the current study used the Actual Help Seeking Questionnaire (AHSQ; Rickwood & Blaithwaite, 1994; adapted from Rickwood et al., 2005). The AHSQ consisted of one item (i.e., "Below is a list of people who you might seek help or advice from if you were experiencing a personal or emotional problem. Please check any of these who you have gone to for advice or help in the *past 2 weeks* for a personal or emotional problem."). Participants were able to select from a list of individuals that they may seek help or advice from for a personal or emotional problem (e.g., partner, friend, parent, mental health professional, etc.). Participants who indicated that they did seek advice for a personal or emotional problem received a score of 1. Participants who indicated that they did not seek advice received a score of 0. Support for the validity and reliability has been found for this measure among racial and ethnic minority individuals (Wang et al., 2019).

Mental health help-seeking intention. Additionally, to measure help-seeking intention, one item ("If you had a serious emotional problem, would you definitely go for professional help, probably go, probably not go, or definitely not go for professional help?") was used (National Comorbidity Survey: Reinterview, 2001-2002; Kessler, 2013). The item was assessed on a 4-point Likert-type scale ranging from (0) *Definitely not go* to (3) *Definitely go*. A higher score indicated a higher likelihood of seeking help for a mental health-related problem. Support for validity and reliability has been found for this measure among racial and ethnic minority college students (Mojtabai et al., 2016).

Outcomes. Anxiety and depressive symptoms were included as outcomes in the current study.

Anxiety and Depressive Symptoms. To assess anxiety and depressive symptoms, the current study used an adapted version of the Symptom Checklist 90 (SCL-90; Derogatis et al., 1973) designed to measure psychological symptoms and psychological distress. The current study included four items for anxiety symptoms and four items for depressive symptoms to assess past 30-day anxiety and depression symptoms (e.g., "Please give the answer which best describes how much discomfort that problem has caused you during the last 30 days, including today: a. Nervousness or shakiness inside.") and the SCL-90 uses a 4-point response scale (0) *Not at all* to (4) *Extremely*. Support for validity and reliability has been found for this measure among racial and ethnic minority college students (Thomas et al., 2008).

Analytic Approach

The analytic approach involved various steps. First, I ran preliminary analyses and checked the statistical power needed for models. Second, I tested the psychometric properties of the mental health literacy measure given that it was a new measure. I wanted to ensure that it had good measurement properties prior to using it in my models. Third, I ran a series of models to test my research questions. Below I detail the approach I used for each of these steps.

Preliminary analyses. Descriptive statistics, including correlations, means, and standard deviations were calculated for all study variables. Outliers were also examined for errors in data coding. If outliers were not attributed to data coding errors, they were modified to a less extreme but still high value according to recommendations outlined by Tabachnick et al. (2007).

Power, or the ability to detect significant effects, is difficult to estimate for mediation structural equation models. Monte Carlo power analyses are an ideal strategy for determining power and sample size in mediation models (Zhang, 2014). The Monte Carlo approach generates a large number of random samples from a population using hypothesized parameter values.

However, because the model tested in the current study has not been previously tested, these parameter values are unknown. The current study utilized an online application that runs a Monte Carlo simulation to estimate power based on a given sample size range and approximate effect sizes (Schoemann et al., 2017). As a best approximation, power analyses were conducted using parameter values of .25, which corresponds to a medium effect size (Cohen, 1988), and a specified sample size of 100-200 participants to determine the sample needed to achieve .80 power. The Monte Carlo simulation analysis indicated that with one mediator and effect sizes of .25 for the paths in the model, the sample would need to include at least 155 participants to achieve power of .80 for each parameter. Therefore, the current sample size of 166 individuals is sufficient to have adequate power for analyses.

Factor Analyses of the mental health literacy measure. Given that the mental health literacy assessment is a new measure, we tested the factor structure to ensure that it was a good measure with the current sample of Black American emerging adults. Rabin and colleagues (2021) tested the properties of the measure among a sample of Asian/Asian American, Black/Black American, Hispanic/Latino, White, Native American and Multiracial college students. Given that the measure has not yet been tested among a sample of exclusively Black American college students, we used confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). To replicate the one-factor structure found by Rabin and colleagues (2021), confirmatory factor analysis was used to test the fit of the hypothesized Mental Health Literacy Assessment for College Students (MHLA-c) unidimensional model with 18 items. Model fit was evaluated using criteria for well-fitting models recommended by Hu and Bentler (1999) that included obtaining values at or above .95 for the confirmatory fit index (CFI), and .08 or below for root mean square error of approximation (RMSEA). If model fit was considered to be good

(acceptable) based on the criteria for well-fitting models the current study would utilize the 18-item unidimensional model of the MHLA-c, if not the current study would conduct exploratory factor analysis to determine the factor structure. Well-recognized criteria for factorability of a correlation were used to determine factorability during the exploratory factor analysis, such as the Kaiser-Meyer-Olkin measure of sampling adequacy of .6 or greater is the commonly recommended value, a significant Barlett's test of sphericity and the diagonals of the anti-image correlation matrix greater than or equal to .5.

Primary research questions. To test hypothesized associations, path analyses models were specified (Figures 2 - 11), that included the predictors, interaction terms, outcomes, and one mediation variable. Specifically, the current study tested the effects of MHL, exploration, affirmation, resolution, centrality, MHLxExploration, MHLxAffirmation, MHLxResolution, MHLxCentrality predicting anxiety and depressive symptoms via physical activity (Figure 2), via nutrition (Figure 3), via psychological self-care (Figure 4), via emotional self-care (Figure 5), via workplace/academic self-care (Figure 6), via spiritual self-care (Figure 7), via relationship self-care (Figure 8), via mental health conversations during haircare (Figure 9), via recent mental health help-seeking (Figure 10), and via mental health help-seeking intention (Figure 11). The direct paths from each predictor to mental health symptoms were included as part of the mediation analyses. As noted, gender identity, psychological coursework, and the mental health impact of the 2019 coronavirus pandemic were included as covariates predicting mental health symptoms.

To test whether ERI functioned as a moderator between MHL and each promotive MHRBs (i.e., physical activity, nutrition, psychological self-care, emotional self-care, workplace/academic self-care, spiritual self-care and relationship self-care, hair-care, recent

mental health help-seeking and mental health help-seeking intention), the model included interaction terms between each dimension of ERI (i.e., affirmation, exploration, resolution, centrality) and MHL predicting mental health outcomes via each promotive MHRBs. As recommended by Aiken and West (1991), exogenous variables were mean-centered prior to the creation of interaction terms. Simple slopes analyses were used to decompose significant interactions (Preacher et al., 2006), and significant interactions were graphed and probed at one standard deviation above and below the mean of the moderator (i.e., ERI). Analyses were tested in *MPlus* 8.0 (Muthén & Muthén, 1998- 2017) with the maximum likelihood (i.e., ML) estimation, which accounts for missing data (Enders, 2013). Similar to the EFA analysis, three primary fit indices were used to examine model fit: the CFI, RMSEA, and SRMR. Model fit was considered to be good (acceptable) if the CFI was greater than or equal to .95 (.90), the RMSEA was less than or equal to .05 (.08), and the SRMR was less than or equal to .05 (.08; Hu & Bentler, 1999).

To formally test for mediation, the RMediation web application was utilized to compute confidence intervals for any significant mediated effects (Tofighi & MacKinnon, 2011). Using this method, mediation was significant if the confidence interval does not contain zero.

Results

Preliminary Analyses

Prior to running the analyses to test research questions, descriptive statistics, including correlations, means, and standard deviations were calculated for all study variables (see Table 1).

Factor Analyses for the Mental Health Literacy Measure

Initially, the factorability of the 18-item MHLA-c was examined. To replicate the one-factor structure found by Rabin and colleagues (2021), confirmatory factor analysis was used to

test the fit of the hypothesized Mental Health Literacy Assessment for College Students (MHLA-c) unidimensional model with 18 items. The model did not fit the data well, $\chi 2$ (135) = 169.44, p = .02; CFI = 0.77, and RMSEA = 0.04 (.02 -.06, 90% CI). Factor loading from the items ranged from .02 to .54. Thus, to determine whether a different factor structure provided a better fit for the MHLA-c the current study conducted an exploratory factor analysis.

The Kaiser-Meyer-Olkin measure of sampling adequacy was .63, Barlett's test of sphericity was significant ($\chi 2$ (153) = 299.47, $p < .001$) and the diagonals of the anti-image correlation matrix were also all over .5, with the exception of item 12 (.473) and item 14 (.443), thus items 12 and 14 were removed. Next, the factorability of the 16 items was examined. The Kaiser-Meyer-Olkin measure of sampling adequacy was .66, and the Barlett's test of sphericity was significant ($\chi 2$ (120) = 257.88, $p < .001$). The diagonals of the anti-image correlation matrix were also all over .5. Principal components analysis was used because the primary purpose was to identify and compute composite scores for the factors underlying the MHLA-c. The unidimensional solution, which explained 16.8% of the variance, was preferred because of: (a) its previous theoretical support; (b) the 'leveling off' of eigenvalues on the scree plot after one factor; and (c) the insufficient number of primary loadings and difficulty of interpreting the subsequent factors. To add more rigor to identifying the number of factors, a parallel analysis was conducted using a web-based parallel analysis engine (Patil et al. 2007). Random eigenvalues were generated to compare to the eigenvalues created from the initial principal components solution in the current study data. The first component of the initial eigenvalues indicated a value of 2.70. The parallel analysis indicated that a one-factor solution should be adopted (eigenvalues > 1.72 for a one factor solution) and that eigenvalues for a second factor (1.50) were below the randomly generated values (1.54) further indicating a one-factor solution.

Using principal axis factoring, we moved forward with a one-factor solution. Given that all of the items fit into a single theoretical construct, as identified by Rabin and colleagues (2021), we continued with the factor analysis to help refine the MHLA-c for the current study. Item 4, item 6, and item 17 did not load above a .30, thus these items were deleted, yielding a unidimensional model with 13 items with a coefficient α of .64. Removing any additional items did not improve reliability, thus we moved forward with a unidimensional 13-item measure to examine MHL among Black American college students.

Primary Research Questions

To test primary research questions, various models were tested. The Models are labeled as: MHL predicting physical activity, moderated by ERI, and MH symptoms via physical activity (Model 1), MHL predicting nutrition, moderated by ERI, and MH symptoms via nutrition (Model 2), MHL predicting psychological selfcare, moderated by ERI, and MH symptoms via psychological selfcare (Model 3), MHL emotional selfcare, moderated by ERI, and MH symptoms via emotional selfcare (Model 4), MHL predicting academic selfcare, moderated by ERI, and MH symptoms via academic selfcare (Model 5), MHL predicting spiritual selfcare, moderated by ERI, and MH symptoms via spiritual selfcare (Model 6), MHL predicting relationship selfcare, moderated by ERI, and MH symptoms via relationship selfcare (Model 7), MHL predicting mental health conversations during haircare, moderated by ERI, and MH symptoms via mental health conversations during haircare (Model 8), MHL predicting mental health help-seeking, moderated by ERI, and MH symptoms via mental health help-seeking (Model 9), and MHL predicting mental health intention, moderated by ERI, and MH symptoms via mental health intention (Model 10). Unstandardized coefficients are reported in the text and standardized coefficients are reported in each figure.

Model 1: MHL predicting physical activity, moderated by ERI, and MH Symptoms via physical Activity. Model one tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and physical activity, and whether MHL predicted anxiety and depressive symptoms via physical activity. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 24.61, p = .95; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .00]; SRMR = .04 (see Figure 2). Results indicated that ERI affirmation, exploration, resolution, and centrality did not moderate the association between MHL and physical activity.

Although no mediation paths existed with mental health literacy, interesting mediation paths emerged regarding ERI exploration, resolution, and centrality. Exploration was positively associated with physical activity (β = .14, p = .03), and, in turn, negatively associated with depressive symptoms (β = -.25, p = .03). Regarding the test of mediation for this path, findings indicated that the association between exploration and depressive symptoms was not significantly mediated by physical activity (unstandardized 95% confidence interval for the mediated effect = -0.093, 0). Resolution was positively associated with physical activity (β = .28, p = .001), and, in turn, negatively associated with depressive symptoms (β = -.25, p = .03). Regarding the test of mediation for this path, findings indicated that the association between resolution and depressive symptoms was significantly mediated by physical activity (unstandardized 95% confidence interval for the mediated effect = -0.16, -0.007). Additionally, centrality was positively associated with physical activity (β = .18, p = .01), and, in turn, negatively associated with depressive symptoms (β = -.25, p = .03). Regarding the test of mediation for this path, findings indicated that physical activity was a significant mediator of the association between centrality and depressive symptoms (unstandardized 95% confidence interval for the mediated effect = -0.105, -0.003).

Apart from mediation, a few paths emerged with ERI and mental health. Affirmation was directly and negatively associated with anxiety symptoms (β = -.80, p = .001) and depressive symptoms (β = -.83, p = .00). Additionally, greater exploration significantly predicted more depressive symptoms (β = .20, p = .04).

Regarding study controls, gender identity (β = -.24, p = .34), psychological coursework (β = .00, p = .77) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .63) were not associated with anxiety symptoms. Similarly, gender identity (β = -.07, p = .75), psychological coursework (β = .00, p = .90) and the mental health impact of the 2019 coronavirus pandemic (β = -.01, p = .44) were not associated with depressive symptoms.

Model 2: MHL predicting nutrition, moderated by ERI, and MH symptoms via nutrition. Model two tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and nutrition, and whether MHL predicted anxiety and depressive symptoms via nutrition. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 23.16, p = .97; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .00]; SRMR = .04 (see Figure 3). Affirmation, exploration, resolution, and centrality did not moderate the association between MHL and nutrition. However, affirmation was directly and negatively associated with nutrition (β = -.39, p = .002). Exploration (β = .16, p = .001), resolution (β = .17, p = .01) and centrality (β = .11, p = .01), were directly and positively associated with nutrition. However, because nutrition was not associated with any mental health outcomes, no mediation pathways existed.

Further, a few direct effects emerged: affirmation was negatively associated with anxiety symptoms (β = -.73, p = .002) and depressive symptoms (β = -.85, p = .00). Exploration was positively associated with depressive symptoms (β = .20, p = .04).

Regarding study controls, gender identity (β = -.24, p = .33), psychological coursework (β = .00, p = .75) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .62) were not associated with anxiety symptoms. Similarly, gender identity (β = -.11, p = .65), psychological coursework (β = .00, p = .77) and the mental health impact of the 2019 coronavirus pandemic (β = -.01, p = .39) were not associated with depressive symptoms.

Model 3: MHL predicting psychological selfcare, moderated by ERI, and MH symptoms via psychological selfcare. Model three tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and psychological selfcare and whether MHL predicted anxiety and depressive symptoms via psychological selfcare. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 23.27, p = .97; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .00]; SRMR = .04 (see Figure 4). Results indicated exploration moderated the relation between MHL and psychological selfcare (β = -.05, p = .04). Simple slopes analysis (Figure 5) indicated that for individuals who experienced *high* exploration, MHL did not significantly predict psychological selfcare (β = -.04, p = 0.10), and among individuals who experienced *low* exploration, MHL also did not significantly predict psychological selfcare (β = .05, p = .09). Thus, although the interaction term was significant, simple slopes analysis indicated that the paths were not significant at both high and low levels of exploration. The significant interaction terms likely emerged given the positive and negative coefficient at high and low levels. Additionally, resolution moderated the relation between MHL and psychological selfcare (β = .08, p = .01). Simple slopes analysis (Figure 6) indicated that for individuals who experienced *high* resolution, MHL significantly predicted greater psychological selfcare (β = .06, p = 0.04). Among individuals who experienced *low* resolution, MHL significantly predicted less psychological selfcare (β = -.05, p = .04).

Exploration (β = .18, p = .00) and resolution (β = .15, p = .02) were directly and positively associated with psychological selfcare. Additionally, affirmation was negatively associated with anxiety symptoms (β = -.80, p = .00) and depressive symptoms (β = -.80, p = .00). However, no significant mediation of psychological selfcare was found in the model. Regarding study controls, gender identity (β = -.24, p = .33), psychological coursework (β = .00, p = .75) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .62) were not associated with anxiety symptoms. Similarly, gender identity (β = -.11, p = .65), psychological coursework (β = .00, p = .77) and the mental health impact of the 2019 coronavirus pandemic (β = -.01, p = .39) were not associated with depressive symptoms.

Model 4: MHL predicting emotional selfcare, moderated by ERI, and MH symptoms via emotional selfcare. Model four tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and emotional selfcare and whether MHL predicted anxiety and depressive symptoms via emotional selfcare. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 25.59, p = .94; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .01]; SRMR = .04 (see Figure 7).

Regarding moderation effects, two emerged for affirmation and resolution. Affirmation moderated the relation between MHL and emotional selfcare (β = -.086, p = .05). Simple slope analysis (Figure 8) indicated that for individuals who experienced *high* affirmation, MHL did not predict emotional selfcare (β = -.02, p = .31). Among students who had *low* affirmation, MHL did not predict emotional selfcare (β = .02, p = .24). The significant interaction term may have also emerged in this case given the opposite signs for coefficients even though simple slopes at high and low levels were both not significant. Resolution moderated the relation between MHL and emotional selfcare (β = .10, p = .00). Simple slopes analysis (Figure 9) indicated that for

individuals who experienced *high* resolution, MHL significantly predicted greater emotional selfcare (β = .08, p = 0.01). Among individuals who experienced *low* resolution, MHL significantly predicted less emotional selfcare (β = -.08, p = .00).

Given the significant moderation effect, two mediation paths emerged for individuals with high resolution and two mediation paths emerged for individuals with low resolution. Specifically, among individuals who had high resolution, mental health literacy significantly predicted greater emotional selfcare (β = .08, p = .01) and, in turn, was negatively associated with anxiety symptoms (β = -.45, p = .00). Regarding the test for mediation for this path, findings indicated that emotional selfcare was a significant mediator (unstandardized confidence interval of the mediated effect = -0.078, -0.006). Also, for individuals who had high resolution, mental health literacy significantly predicted greater emotional selfcare (β = .08, p = .01) and, in turn, was negatively associated with depressive symptoms (β = -.73, p = .00). Regarding the test for mediation for this path, findings indicated that emotional selfcare was a significant mediator (unstandardized confidence interval of the mediated effect = -0.111, -0.015).

For individuals who had low resolution, mental health literacy significantly predicted less emotional selfcare (β = -.08, p = .00) and, in turn, was negatively associated with anxiety symptoms (β = -.45, p = .00). Regarding the test for mediation for this path, findings indicated that emotional selfcare was a significant mediator (unstandardized confidence intervals of the mediated effect = 0.008, 0.072). Also, for individuals who had low resolution, mental health literacy significantly predicted less emotional selfcare (β = -.08, p = .00) and, in turn, was negatively associated with depressive symptoms (β = -.73, p = .00). Regarding the test for mediation for this path, findings indicated that emotional selfcare was a significant mediator (unstandardized confidence intervals of the mediated effect = 0.02, 0.103).

Additionally, results indicated that resolution not only served as a moderated mediation path, but there was also a mediation path apart from MHL. In particular, resolution was positively associated with emotional selfcare (β = .27, p = .00) and in turn negatively associated with anxiety (β = -.45, p = .00) and depressive symptoms (β = -.73, p = .00). Regarding the test for mediation of emotional selfcare on the association between resolution and anxiety symptoms, findings indicated that emotional selfcare significantly mediated the association between resolution and anxiety symptoms (unstandardized 95% confidence intervals for the mediated effect = -0.23, -0.033). Regarding the test for mediation of emotional selfcare on the association between resolution and depressive symptoms, findings indicated that emotional selfcare was a significant mediator (unstandardized 95% confidence intervals for the mediated effect = -0.323, -0.09).

Also, mediation findings emerged for ERI exploration. Results indicated that exploration was positively associated with greater emotional selfcare (β = .14, p = .00) and, in turn, negatively associated with anxiety (β = -.45, p = .00) and depressive symptoms (β = -.73, p = .00). Regarding the test for mediation of emotional selfcare, findings indicated that emotional selfcare significantly mediated the association between exploration and anxiety symptoms (unstandardized 95% confidence intervals for the mediated effect = -0.133, -0.013), and emotional selfcare significantly mediated the association between exploration and depressive symptoms (unstandardized 95% confidence intervals for the mediated effect = -0.19, -0.034).

A direct effect was found between affirmation and anxiety (β = -.82, p = .00), and between affirmation and depressive symptoms (β = -.81, p = .00). There was an additional direct effect between exploration and depressive symptoms (β = .24, p = .01).

Regarding study controls, gender identity (β = -.24, p = .31), psychological coursework (β = .00, p = .97) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .89) were not associated with anxiety symptoms. Similarly, gender identity (β = -.11, p = .61), psychological coursework (β = -.00, p = .75) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .81) were not associated with depressive symptoms.

Model 5: MHL predicting academic selfcare, moderated by ERI, and MH symptoms via academic selfcare. Model five tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and academic selfcare, and whether MHL predicted anxiety and depressive symptoms via academic selfcare. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 28.45, p = .87; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .03]; SRMR = .04 (see Figure 10). Affirmation, exploration, resolution, and centrality did not moderate the association between MHL and academic selfcare, however mediation processes emerged for ERI exploration, resolution, and centrality.

Results indicated that exploration was positively associated with academic selfcare (β = .17, p = .00) and, in turn, negatively associated with anxiety symptoms (β = -.33, p = .05). Regarding the test for mediation for this path, findings indicated that academic selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.131, 0.001). Results indicated that exploration was positively associated with academic selfcare (β = .17, p = .00) and, in turn, negatively associated with depressive symptoms (β = -.64, p = .00). Regarding the test for mediation for this path, findings indicated that academic selfcare was a significant mediator (unstandardized confidence intervals of the mediated effect = -0.199, -0.041).

Resolution was positively associated with academic selfcare (β = .27, p = .00) and, in turn, negatively associated with anxiety symptoms (β = -.33, p = .05). Regarding the test for

mediation for this path, findings indicated that academic selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.197, 0.002). Resolution was positively associated with academic selfcare (β = .26, p = .00) and, in turn, negatively associated with depressive symptoms (β = -.61, p = .00). Regarding the test for mediation for this path, findings indicated that academic selfcare was a significant mediator (unstandardized confidence intervals of the mediated effect = -0.297, -0.071).

Additionally, centrality was positively associated with academic selfcare (β = .16, p = .00) and, in turn, negatively associated with anxiety symptoms (β = -.33, p = .05). Regarding the test for mediation for this path, findings indicated that academic selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.121, 0.001). Centrality was also positively associated with academic selfcare (β = .16, p = .00) and, in turn, negatively associated with depressive symptoms (β = -.61, p = .00). Regarding the test for mediation for this path, findings indicated that academic selfcare was a significant mediator (unstandardized confidence intervals of the mediated effect = -0.185, -0.036).

Findings also indicated a direct effect between affirmation and anxiety (β = -.80, p = .00) and depressive symptoms (β = -.78, p = .00). Further, there was a direct effect between exploration and depressive symptoms (β = .27, p = .01).

Regarding study controls, gender identity (β = -.31, p = .20), psychological coursework (β = .00, p = .72) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .74) were not associated with anxiety symptoms. Similarly, gender identity (β = -.24, p = .29), psychological coursework (β = .00, p = .71) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .61) were not associated with depressive symptoms.

Model 6: MHL predicting spiritual selfcare, moderated by ERI, and MH symptoms via spiritual selfcare. Model six tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and spiritual selfcare and whether MHL predicted anxiety and depressive symptoms via spiritual selfcare. The hypothesized model demonstrated good fit: $\chi 2$ (*df* = 38) = 24.99, *p* = .95; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .01]; SRMR = .04 (see Figure 11). Exploration moderated the association between MHL and spiritual selfcare (β = -.05, *p* = .05). Simple slopes analysis (Figure 12) indicated that for individuals who experienced *high* exploration, MHL significantly predicted less spiritual selfcare (β = -.06, *p* = 0.05). However, among individuals who experienced *low* exploration, MHL was not associated with spiritual selfcare (β = .05, *p* = .20). Additionally, resolution moderated the relation between MHL and spiritual selfcare (β = .10, *p* = .00). Simple slopes analysis (Figure 13) indicated that for individuals who experienced *high* resolution, MHL predicted greater spiritual selfcare (β = .08, *p* = 0.02). Among individuals who experienced *low* resolution, MHL significantly predicted less spiritual selfcare (β = -.09, *p* = .00).

Findings also indicated a positive association between exploration and spiritual selfcare (β = .29, *p* = .00) and a positive association between resolution and spiritual selfcare (β = .17, *p* = .02). Regarding direct effects, affirmation significantly predicted anxiety symptoms (β =- .79, *p* = .00) and depressive symptoms (β =-.82, *p* = .00). Exploration significantly predicted depressive symptoms (β =.22, *p* = .03). However, no significant mediation of spiritual selfcare was found in the model.

Regarding study controls, gender identity (β = -.23, *p* = .35), psychological coursework (β = .00, *p* = .77) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, *p* = .64) were not associated with anxiety symptoms. Similarly, gender identity (β = -.13, *p* = .57),

psychological coursework (β = .00, p = .74) and the mental health impact of the 2019 coronavirus pandemic (β = -.01, p = .35) were not associated with depressive symptoms.

Model 7: MHL predicting relationship selfcare, moderated by ERI, and MH symptoms via relationship selfcare. Model seven tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and relationship selfcare and whether MHL predicted anxiety and depressive symptoms via relationship selfcare. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 26.89, p = .91; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .02]; SRMR = .04 (see Figure 14). Resolution moderated the relation between MHL and relationship selfcare (β = .08, p = .01). Simple slopes analysis (Figure 15) indicated that for individuals who experienced *high* resolution, MHL did not significantly predict relationship selfcare (β = .06, p = 0.07). Among individuals who experienced *low* resolution, MHL significantly predicted less relationship selfcare (β = -.06, p = .02). Additionally, for individuals that experienced less resolution, MHL significantly predicted relationship selfcare (β = -.06, p = .02) and, in turn, was negatively associated with depressive symptoms (β = -.29, p = .05). Regarding the test for mediation for this path, findings indicated that relationship selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.001, 0.047).

Further, findings indicated a negative association between affirmation and relationship selfcare (β = -.33, p = .02) and, in turn, a negative association with depressive symptoms (β = -.29, p = .05). Regarding the test for mediation for this path, findings indicated that relationship selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.004, 0.244). Additionally, findings indicated a positive association between exploration and relationship selfcare (β =.20, p = .00) and, in turn, a negative association

between depressive symptoms (β = -.29, p = .05). Regarding the test for mediation for this path, findings indicated that relationship selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.134, 0). Findings also indicated a positive association between resolution and relationship selfcare (β = .17, p = .01) and, in turn, a negative association with depressive symptoms (β = -.29, p = .05). Regarding the test for mediation for this path, findings indicated that relationship selfcare was not a significant mediator (unstandardized confidence intervals of the mediated effect = -0.126, 0.001).

Affirmation significantly predicted anxiety symptoms (β = - .83, p = .00) and depressive symptoms (β =- .84, p = .00). Exploration significantly predicted depressive symptoms (β = .21, p = .03).

Regarding study controls, gender identity (β = -.26, p = .29), psychological coursework (β = .00, p = .73) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .70) were not associated with anxiety symptoms. Similarly, gender identity (β = -.14, p = .55), psychological coursework (β = .00, p = .74) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .51) were not associated with depressive symptoms.

Model 8: MHL predicting mental health conversations during haircare, moderated by ERI, and MH symptoms via mental health conversations during haircare. Model eight tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and mental health conversations during haircare and whether MHL predicted anxiety and depressive symptoms via mental health conversations during haircare. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 33.60, p = .67; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .05]; SRMR = .04 (see Figure 16). Results indicated that affirmation moderated the association between MHL and haircare (β = -.10, p = .04). Simple slopes analysis (Figure 17) indicated that

for individuals who experienced *high* affirmation, MHL did not significantly predict mental health conversations during haircare (β = -.01, p = 0.90). However, among individuals who experienced *low* affirmation, MHL significantly predicted less mental health conversations during haircare (β = -.08, p = .01).

Findings indicated a negative association between affirmation and haircare (β = -.40, p = .04) and a positive association between exploration and haircare (β =.15, p = .04). Additionally, affirmation significantly predicted anxiety symptoms (β =- .84, p = .000) and depressive symptoms (β =- .84, p = .00). Resolution also predicted depressive symptoms (β =- .28, p = .03). However, no significant mediation of mental health conversations during haircare was found in the model.

Regarding study controls, gender identity (β = -.22, p = .40), psychological coursework (β = .00, p = .88) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .70) were not associated with anxiety symptoms. Similarly, gender identity (β = -.08, p = .73), psychological coursework (β = .00, p = .99) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .52) were not associated with depressive symptoms.

Model 9: MHL predicting recent mental health help-seeking, moderated by ERI, and MH symptoms via recent mental health help-seeking. Model nine tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and recent mental health help-seeking and whether MHL predicted anxiety and depressive symptoms via recent mental health help-seeking. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 25.29, p = .94; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .01]; SRMR = .04 (see Figure 18). Results indicated that affirmation, exploration, resolution, and centrality did not moderate the association between MHL and haircare, and no mediation paths emerged.

However, regarding direct effects, affirmation significantly predicted anxiety symptoms (β =- .81, p = .00) and depressive symptoms (β =- .78, p = .00). Additionally, resolution predicted depressive symptoms (β =- .28, p = .03). However, no significant mediation of recent mental health help-seeking was found in the model.

Regarding study controls, gender identity (β = -.25, p = .34), psychological coursework (β = .00, p = .80) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .63) were not associated with anxiety symptoms. Similarly, gender identity (β = -.11, p = .10), psychological coursework (β = .00, p = .83) and the mental health impact of the 2019 coronavirus pandemic (β = -.01, p = .42) were not associated with depressive symptoms.

Model 10: MHL predicting mental health help-seeking intention, moderated by ERI, and MH symptoms via mental health help-seeking intention. Model ten tested whether ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and mental health help-seeking intention and whether MHL predicted anxiety and depressive symptoms via mental health help-seeking intention. The hypothesized model demonstrated good fit: $\chi 2$ (df = 38) = 23.74, p = .97; CFI = 1.00; RMSEA = .00 90% C.I. [.00, .00]; SRMR = .04 (see Figure 19).

Exploration moderated the relation between MHL and mental health help-seeking intention (β = -.08, p = .05). Simple slopes analysis (Figure 20) indicated that for individuals who experienced *high* exploration, MHL significantly predicted less mental health help-seeking intention (β = -.12, p = 0.01). Among individuals who experienced *low* exploration, MHL was not significantly associated with mental health help-seeking intention (β = .03, p = .60).

A mediation process also emerged for individuals with high exploration. For individuals who had high exploration, mental health literacy significantly predicted less mental health help-

seeking intention (β = -.12, p = .01) and, in turn, was negatively associated with depressive symptoms (β = -.21, p = .02). Regarding the test for mediation for this path, findings indicated that mental health help-seeking was a significant mediator (unstandardized confidence intervals of the mediated effect = 0.002, 0.058).

Further, another mediation finding emerged. Results indicated that centrality was positively associated with mental health help-seeking intention (β = .16, p = .04) and, in turn, negatively associated with depressive symptoms (β = -.21, p = .02). Regarding the test for mediation for this path, findings indicated that mental health help-seeking was a nonsignificant mediator (unstandardized confidence intervals of the mediated effect = -0.084, 0.001).

Findings also indicated a direct effect between affirmation and anxiety (β = -.79, p = .00) and depressive symptoms (β = -.79, p = .00). Regarding study controls, gender identity (β = -.24, p = .34), psychological coursework (β = .00, p = .77) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .64) were not associated with anxiety symptoms. Similarly, gender identity (β =-.14, p = .55), psychological coursework (β = .00, p = .90) and the mental health impact of the 2019 coronavirus pandemic (β = -.00, p = .53) were not associated with depressive symptoms.

Discussion

The goals of the current study were to examine (a) how ERI affirmation, exploration, resolution and centrality moderated the relation between MHL and each promotive MHRBs (i.e., physical activity, nutrition, psychological self-care, emotional self-care, workplace/academic self-care, spiritual self-care and relationship self-care, mental health conversations during haircare, recent mental health help-seeking and mental health help-seeking intention) and (b) whether MHL predicted anxiety and depressive symptoms via each promotive MHRB among

Black college students. Research in this area has mainly focused on mental health help-seeking behavior as the assessment of MHRB, with less emphasis on other promotive behaviors like selfcare, nutrition, and physical activity. Research in this area also has not explored how Black American college students' attitudes, experiences and culture shape the activities they take part in that may promote or maintain their mental health. In brief, the current study found promotive benefits of ERI resolution as a moderator of the relation between MHL predicting psychological selfcare, emotional selfcare, and spiritual selfcare. Additionally, for students who indicated both high and low ERI resolution, MHL indirectly predicted fewer mental health symptoms via emotional selfcare and via mental health help-seeking intention. Mental health help-seeking intention also played a mediating role among students who indicated greater ERI exploration, such that students who explored more about their culture, MHL indirectly predicted fewer depressive symptoms. Below we review findings in more detail by discussing (a) results for the relations between MHL and promotive MHRBs (i.e., selfcare, mental health help-seeking, haircare & physical activity) and the moderating role of ERI in these associations, (b) mediation processes, (c) direct effects, and (d) research implications, limitations, and future directions.

Mental Health Literacy and Promotive MHRBs. Regarding the relation between MHL and promotive MHRBs, contrary to expectations MHL was not directly associated with any of the promotive MHRBs. Prior research in this area among Black college students has been inconclusive with research indicating that lack of mental health knowledge prevented mental health help-seeking (Ayalon & Alvidrez, 2007) and that there was no significant relation between MHL and mental health help-seeking behavior (Ofani, 2015). Given that there has been less emphasis on other promotive MHRBs like selfcare, nutrition and physical activity, and that this current study may be the first to explore other promotive MHRBs in addition to mental

health help-seeking behaviors, it is important for research to continue to consider a variety of assessments of MHRBs to further understand the association between MHL and promotive MHRBs.

Additionally, in the U.S. where race is salient and often shapes individuals' daily experiences, forming a positive and healthy ERI can be protective and previous research has found it to be a protective factor against negative mental health outcomes among Black individuals (e.g., Brittian et al., 2013). Although MHL was not a direct predictor of any of the MHRBs, ERI interacted with MHL to inform some of the MHRBs. Additionally, and unexpectedly, many components of ERI directly predicted Black college students' ERI. Thus, ERI is a beneficial aspect of understanding how students' attitudes, experiences and culture shape the knowledge and the activities that they take part in to promote or maintain their mental health. Findings are discussed by results for each promotive MHRB.

Selfcare. Based on the Identity Based Motivation theory (IBM; Oyserman & Yoder, 2007), it was expected that individuals who have a higher level of ERI (i.e., feel greater pride in being Black American, explored more about their culture, have a sense of clarity around what it means to be Black American and feel that being Black American is more central to their self-concept) would be more likely to translate MHL into actionable behaviors to improve their mental health. It was also expected that individuals with lower ERI (i.e., less affirmation, exploration, resolution, and centrality) would be less likely to translate their MHL into actionable behaviors to improve their mental health.

In line with expectations, findings revealed that ERI resolution significantly moderated the relation between MHL and three components of selfcare (i.e., i.e., psychological, emotional, and spiritual selfcare. Specifically, among students with higher resolution (i.e., a stronger sense

of clarity regarding the meaning of what it meant to be Black American for their sense of self; Umaña-Taylor et al., 2004), MHL (i.e., students who indicated more knowledge, awareness and identification of mental health disorders; Rabin et al., 2021) predicted more selfcare (i.e., psychological, emotional, and spiritual selfcare). The process of ERI resolution is grounded in individuals' own personal understanding of what it means to be Black to them (Umaña-Taylor, 2018). Thus, it could be that Black students who have increased ERI resolution also have a clearer understanding of the unique challenges they may face as they navigate their daily college experiences and the persistent mental health disparities within the Black community. Research acknowledges that there is a persisting mental health crisis for Black American college students (McGee & Stovall, 2015) and that ethnic-racial minority students report higher rates of emotional distress during their first year of college, receive less treatment for mental health disorders, and tend to have mistrust of mental health professionals (Lipson et al., 2018; Primm, 2018).

Additionally, college students report symptoms of depression and anxiety significantly more often than before the COVID-19 pandemic, with Black students' symptoms of depression growing by 89% (Fruehwirth, Biswas, & Perreira, 2021). Prior research has found that increased ERI resolution can promote more adaptive and functional coping among individuals who are navigating race-related experiences (e.g., race-related stress; Neblett et al., 2012; Umaña-Taylor et al., 2008). Thus, for Black college students, it could be that greater ERI resolution also promotes being knowledgeable of mental health disorders given the persistent mental health concerns for Black college students. Given this, students may engage in promotive mechanisms like selfcare, to maintain their own mental health.

On the other hand, for students with low ERI resolution, MHL predicted less promotive selfcare behaviors (i.e., psychological, emotional, spiritual and relationship selfcare). It could be that students that have lower ERI resolution are working to try to gain a sense of clarity about what it means to them to be Black. This process of trying to gain resolution may require attention and focus to figure it out, therefore, limiting their abilities to engage in other processes such as self-care. Therefore, it may be that even though they have an understanding of mental health (i.e., MHL), they are distracted by figuring out their ERI, and so having this knowledge actually promotes less psychological, emotional, spiritual or relationship selfcare. As suggested by the Lifespan Model of ERI (Williams et al., 2020), ERI development continues to be important during emerging adulthood, a developmental period in which individuals experience an increase in independence and opportunities leading them to think more about their own ethnic-racial group membership (Syed & Azmitia, 2010). Therefore, students who have low ERI resolution may need time and space to engage in learning more to figure out what being Black means to them and have less time for self-care activities. Overall, findings highlight the importance of mixed-methods research that focuses more on understanding what it means to be a Black American emerging adult who has low ERI resolution. It will be valuable to gauge the processes students with low ERI resolution go through, whether the resolution process is mentally and emotionally time-consuming, and takes away from time to engage in other activities, such as selfcare.

Regarding the role ERI exploration plays in the association between MHL and spiritual selfcare, among Black college students who indicated more ERI exploration, students were less likely to translate their MHL into spiritual selfcare, such that students who had mental health knowledge (i.e., knowledge, awareness and identification of mental health disorders) were less

likely to engage in spiritual selfcare (i.e., spend time in nature, make time for reflection about values, meaning and purpose, meditating). On the other hand, students who indicated less mental health knowledge were more likely to engage in spiritual selfcare practices. Research suggests that spiritual practices are useful coping mechanisms for Black college students to relieve stress (Brown et al., 2011) and may help strengthen students' psychological well-being. Among Black college students attending a Predominately White Institution (PWI), African American women depended on their spiritual beliefs to cope with feeling racially isolated, overlooked, misrepresented and misunderstood (Shahid, Nelson & Caremil, 2018). Specifically related to Black mental health, when thinking about the experiences and events Black college students encounter as they are developing their ERI within the college context, it could be that students become more aware of perceived stigmas around mental health in the Black community, or even become aware of their own lack of knowledge about mental health disorders or resources for mental health care which may play a role in their actual behaviors they take part in to cope with their experiences.

Prior related research indicates that lack of mental health knowledge acts as a barrier to mental health care for African American individuals (Ayalon & Alvidrez, 2007). Thus, it could be that students who indicated greater exploration but have lower MHL and higher spiritual selfcare practices are prioritizing spiritual practices as a protective mechanism for their psychological well-being such that engaging in spiritual activities provides students with a sense of empowerment and purpose while navigating their daily experiences. On the other hand, it could be that students who have more knowledge of mental health disorders may not prioritize spiritual selfcare practices but instead take part in less active forms of MHRBs to minimize their stressful experiences (e.g., disengagement or detachment; Hoggard et al., 2012). More research is

warranted to assess what Black college students are experiencing during their ERI exploration process and how those experiences influence how they engage in spiritual selfcare practices.

Although MHL predicted various selfcare behaviors (i.e., psychological, emotional, spiritual and relationship selfcare) at high and low levels of ERI, only emotional selfcare predicted subsequent mental health. Thus, a mediation pathway only existed for emotional selfcare. Specifically, for students with *high* resolution, MHL predicted *greater* emotional selfcare and, in turn, *less* anxiety and depressive symptoms. For students with low resolution, MHL predicted *less* emotional selfcare, and in turn, engaging in selfcare predicted *less* anxiety and depressive symptoms. Given this finding, it is important to continue to foster emotional selfcare practices among Black college students, especially among students with lower ERI resolution given that their differences in ERI resolution impact their emotional selfcare practices, and that then relates to their mental health. Prior research among diverse graduate level psychology students aligns with this recommendation, finding that students who practiced selfcare (including emotional selfcare) experienced fewer negative mental health outcomes (i.e., psychological stress) than students who did not practice selfcare (Colman et al., 2016).

Mental Health Help-Seeking. Findings indicated that ERI was a moderator between MHL and mental health help-seeking. MHL predicted less mental health help-seeking intentions among students who were engaging in high ERI exploration. Prior research suggests that higher levels of MHL are associated with higher intentions to engage in mental health help-seeking among students outside of the U.S. (Australia, Smith & Shochet, 2011; Canada, Kusan, 2013; England, Gorczynski et al., 2017). However, these studies included an assessment of both knowledge of mental health disorders, and attitudes or beliefs about promoting positive mental health or help-seeking behavior as a measure of MHL. Recent work has recommended that

mental health knowledge, attitudes, stigma, positive mental health and help-seeking efficacy should remain independent constructs and suggests further developing the literature in each area to understand the important factors that drive MHRBs (Spiker & Hammer, 2019).

Further, research has found that Black students are less inclined to seek formal help regardless of need due to the fear of being labeled and judged (Alang, 2019). Related research examining knowledge regarding available treatments and services for mental health care and mental health help-seeking intention with Black individuals found that lack of information prevented individuals from seeking help (Ayalon & Alvidrez, 2007), however, more research assessing MHL (i.e., knowledge, awareness and identification of mental health disorders) and mental health help-seeking among Black college students is needed to fully understand the association between MHL and help-seeking intentions. It may be that for Black American college students, the processes involved in the association between MHL and mental health help-seeking intention are unfolding differently given the unique experiences of Black college students as they navigate daily college life. It could be that through students' ERI exploration process, they are becoming aware of negative mental health misconceptions, cultural mistrust in the Black community and other barriers to receiving mental health care such as the availability of adequate and culturally relevant mental health services for Black American individuals that plays an essential role in students' mental health help-seeking intention (Brown et al. 2011). It could also be that students are trying to avoid experiencing double discrimination (i.e., being Black and having mental health concerns; Livingston, Bost & Copeland, 2021). Given this, students may have lower intention to seek professional help for a mental health concern.

Among students who indicated less ERI exploration, MHL did not significantly predict mental health help-seeking intention. This nonsignificant finding further reveals the importance

of assessing the culturally related experiences of Black college students given that there may be unique processes in play related to ERI among the associations between MHL and mental health help-seeking intention for Black students.

Prior research has highlighted the historic misconception among the Black community that having depression, anxiety, or other mental health disorders is a personal weakness (Campbell & Allen, 2019; Campbell et al., 2021), and this notion leads to underestimating the effects and impacts of mental health. It could be that Black students are learning and thinking more about the misconception that negative mental health symptoms are a weakness leading them to have lower intentions to seek professional help. Recently, scholars have created a platform to normalize the conversations around mental health knowledge and treatment for Black people (Our Mental Health Minute; Jones & Anderson, 2020) with the aim to reduce negative attitudes and misconceptions about mental health in the Black community, provide resources in access, utilization, and quality of mental health and to increase mental health literacy in an engaging way. In line with these efforts, research in this area should continue to center the notion that Black college students are capable of thriving and existing authentically regardless of their mental health status through providing accessible, culturally appropriate and quality mental health care resources to increase mental health literacy. Additionally, acknowledging cultural processes like ERI development, and specifically processes like exploration, will be important to consider when informing resources, programs and or interventions aimed to increase MHL and mental health help-seeking among Black college students.

To continue, for students who indicated greater exploration, MHL predicted fewer depressive symptoms via mental health help-seeking intention. This finding suggests that for students with greater ERI exploration MHL is linked with getting help for mental health related

problems, leading to fewer depressive symptoms. Given the Theory of Planned Behavior (TPB; Ajzen, 1991) posits that an individual's beliefs about a behavior are assumed to guide their intentions to do the behavior, it could be that as students take part in their ERI exploration process, they may realize that there are helpful mental health-related resources and support systems available which helps them move their MHL into greater intentions to seek help from a professional. In fact, research has found that when Black students perceive that they have access to the necessary resources, they reported higher intentions to utilize mental health services during times of psychological distress (Mesidor et al., 2014). Also, previous research found that among Black college students, peer norms, family norms (Barksdale & Molock, 2009) and individuals' social networks influence help-seeking attitudes and behaviors (Vogel et al., 2007). In line with previous work, the current study suggests that continued research to understand what Black college students are encountering as they are engaging in ERI exploration would be useful in understanding Black student's mental health help-seeking intentions, and as a result, the development of better mental health outcomes (i.e., fewer depressive symptoms).

Mental Health Conversations during Haircare. Findings indicated that ERI affirmation was a significant moderator of the relation between MHL and mental health conversations during haircare. Among students with greater ERI affirmation, MHL did not significantly predict mental health conversations during haircare (i.e., talking with hairstylist or barber about mental/emotional health during hair care appointment). However, for students with lower ERI affirmation, MHL predicted fewer conversations about mental health during haircare. It may be that students who feel less positively about being Black may be more likely to hold the beliefs that talking about mental health outside of family members, close friends, or religious settings is not appropriate and/or safe.

Additionally, findings indicated a negative association between ERI affirmation and mental health conversations during haircare such that, individuals that had more pride in being Black American had fewer mental health conversations during haircare. It could be that individuals are identifying with the negative misconceptions associated with mental health care within the Black community leading to fewer conversations about mental health. However, it could also be that the act of haircare as an activity and what it may mean to Black individuals may have promotive benefits causing mental health conversations during haircare to not be a priority for Black college students. Scholars have indicated that getting one's hair done can lift one's spirit and mood by providing a context for engaging in self-nurturing, developing a positive self-worth, and that the haircare process may affirm Black women's identities and mental health (Ashley & Brown, 2015). More recently research has discussed the empowerment and value Black women find in their hair, which hasn't always been the case given the preferences of Eurocentric aesthetics in professional settings and the effects of discrimination Black individuals face based on hair (Johnson, 2013; Robinson, 2011; Lee & Nambudiri, 2021). For Black American individuals, hair texture, length, and hairstyles have served as an evaluative tool for not only beauty and self-esteem but even access to educational and employment opportunities (Johnson & Bankhead; 2014). The historical devaluing of Black hair, its texture, length and the diversity of hairstyles within the U.S. has created a unique and complex link between Black hair, Black American's identity, self-worth and mental health (Mangum & Woods, 2011). Scholars have suggested incorporating traditional mechanisms like haircare as a complementary activity to mental health care and that maintaining excellent hair health may promote better mental health given the time and energy Black individuals invest in their self-concept during the process of caring for their hair (Roland & Mbilishaka, 2019).

The current study also found that students who indicated greater ERI exploration held more mental health conversations during haircare. Previous research suggests that barbershops and salons are open spaces to discuss health and mental health related topics (Linnan & Ferguson, 2007; Palmer et al., 2021) and that conversations related to mental health in these culturally relevant spaces have been found to improve self-esteem among African American young girls (Ashley & Brown, 2015), which is key to positive mental health and well-being. However, research in this area has yet to further explore the act of haircare (e.g., caring for oneself and one's hair) as a form of mental health-related selfcare. Additionally, research in this area has mainly focused on women, with limited research among college students. It will be important to examine differences based on one's gender identity in how ERI attitudes (i.e., affirmation) development unfolds to further explore the nuances between MHL and haircare among Black college students. Given the current study's findings, ERI affirmation or pride in being Black American is a relevant cultural factor to consider among the relation between MHL and promotive MHRBs such as mental health conversations during haircare and provides further insight on how to promote better mental health among Black college students.

Indirect Effects of ERI Predicting Mental Health Symptoms via MHRBs

ERI Exploration and Resolution as Predictors. Further, although the inclusion of ERI in the current study was to test its interactive effects with MHL, interesting findings emerged directly and indirectly with ERI behaviors, selfcare, and mental health symptoms. ERI behaviors (i.e., exploration and resolution) predicted *greater* academic selfcare and, in turn, *fewer* depressive symptoms. For this current study, academic selfcare was a measure of engagement in behaviors like taking a break daily from commitments/activities, balancing workload, or identifying projects or tasks that are rewarding. Related research in this area indicates that stress

on college campuses is strongly related to negative outcomes and emotions for undergraduate students (e.g., academic performance, anxiety and depression; Andres & Wilding, 2004). In addition to the general sources of stress that most college students may experience (e.g., financial hardships, academic and/or interpersonal stress), Black college students are faced with race-related stressors (e.g., racial discrimination, prejudice, microaggressions) that are also related to worse mental health outcomes (Gómez, 2013; Williams et al., 2020). Thus, it could be that students who have greater exploration are navigating both the daily stressors of being an undergraduate student, but also stressful events related to racism, biases or other stressful events specific to their ethnic-racial identity or status as minorities on campus and may utilize academic selfcare activities to combat depressive symptoms.

Additionally, findings indicated that students who reported more resolution also utilized academic selfcare activities leading to fewer depressive symptoms. Previous related research among Black American high school students indicated that students who expressed higher ERI resolution or having a friend group that reported higher ERI resolution increased their feelings of school belonging, suggesting a promotive benefit of ERI resolution within a school context (Medina et al., 2020). Thus, it could be that for Black college students who engage in academic selfcare within the college context, ERI resolution is also a promotive factor and acts as a buffer against the development of depressive symptoms. Future research should explore the tasks or projects Black college students with higher ERI resolution choose to take part in as their academic selfcare activity. It may be that students are taking a break from their identity as an academic and are turning more into themselves and who they are outside of being an academic scholar to alleviate the pressures of upholding expectations for high-achieving Black students to represent the entire Black community by participating in academic selfcare activities.

ERI behaviors (i.e., exploration and resolution) also indirectly predicted anxiety and depressive symptoms via emotional selfcare, such that students' greater ERI behaviors predicted *greater* emotional selfcare practices and, in turn, *fewer* anxiety and depressive symptoms. This finding highlights the importance of examining ERI exploration and resolution processes and how they shape the activities Black American college students take part in, such as emotional selfcare, that may promote positive mental health. Subsequently, ERI behaviors may be leveraged through interventions to improve Black college students' mental health and reduce racial mental health disparities.

ERI Resolution and Centrality as Predictors. To continue, ERI resolution and centrality predicted greater physical activity and, in turn, fewer depressive symptoms. Prior research has indicated that physical activity (e.g., exercise) plays a preventative role in the development of mental health symptoms (i.e., odds of depression; Torres et al., 2013) among Black individuals. However, the majority of work in this area has typically included predominately white samples. Thus, for Black college students who are clear on what it means to be Black American and for students who indicated that being Black American is key to their self-concept engaged, it could be that engaging in physical activity is a part of students' resolution process as they are navigating their ERI development. Prior research among graduate students and student-athletes has indicated therapeutic benefits (e.g., mental clarity) of rigorous physical activity and other mindfulness activities like yoga (e.g., Burg, Wolf, & Michalak, 2012; Goodman et al., 2014). Also, relevant research has found that among Black male college students, students were more likely to engage in physical activity to deal with racialized stress (Goodwill et al., 2018). Thus, it could be that for Black college students who are clear on who they are and who indicated that being Black American is key to their self-concept engage in

promotive behaviors such as physical activity to promote better mental health (i.e., fewer depressive symptoms) given the promotive benefits of further mental clarity that engaging in physical activity has shown to have for college students. Given this, the current study reveals important implications regarding the relation between ERI resolution and centrality and depressive symptoms for students who engage in physical activity and suggests implementing physical activity in interventions and programs aimed to promote positive ERI development and fewer mental health outcomes among Black college students.

Direct Effects of ERI Predicting Mental Health Symptoms. Across numerous models in the current study, aspects of ERI predicted mental health symptoms (i.e., anxiety and depressive symptoms) directly. The current study findings revealed a negative association between ERI affirmation and mental health symptoms such that students who had greater pride in being Black American had fewer anxiety and depressive symptoms. On the other hand, students who had less pride, indicated greater anxiety and depressive symptoms. These findings suggest that continuing to promote ERI pride among Black college students will be beneficial to developing positive mental health.

Interestingly, findings revealed a positive association between ERI exploration and depressive symptoms. Examining the role of racial discrimination, negative stereotypes and how Black American students engage in these processes given their ERI may be useful in understanding the relation between ERI exploration and depressive symptoms. A recent review highlights that ERI may protect against the negative effects of discrimination in some cases, while in others, pose vulnerabilities (Yip, 2018) revealing an inconclusive manner of the relation between process dimensions of ERI and mental health symptoms among Black American college students. More research is needed to further understand these complex processes. Additionally,

higher education contexts present various opportunities to explore more about one's race which may be different outside of higher education contexts. Research exploring these notions among Black American emerging adults outside of the college context will be important.

Research Implications, Limitations, and Future Directions

Overall, research examining the role of ERI in the association between MHL and promotive MHRBS, and research examining the mediating role of promotive MHRBs in the association between MHL and mental health outcomes (i.e., anxiety and depressive symptoms) is important when considering ways to promote better mental health among Black college students. Identity formation and marginalization (e.g., negative race-related experiences) and the other daily stressors of being a Black college student at a PWI could interfere with the use of promotive MHRBs, and potentially increase the risk of negative mental health outcomes (e.g., Fripp & Carlson, 2017; Powell et al., 2016). This underscores the need to specifically support ERI development and promotive MHRBs to assist Black college students in successfully navigating these challenges.

There are a number of study strengths and implications for research and interventions. Specifically, the finding that students who indicated greater ERI resolution had greater MHL and greater promotive MHRBs (i.e., psychological, emotional and spiritual selfcare) suggests that research and interventions that aim to promote better mental health knowledge and behaviors among Black college students should focus on implementing ways to continue to increase students' ERI development. In particular, diverse PWIs should continue to center Black college students' experiences through incorporating additional resources into supportive networks for Black students that have a specific focus on disbarring the misconceptions of mental health care

mistrust and fear of double discrimination, and aim to increase MHL, optimizing the psychological well-being of Black students.

Further, cultural factors such as ERI may be beneficial in understanding how students' attitudes, experiences and culture shape the knowledge and the activities that they take part in to promote or maintain their mental health. Thus, the finding that students who indicated greater ERI exploration were less likely to translate their MHL into spiritual selfcare suggests that additional cultural factors could be at play. In fact, in addition to ERI, racial socialization and Africentric worldview have been found to be protective factors that buffer against negative mental health outcomes among Black individuals (see Neblett et al., 2012 for review). It could be that students may be thinking about other cultural values such as Africentric collectivism which emphasizes an individual's sense of connection to and responsibility for members of their group (Bellgrave & Allison, 2018). Prior research has indicated that Afrocentricity may play a role in alleviating negative mental health outcomes among Black first-year college students (Neblett, Hammond, Seaton, & Townsend, 2010). However, mainly research in this area among college students has focused on students' beliefs about the value of higher education and academic success within PWIs (e.g., Carson, 2009), with less focus on how collectivism may influence Black students' MHRBs and mental health outcomes. Thus, future research in this area may benefit by exploring additional cultural factors and their influence on the association between MHL and promotive MHRBs. Further, scholars have recommended that qualitative and mixed-method approaches may be useful for the inclusion of dimensions of Afrocentricity in empirical work given that this construct has been included less frequently in investigations and typically been conceived of as an attribute of the individual and not as collective or communal protective mechanisms (Jones & Neblett, 2017).

Additionally, the finding that MHL predicted less anxiety and depressive symptoms via emotional selfcare among students that indicated high and low levels of ERI resolution, and that MHL predicted fewer depressive symptoms via mental health help-seeking intentions among students who indicated greater ERI exploration suggests that research and interventions that aim to promote better mental health knowledge and positive mental health among Black college students should continue to examine additional mechanisms such as emotional selfcare and mental health help-seeking intention to increase MHL and promote better mental health outcomes among Black college students.

The finding that MHL was not directly associated with promotive MHRBs suggests a need for further research that considers how Black college students are learning about mental health disorders and the experiences that inform how they engage in behaviors that impact their mental well-being. Such a focus would provide insight for researchers and interventions regarding MHL and better mental health outcomes. Recommendations from Jones & Neblett (2017) suggests that investigating protective mechanism like ERI and other cultural factors as moderators and mediators is critical in the development of effective treatment to better understand and alleviate mental health disparities among Black individuals, and the current study supports this notion. Further, research in this area highlights that there may be potential clinical benefits in promoting a positive ERI and promotive MHRBS to ensure better mental health outcomes for Black college students. It will be key for clinicians to leverage ERI and promotive MHRBs in programs and interventions to improve mental well-being among Black college students.

Limitations and Future Directions. While the current study contributes to nuanced processes underlying anxiety and depressive symptoms among Black American college students,

there are various limitations to acknowledge. First, it is important to consider limitations in the measures. For example, given the COVID-19 pandemic, the MHL assessment was administered via an online survey instead of in-person, which is how it was designed to be administered. While additional safeguards were added to the assessment (i.e., a question asking if the participant used help online or not), future work should continue to examine the survey structure, reliability, and validity of an online version of the MHL assessment to ensure consistent results.

Further, to reduce participant burden, many of the measures in the current study were shortened. For example, anxiety and depressive symptoms were each assessed with four items from the original measures, limiting the capacity of the current study to assess clinical cutoffs and diagnoses for anxiety and depression. To further understand mental health outcomes, future research should use full measures of anxiety and depression.

Additionally, the item used for haircare as a MHRB did not assess the actual promotive behavior of caring for one's hair as selfcare, but instead assessed conversations regarding mental health during haircare services. A future direction would be to further examine what actions define haircare selfcare for Black college students and to further examine how haircare, as a promotive MHRB specifically, plays a role in the relation between MHL and anxiety and depressive symptoms.

Further, in the current study, we did not ask specifically about students' ethnicity. We acknowledge the rapidly changing demographics of the U.S. (Graham et al., 2014), and that there is variability in Black Americans' ethnic backgrounds. There are important cultural features associated with an individual's identification with being Black American that are lost when the identity is considered racial and not ethnic or cultural (Cokley, 2005). ERI processes may refer to both racialized experiences due to the label of "Black American" or could also include the

connection and experiences that students may have based on their ethnic or cultural ancestry (Umaña-Taylor, 2014). Thus, future research should include questions about students' race and ethnicity to better capture that both racial and ethnic identification categories may play a role in the meaning-making process of forming one's identity and in informing what promotive MHRBs students may take part in to better their mental health.

Another limitation was that while the current study did include a question to assess the impact of the COVID-19 pandemic on Black college students' mental health (i.e., "How has the coronavirus crisis changed your stress levels or mental health?"), we did not ask about the personal and/or vicarious trauma that participants may have experienced. Scholars have highlighted the challenges within the Black community of trying to maintain one's existence and mental health when experiencing the Black lives lost to unjust killings by law enforcement and the harms of the COVID-19 pandemic that continue to exacerbate racial inequality and mental health disparities (i.e., double pandemic; Bickel, 2020). Thus, future work should continue to consider the continuing and lasting impact of the double pandemic on Black college students' experiences that inform their mental health outcomes.

Lastly, while this study is the initial first step in understanding the unique and complex nuances MHL, promotive MHRBs, and ERI in mental health outcomes data were cross-sectional. The Lifespan Model of ERI (Williams et al., 2020) suggests that ERI develops across the lifespan, and so an important direction for future research will be to conduct longitudinal research that focuses on the nuances of ERI processes over time and how it is associated with promotive MHRBs and positive mental health outcomes.

Further, given the limited sample size, we were unable to test differences in relations based on sex. Prior research has indicated that sex differences exist in the relation between MHL

and promotive MHRBs and mental health outcomes, thus future research should include larger, more diverse samples to assess the variability in these relations based on sexual orientation and gender.

Despite limitations, the current study builds on our understanding of the influence of MHL on promotive MHRBs, and in turn, mental health symptoms among Black college students and how an individual's ERI may play a moderating role. Results move the field forward by highlighting the promotive benefits of ERI on the association between MHL and promotive MHRBS among Black college students. Additionally, findings highlight the importance of promotive MHRBs in strengthening the association between MHL and positive mental health outcomes. It will be important for future research to consider including nuanced mechanisms such as cultural factors like ERI, as well as other promotive MHRBs, when developing interventions focused on improving promotive MHRBS and mental health outcomes among Black college students.

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Table 1

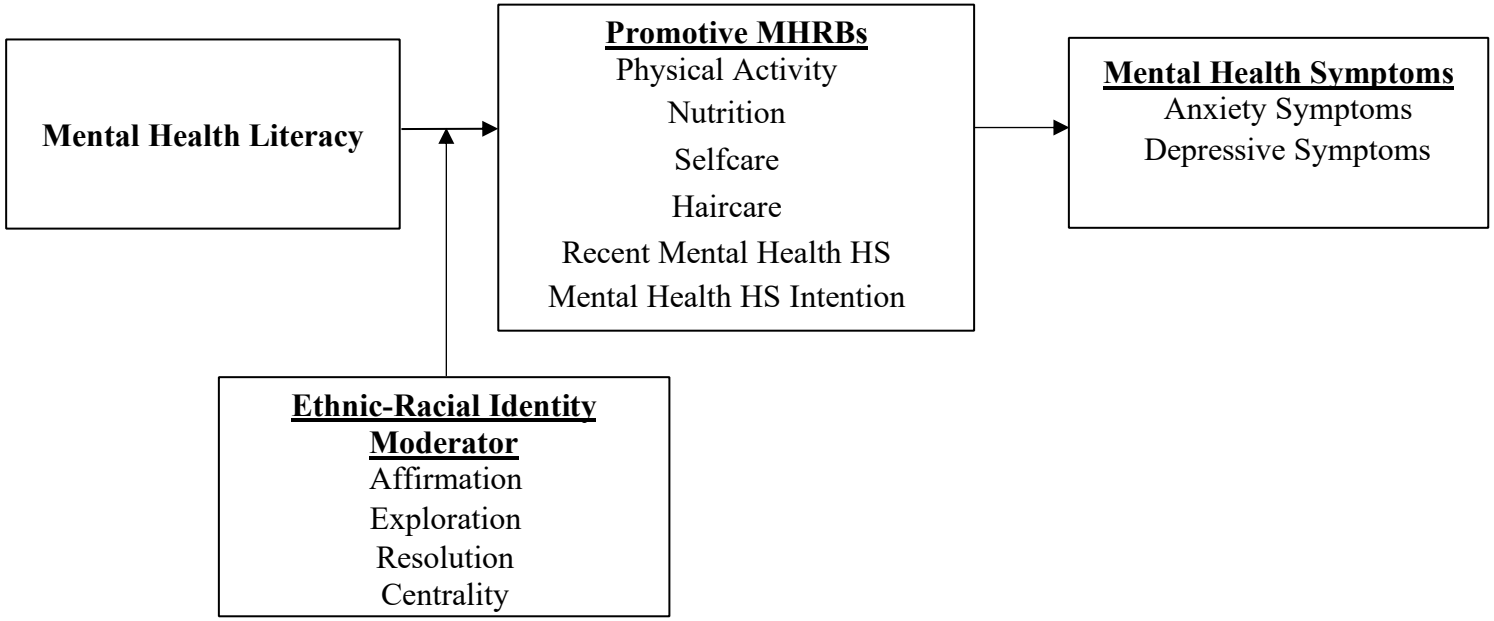
Bivariate Correlations, Means and Standard Deviations among Study Variables and Controls (N=166)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. MHLA-c	---																
2. ERI Affirmation	.17*	---															
3. ERI Exploration	.05	.06	---														
4. ERI Resolution	.09	.21**	.58**	---													
5. Centrality	.01	.07	.34**	.38**	---												
6. Gender Identity	-.06	-.10	-.08	-.10	-.10	---											
7. Covid Impact MH	-.04	.04	.03	.10	-.18*	.11	--										
8. Psychology CW	.05	-.12	.03	-.08	.13	-.00	-.09	--									
9. Physical Activity	.09	-.06	.30**	.30**	-.04	.04	.13	-.02	--								
10. Nutrition	.14	-.14	.37**	.29**	-.03	.01	.06	.05	.61**	--							
11. Psyc SC	-.00	-.06	.36**	.32**	.01	-.04	.12	.11	.36**	.38**	--						
12. Emotional SC	.01	.06	.42**	.49**	.18*	-.05	.23**	-.05	.31**	.31**	.48**	--					
13. Academic SC	.04	.20	.43**	.50**	-.04	-.15*	.26**	.00	.33**	.35**	.52**	.62**	--				
14. Spiritual SC	-.05	-.05	.51	.42**	.18**	-.11	.07	.08	.34**	.43**	.65	.57**	.57**	--			
15. Relationship SC	-.03	-.07	.44**	.40**	.16	-.11	.19*	-.02	.27**	.26**	.43**	.73**	.57**	.58**	--		
16. Haircare	-.14	-.32**	.13	-.01	.07	.10	-.08	-.03	.18*	.11	.17*	.14	.06	.21**	.15	--	
17. Recent MHHS	-.06	-.08	.17*	.08	.06	-.09	.05	-.08	.06	.12	.20*	.18*	.06	.17*	.23**	.16*	--
18. MHHS Intention	-.10	-.04	.07	.09	-.07	-.06	.12	-.10	.02	.00	.19*	.26**	.17*	.20**	.13	.18*	.03
19. Anxiety Symptoms	.04	-.25**	.10	-.01	.08	-.06	-.17*	.21**	.02	.15	.01	-.16*	-.11	.08	-.01	.03	-.02
20. Depressive Symptoms	.03	-.27**	.08	-.10	.07	-.02	-.28**	.22**	-.14	-.05	-.06	-.31**	-.27**	-.07	-.09	.02	-.00
Means	6.34	3.86	2.67	3.26	4.86	1.11	2.20	.62	1.22	1.07	1.48	2.04	1.88	1.67	1.77	.41	.91
SD	1.78	.35	.98	.77	.95	.32	.87	.49	.72	.54	.55	.57	.55	.65	.58	.79	.29

Note. MHLA-c = Mental Health Literacy Assessment for College students, MH = Mental Health, MHHS = Mental Health Help-seeking, CW = Coursework, SC = Selfcare * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Figure 1

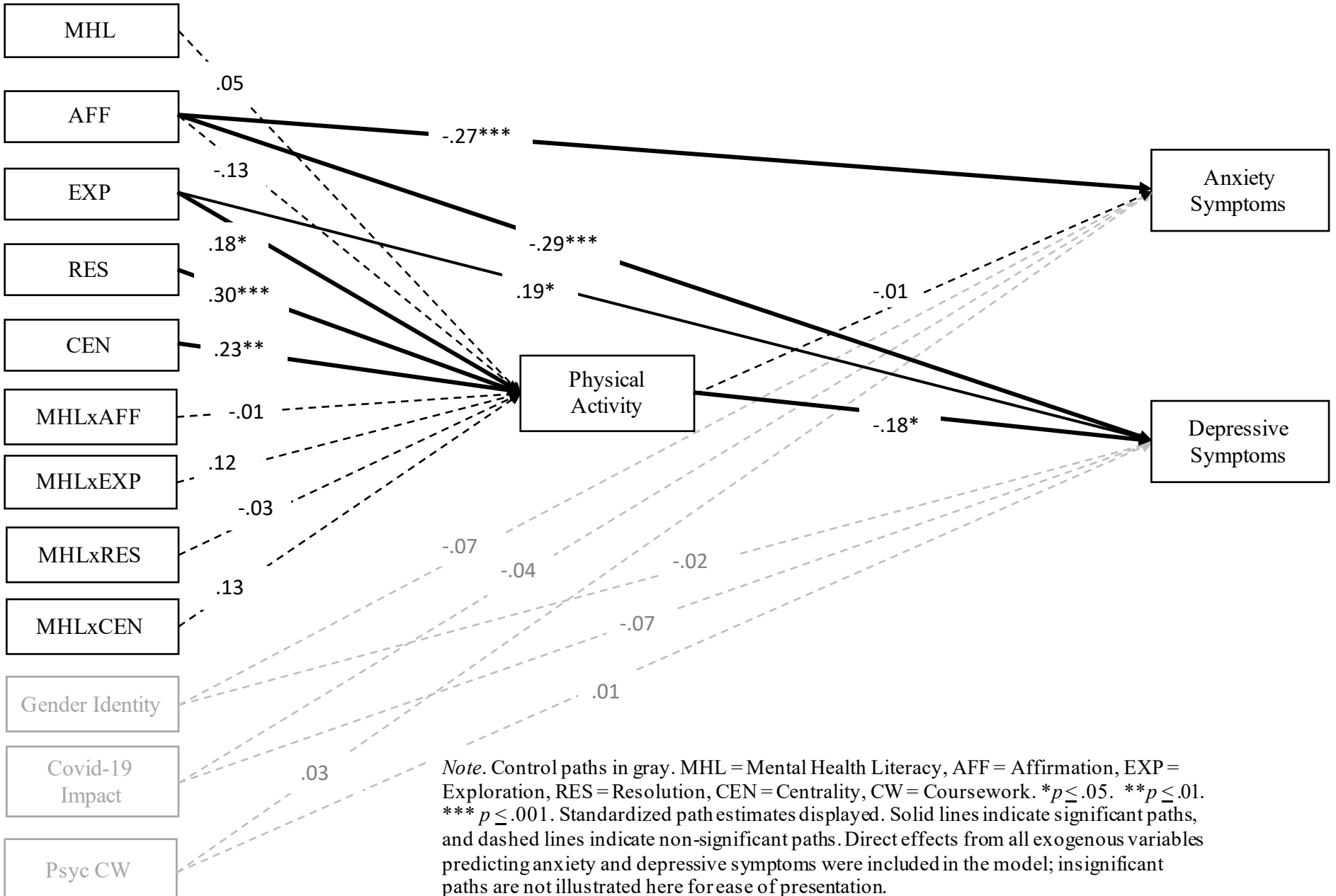
Conceptual model to test whether MH Literacy predicts promotive MHRBs moderated by ERI, and MH symptoms via promotive MHRBs among Black American individuals.



Note. MHRBs = Mental Health Related Behaviors, HS = Help-seeking

Figure 2

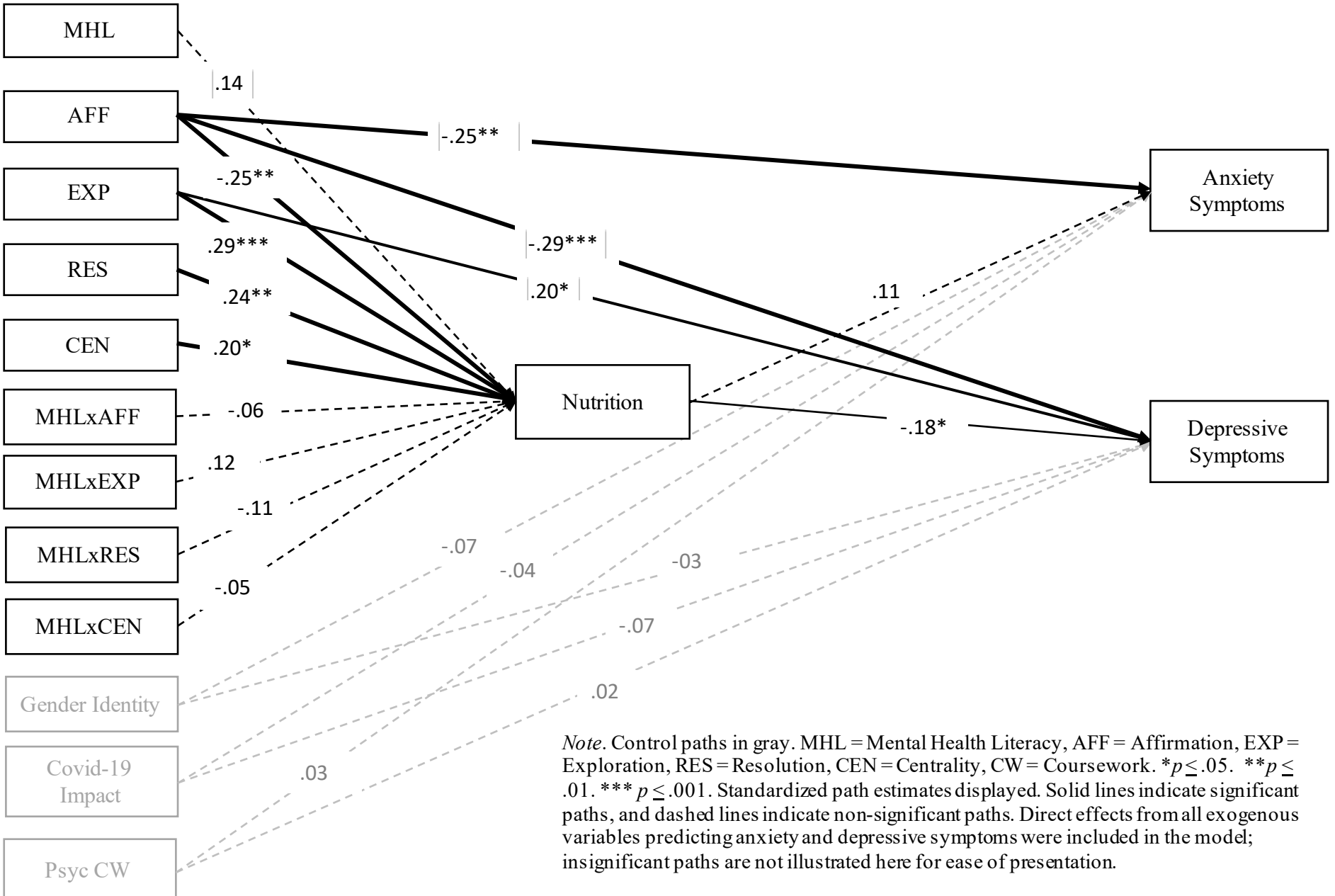
Final model testing whether MH Literacy predicts physical activity moderated by ERI, and MH symptoms via physical activity among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 3.

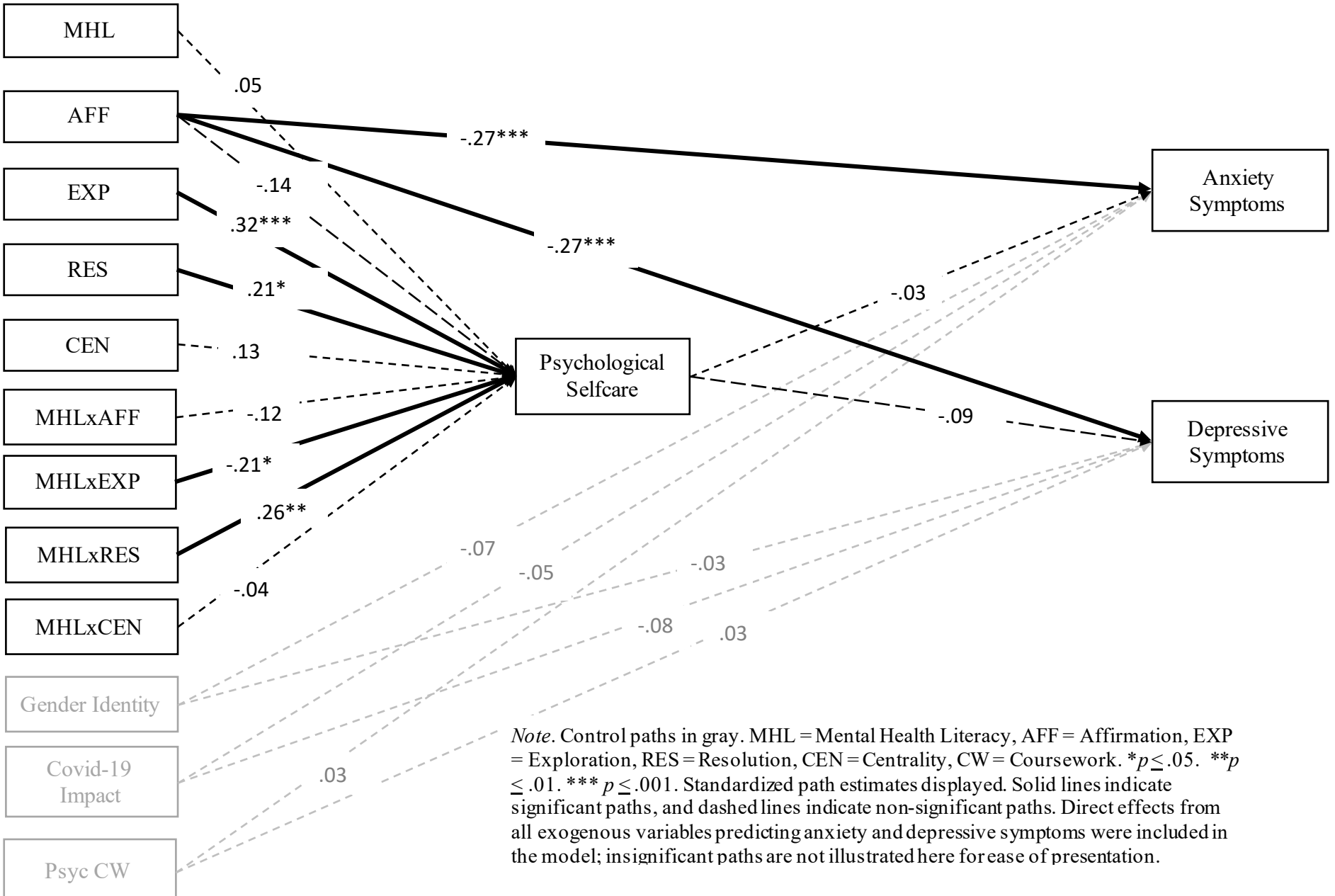
Final model testing whether MH Literacy predicts nutrition moderated by ERI, and MH symptoms via nutrition among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 4.

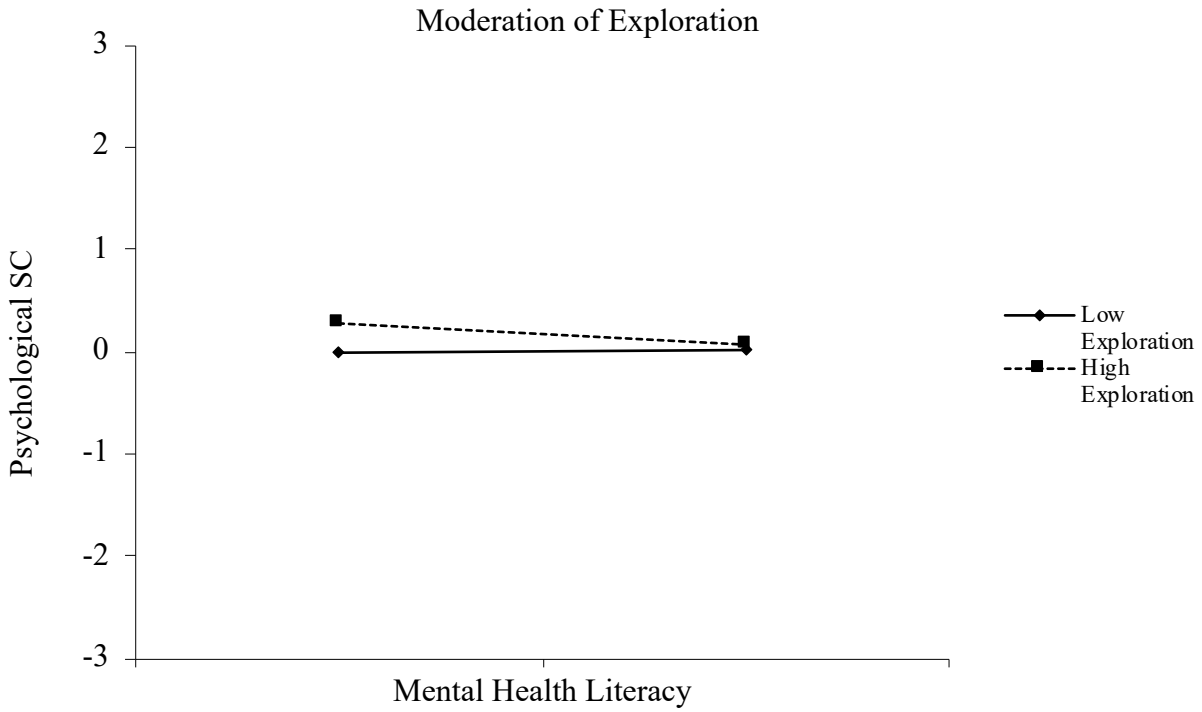
Final model testing whether MH Literacy predicts psychological selfcare moderated by ERI, and MH symptoms via psychological selfcare among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 5

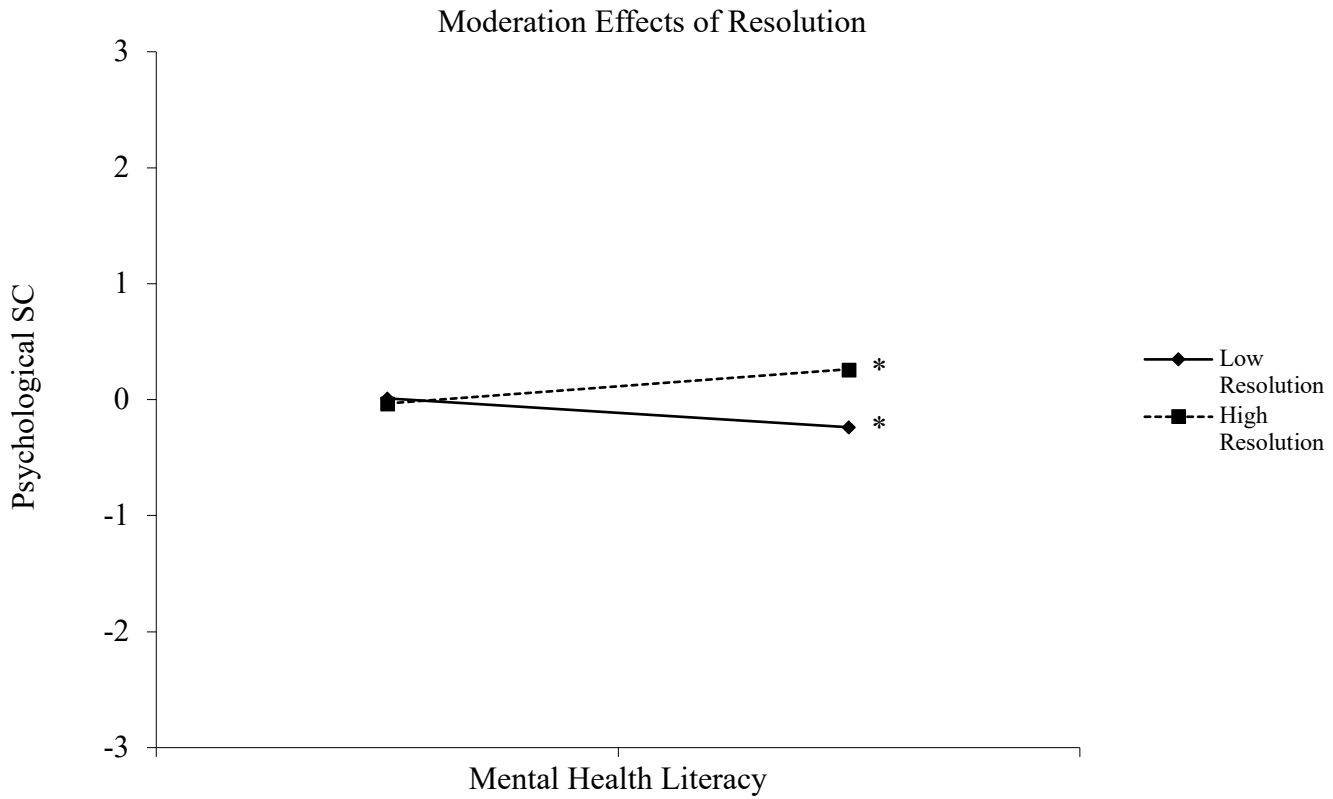
Moderation Effects of Exploration on the Association between Mental Health Literacy and Psychological Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 6

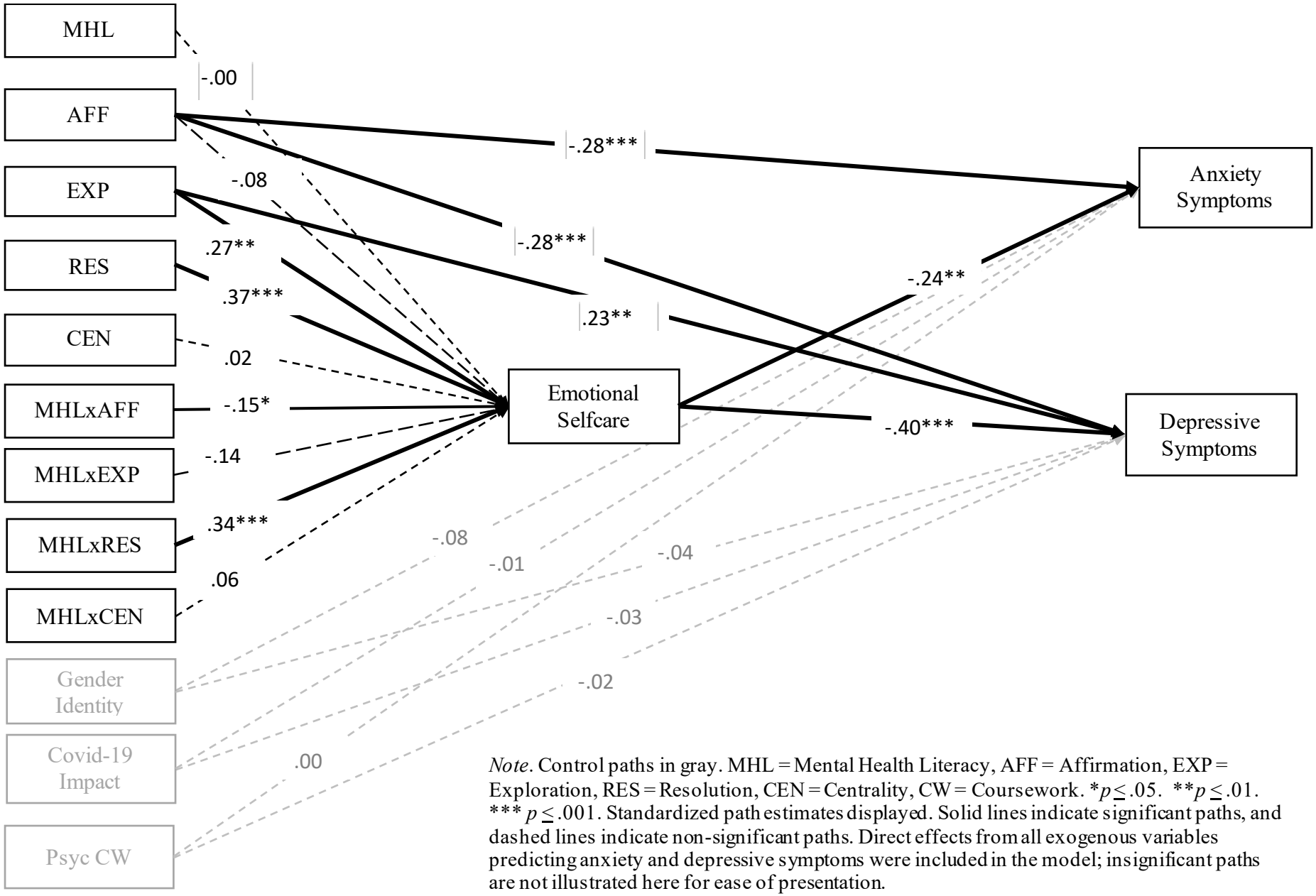
Moderation Effects of Resolution on the Association between Mental Health Literacy and Psychological Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 7.

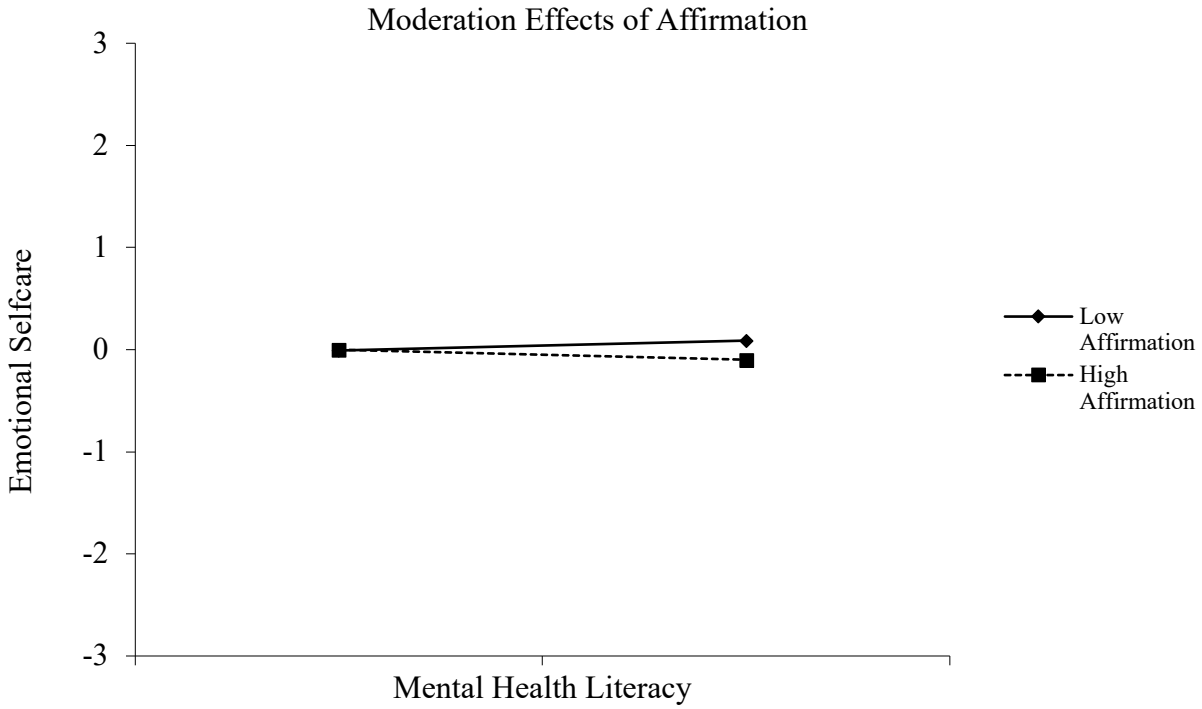
Final model testing whether MH Literacy predicts emotional selfcare moderated by ERI, and MH symptoms via emotional selfcare among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 8

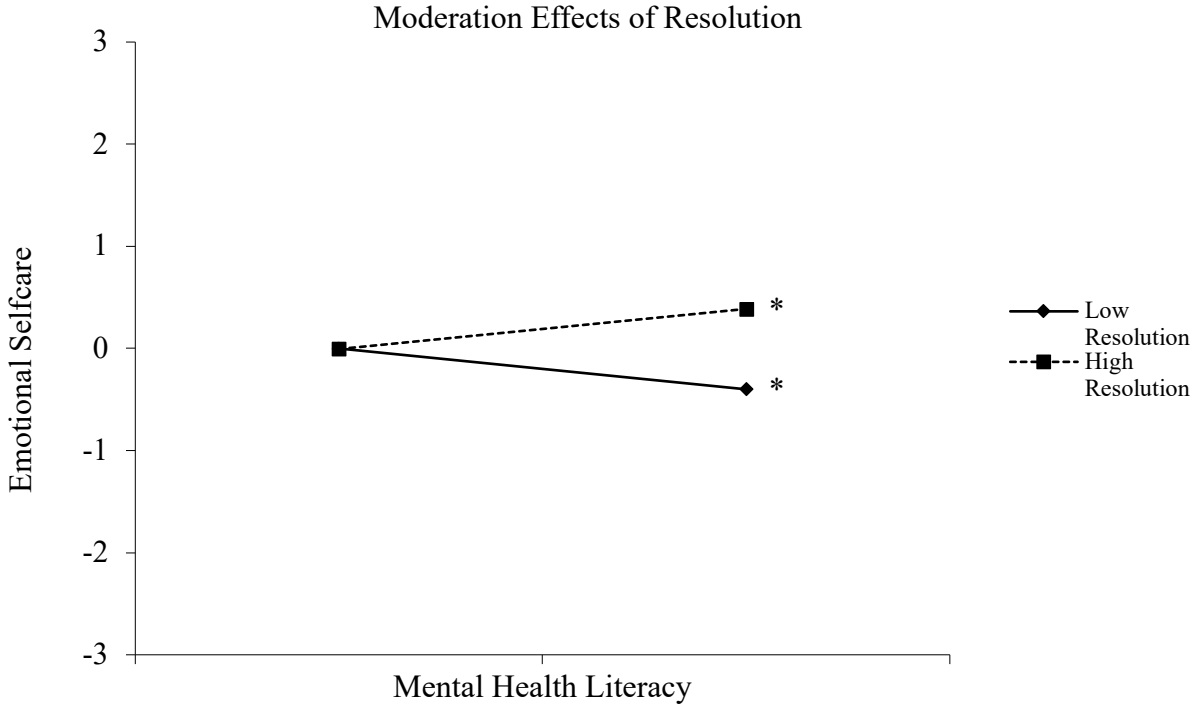
Moderation Effects of Affirmation on the Association between Mental Health Literacy and Emotional Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 9

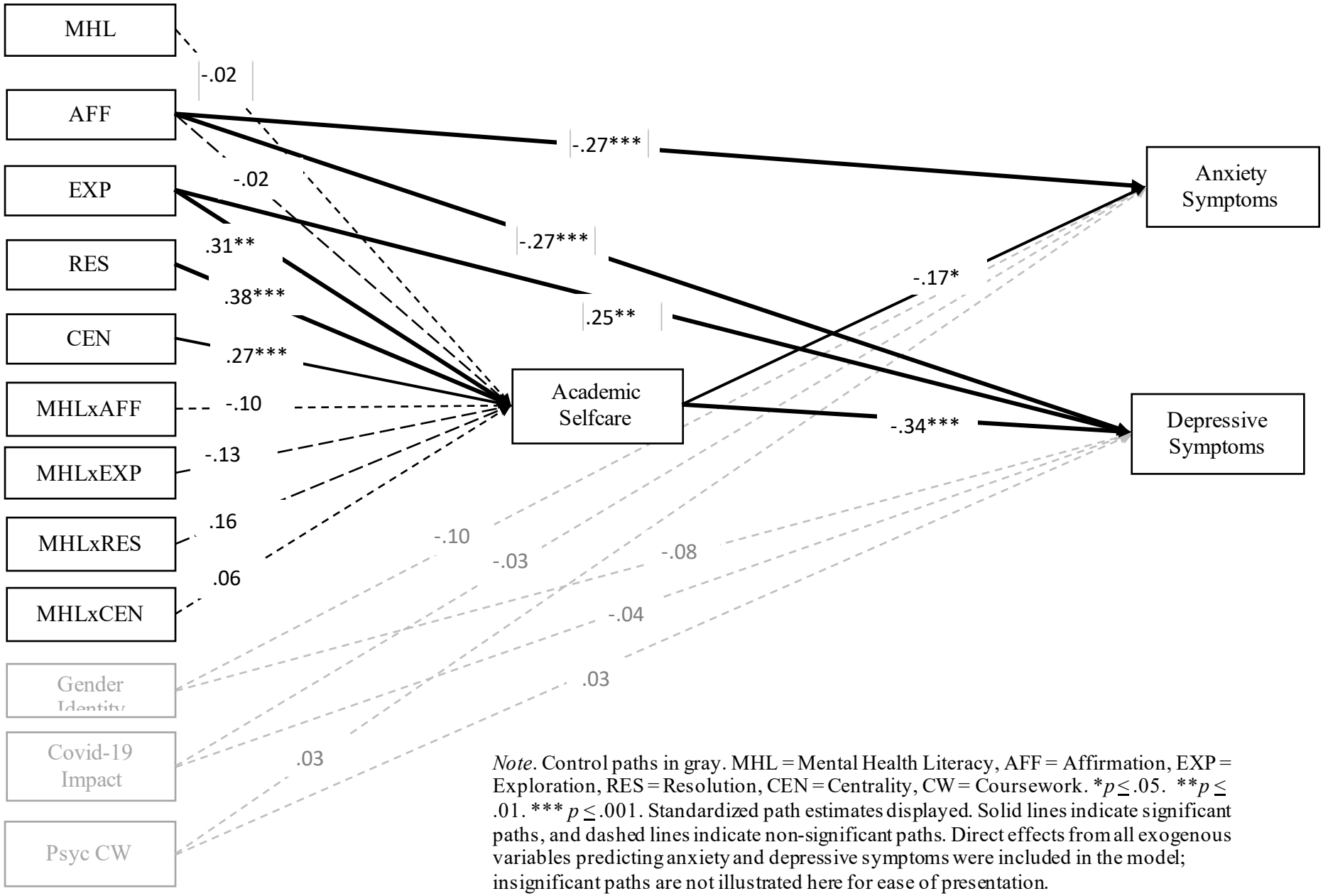
Moderation Effects of Resolution on the Association between Mental Health Literacy and Emotional Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 10.

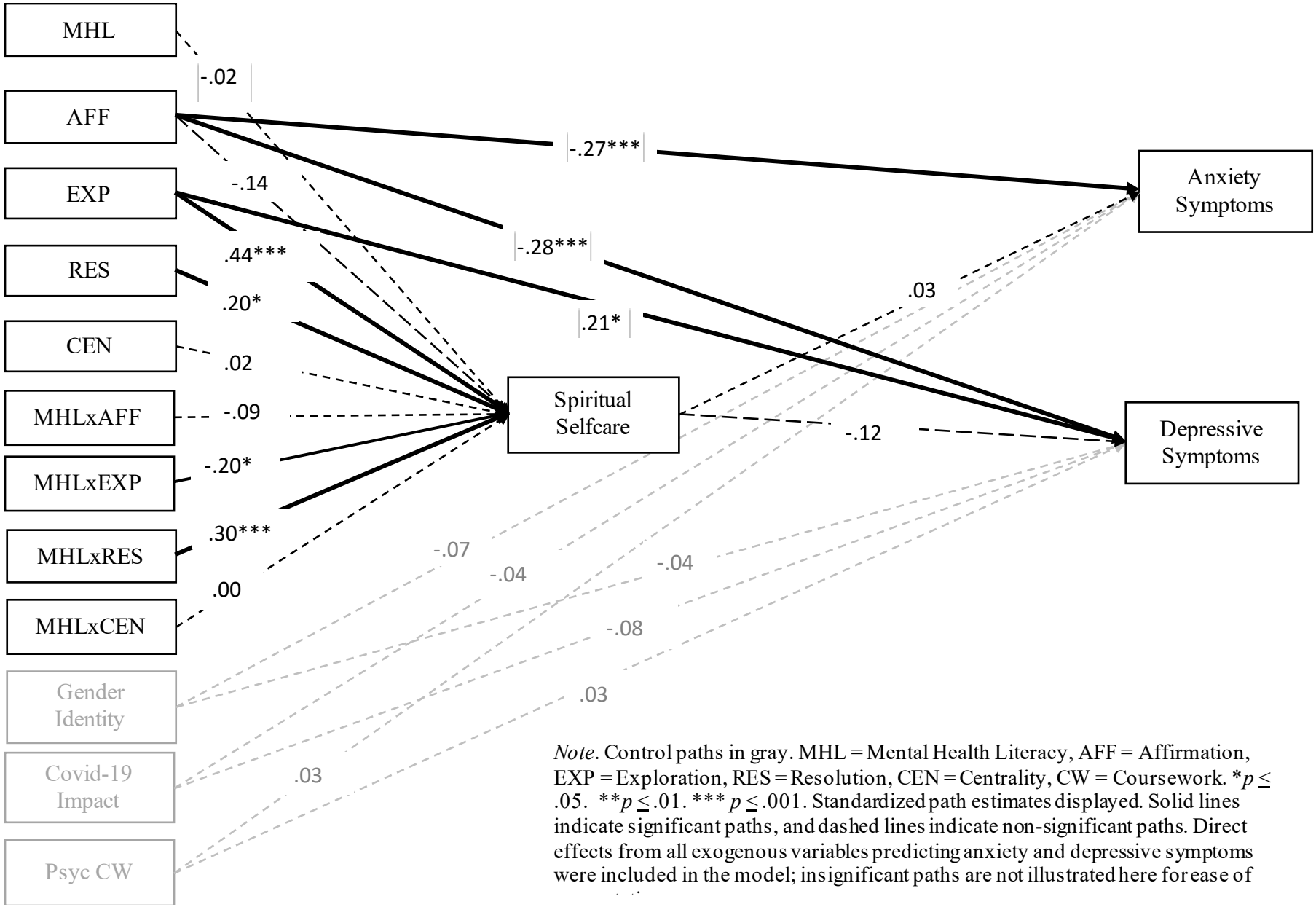
Final model testing whether MH Literacy predicts academic selfcare moderated by ERI, and MH symptoms via academic selfcare among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 11.

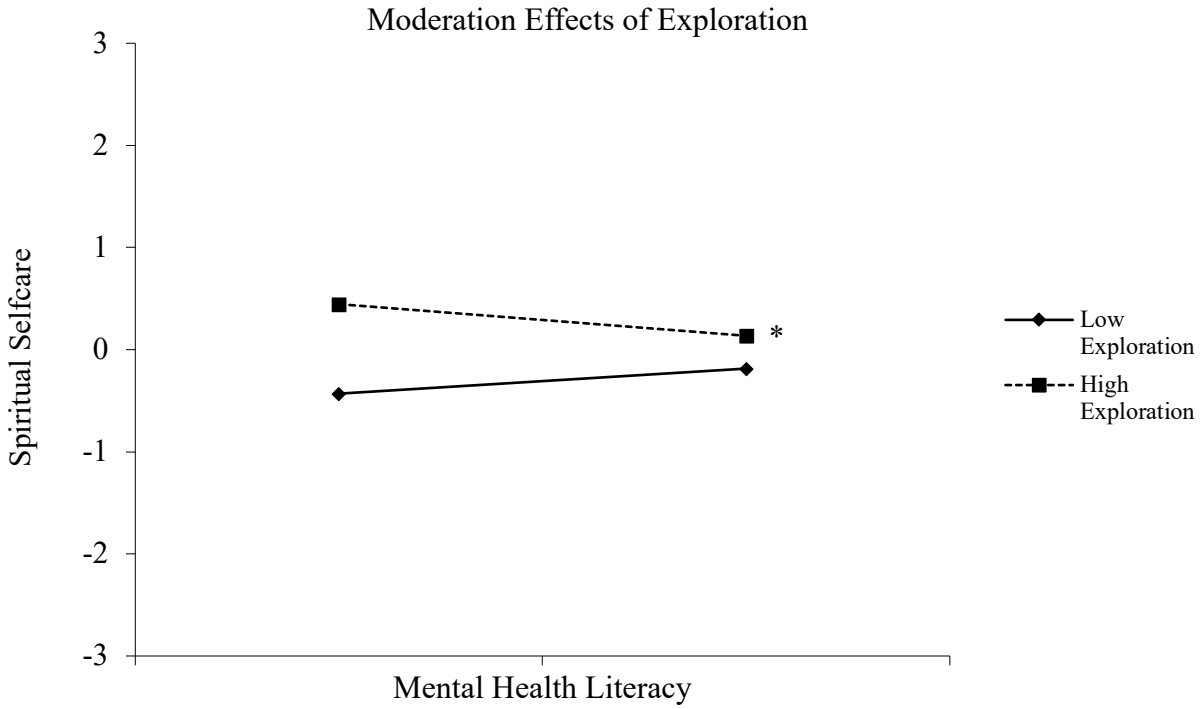
Final model testing whether MH Literacy predicts spiritual selfcare moderated by ERI, and MH symptoms via spiritual selfcare among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of

Figure 12

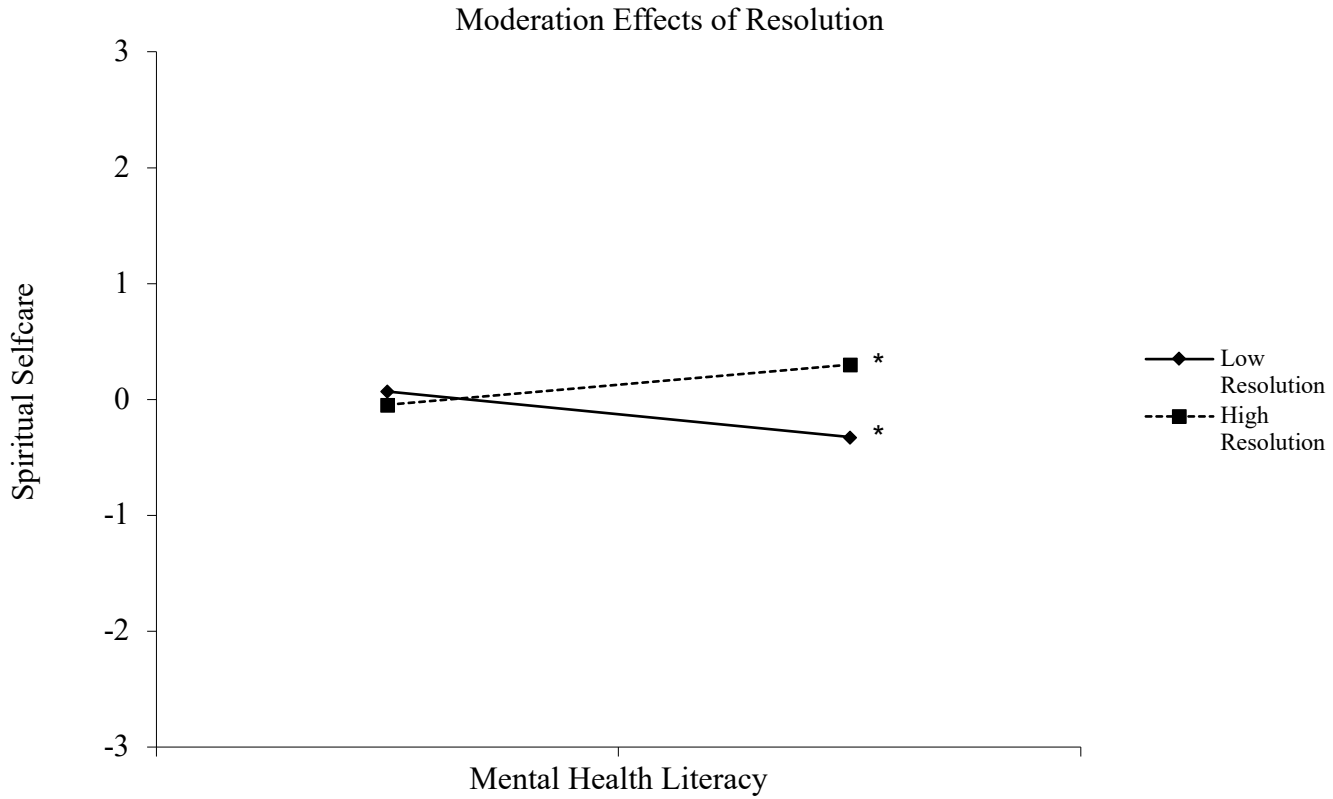
Moderation Effects of Exploration on the Association between Mental Health Literacy and Spiritual Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 13

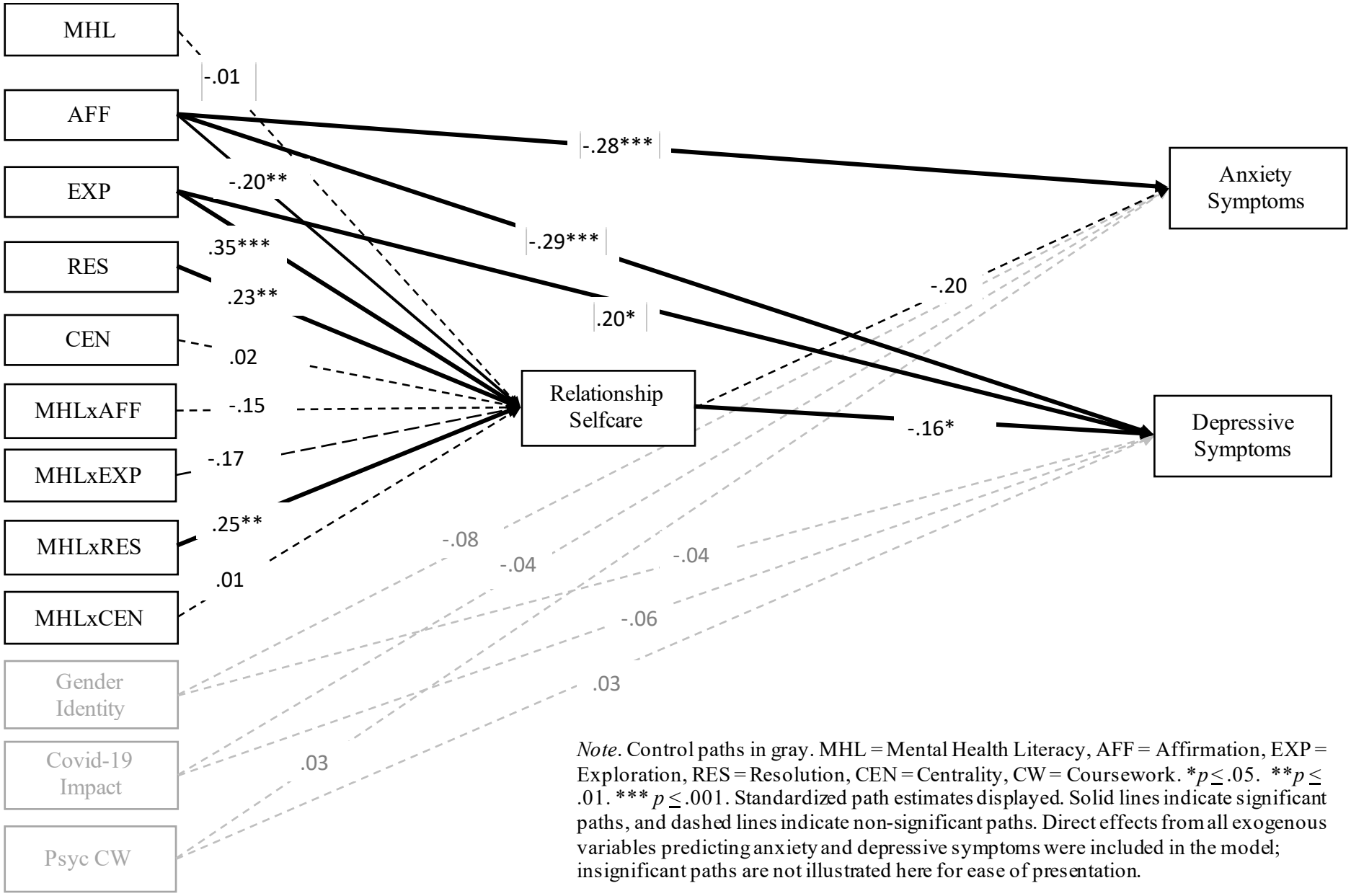
Moderation Effects of Resolution on the Association between Mental Health Literacy and Spiritual Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 14.

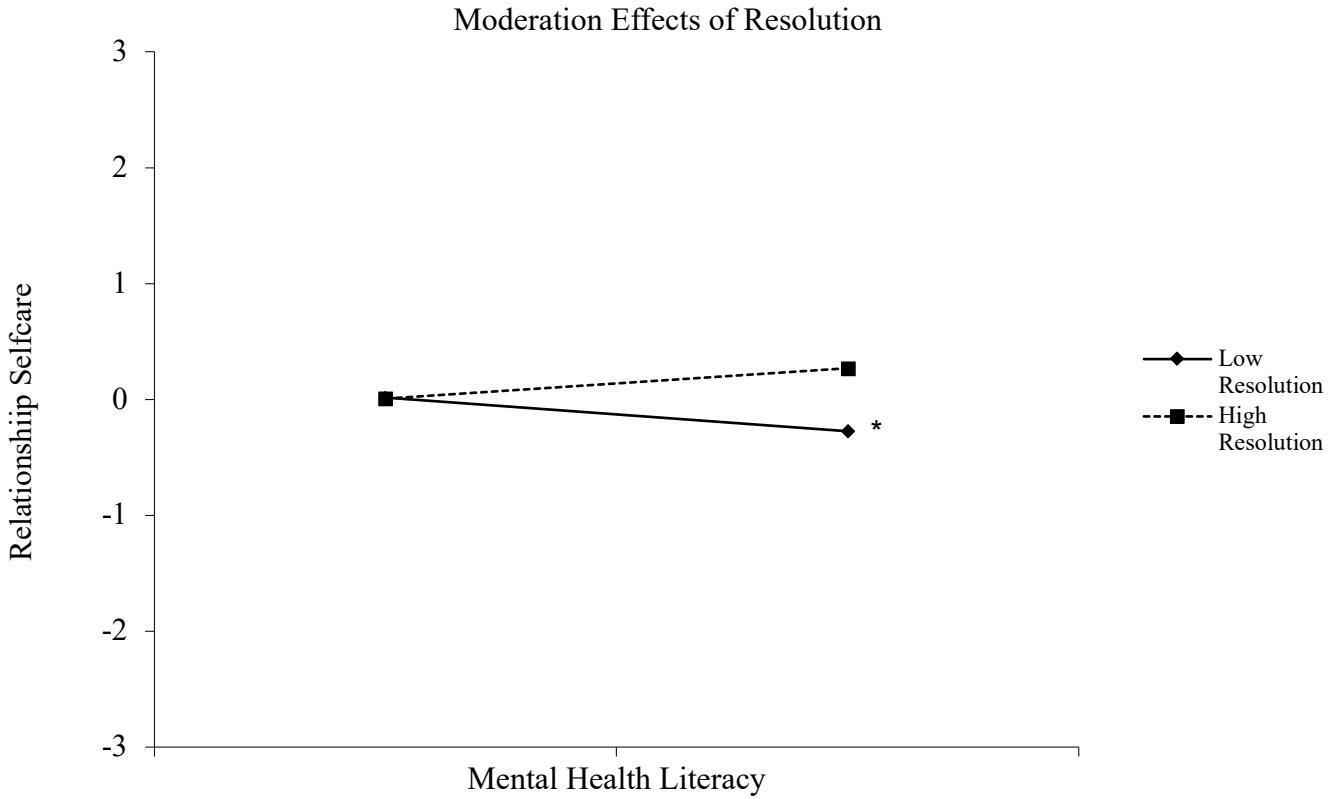
Final model testing whether MH Literacy predicts relationship selfcare moderated by ERI, and MH symptoms via relationship selfcare among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 15

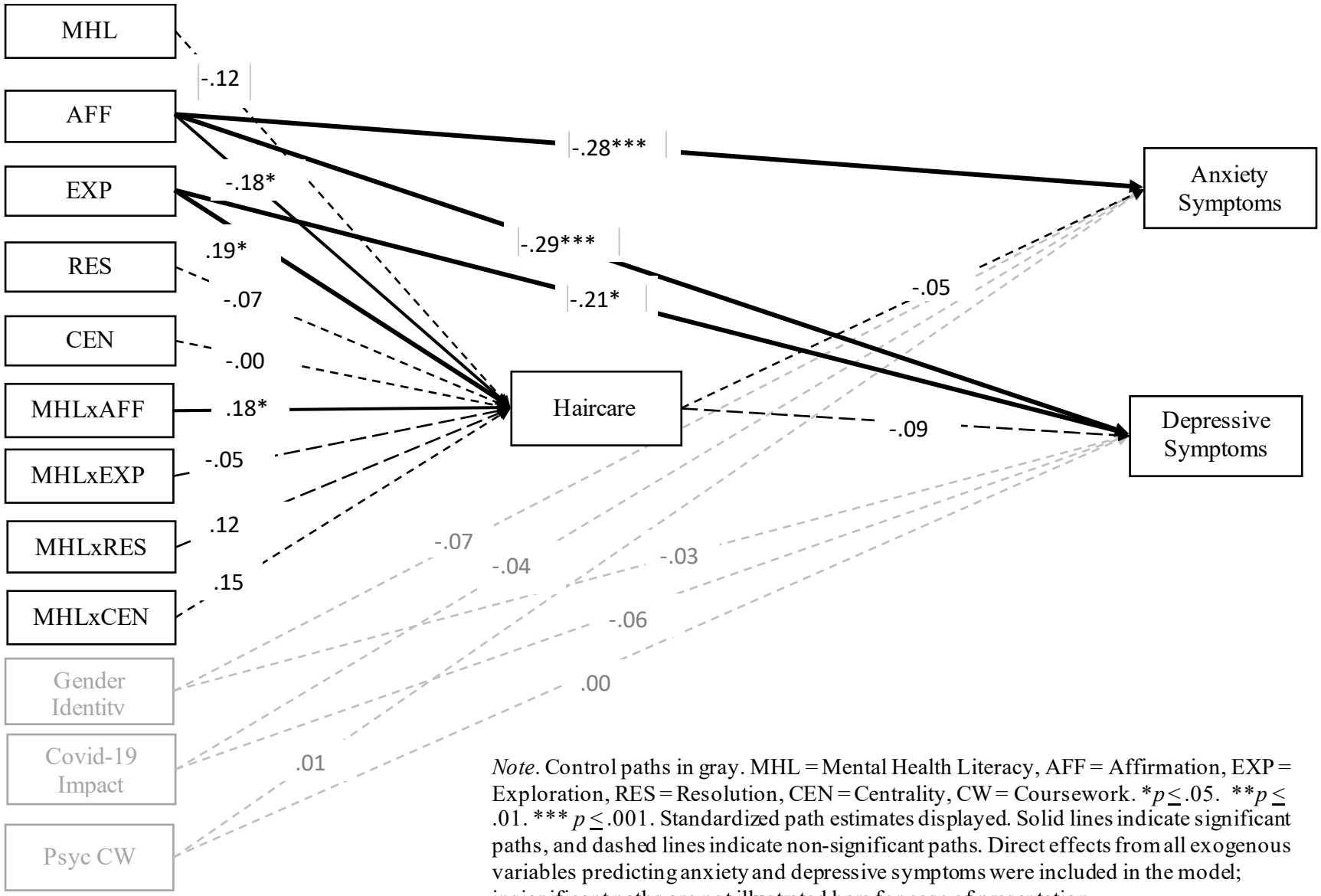
Moderation Effects of Resolution on the Association between Mental Health Literacy and Relationship Selfcare among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .05$

Figure 16.

Final model testing whether MH Literacy predicts haircare moderated by ERI, and MH symptoms via haircare among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 17.

Moderation Effects of Affirmation on the Association between Mental Health Literacy and Haircare among Black College Students (N=166).

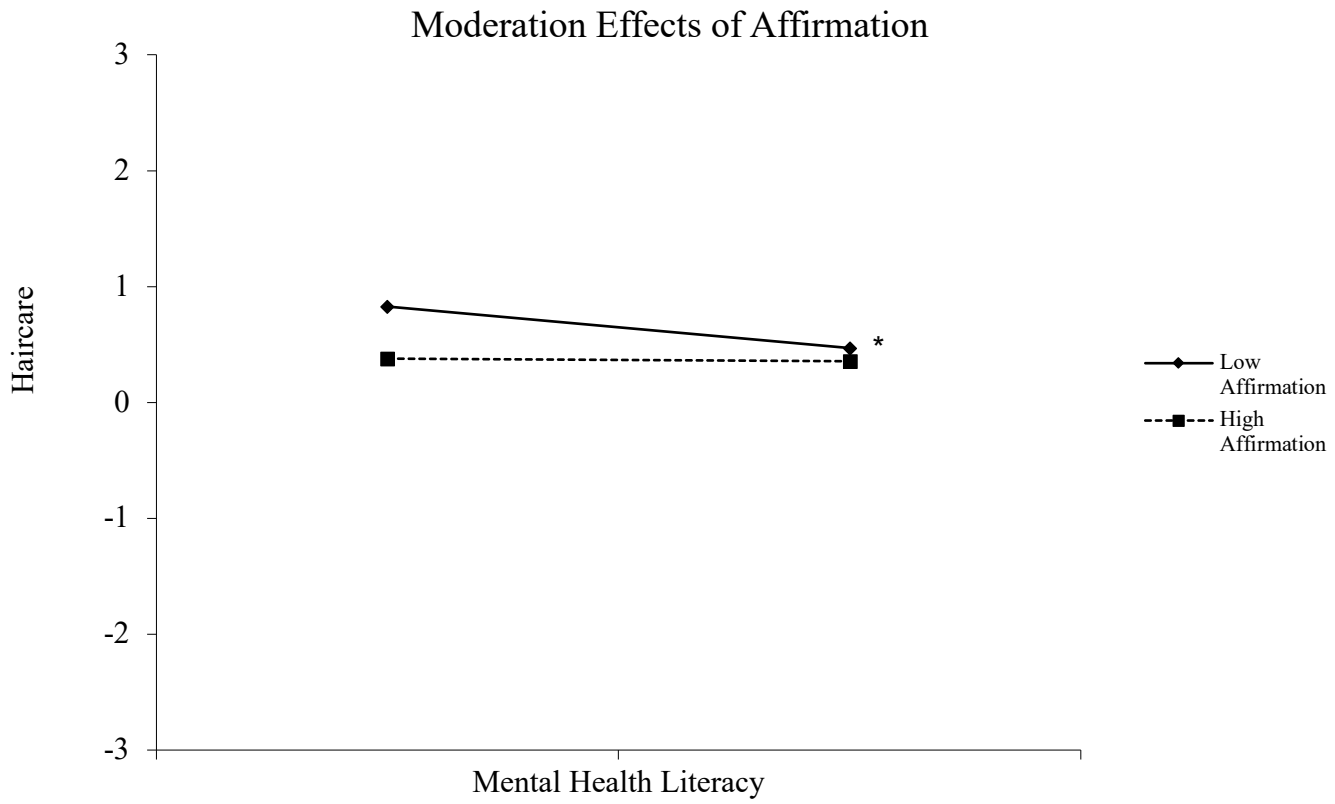
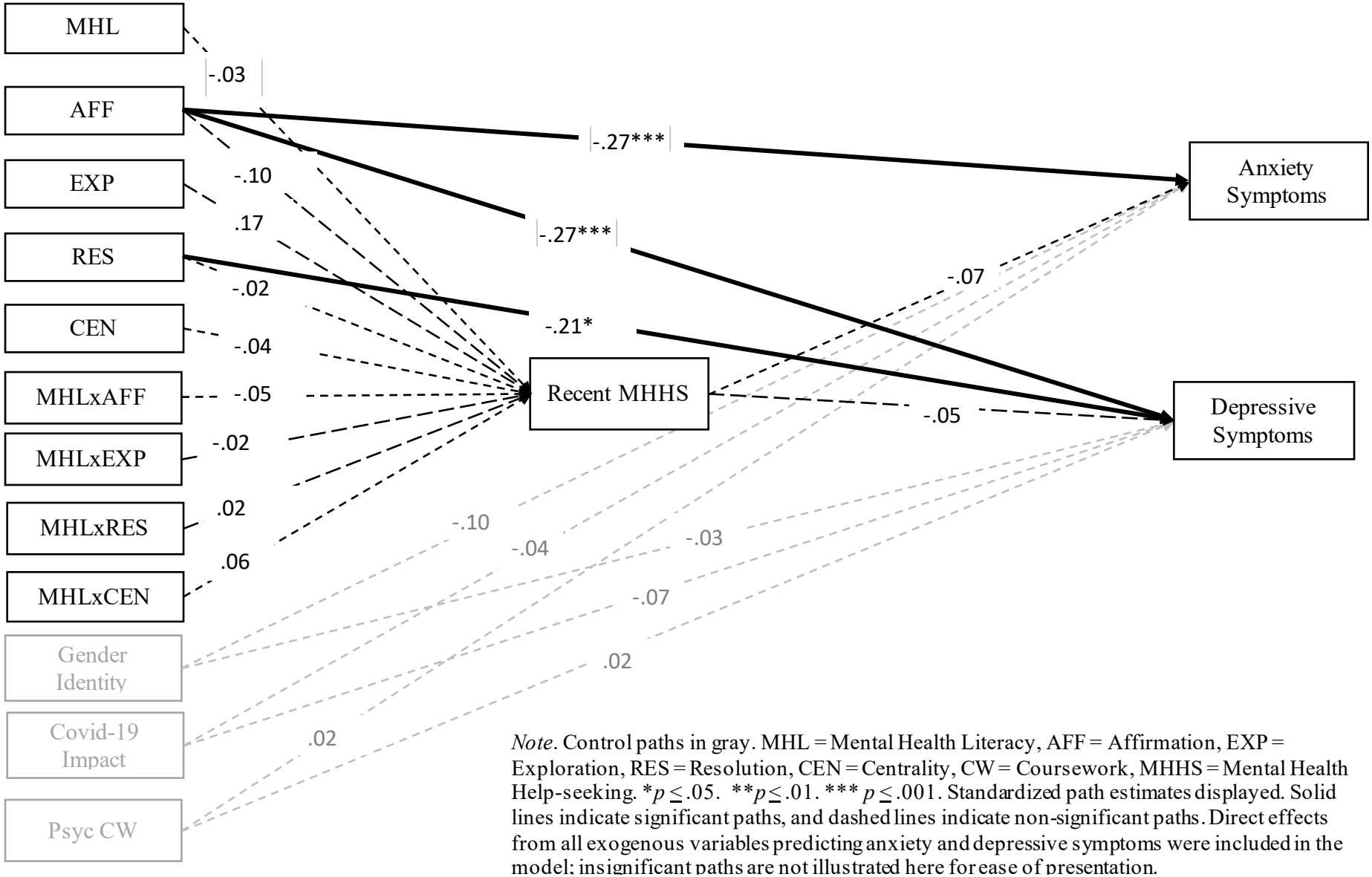


Figure 18.

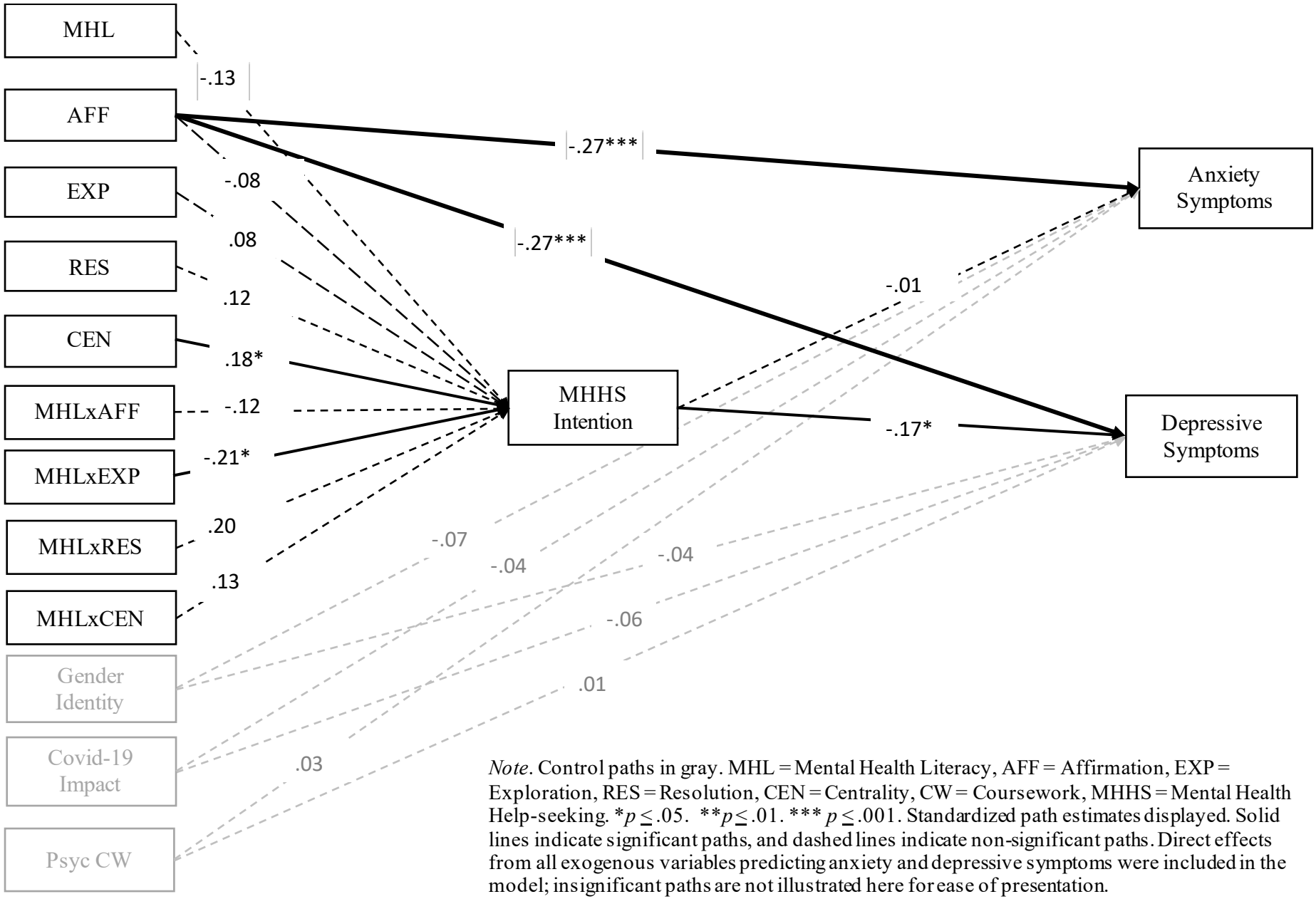
Final model testing whether MH Literacy predicts recent mental health help-seeking moderated by ERI, and MH symptoms via recent mental health help-seeking among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework, MHHS = Mental Health Help-seeking. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 19.

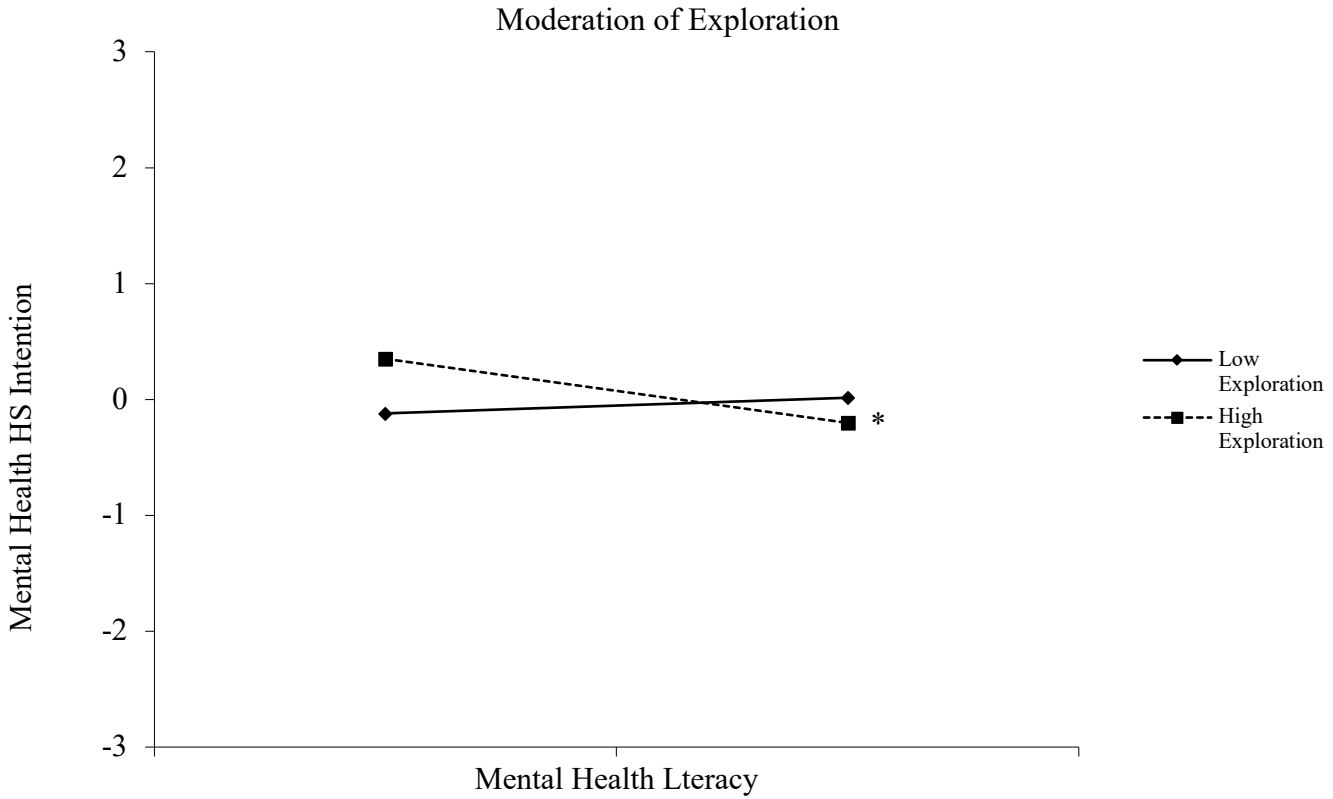
Final model testing whether MH Literacy predicts MHHS intention moderated by ERI, and MH symptoms via MHHS intention among Black American college students.



Note. Control paths in gray. MHL = Mental Health Literacy, AFF = Affirmation, EXP = Exploration, RES = Resolution, CEN = Centrality, CW = Coursework, MHHS = Mental Health Help-seeking. *$p \leq .05$. **$p \leq .01$. *** $p \leq .001$. Standardized path estimates displayed. Solid lines indicate significant paths, and dashed lines indicate non-significant paths. Direct effects from all exogenous variables predicting anxiety and depressive symptoms were included in the model; insignificant paths are not illustrated here for ease of presentation.

Figure 20

Moderation Effects of Exploration on the Association between Mental Health Literacy and Mental Health Help-seeking Intention among Black College Students (N=166)



Note. *Denotes significant slope at $p \leq .0$