THE PROMOTIVE AND PROTECTIVE ROLE OF
RACIAL IDENTITY PROFILES

by

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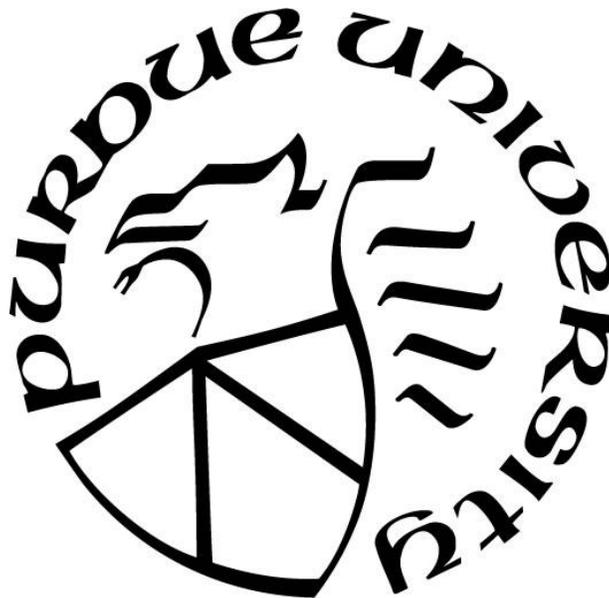
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ABSTRACT

AIM Racial identity has been shown to buffer against the effects of racial discrimination among African Americans. Recently, researchers have developed a more comprehensive assessment of racial identity through the construction of profiles. These profiles help better identify combinations of racial identity that are most protective, as well as those that have the potential to increase risk. To date a majority of the research has been conducted on internalizing and academic outcomes, with limited research on externalizing outcomes, such as substance use. The current study aimed to fill this gap in the literature. **METHODS** 345 African American college students (80.0% female, 88.4% USA-born, and M_{age}=21.56) completed measures on racial identity, racial discrimination, internalizing symptomology, academic motivation, and substance use. **RESULTS** Four racial identity profiles were identified and labeled race-focused (n=228), multiculturalist (n=64), integrationist (n=38), and undifferentiated (n=15). Several direct effects were observed. Multigroup analysis, stratified by profile, revealed several direct relationships between racial identity profiles and outcomes. The probability of being in the multiculturalist profile was negatively associated with depression and stress and positively associated with academic motivation. The probability of being in the race-focused profile was positively associated with cannabis use and the probability of being in the integrationist profile was negatively associated with academic motivation. Being in the undifferentiated profile was not significantly related to any of the outcomes. Two specific moderating effects were also observed; individuals in the integrationist profile were significantly lower in academic motivation as a result of racial discrimination than individuals in the race-focused profile (b=0.10, SE=0.05, p=0.046). Individuals in the integrationist profile were also higher in stress as a result of racial discrimination than individuals in the race-focused profile, however this effect was only trending toward significance (b=-0.14, SE=0.08, p=0.080). **CONCLUSION** Based on these results, there is evidence for the differential direct and moderating associations of racial identity profiles with various health and behavioral outcomes, such that some appear protective whereas others increase risk. These findings can be used to inform future research related to racial identity and interventions for African Americans experiencing racial discrimination.

INTRODUCTION

Over the past several decades, in light of research documenting the prevalence and chronicity of racism, and the stigmatized social context in which African Americans operate within the United States (e.g., Kessler, Mickelson, & Williams, 1999; Williams & Mohammed, 2009; 2013), a body of literature was developed focused on identifying protective factors that could buffer against these stressors and mitigate risk for associated negative physical, mental, and behavioral health consequences (e.g., Sellers, Smith, Shelton, Rowley & Chavous, 1998; Paradies, 2006). Within this literature, a factor that has received a considerable amount of attention is racial identity, as it has been shown to not only mitigate risk for health outcomes as a consequence of racial discrimination (Lee & Ahn, 2013; Sellers, Copeland-Linder, Martin, & Lewis, 2006), but also has direct promotive effects on positive mental and behavioral health outcomes for African Americans (Rivas-Drake et al., 2014; Smith & Silva, 2011). However, some variations in both the direction and magnitude of the effect of racial identity has been documented (e.g., Lee & Ahn, 2013), partly due to differing ways in which racial identity has been operationalized across research and theory.

Racial Identity Models, Theories, and Measurement

The first model for African American racial identity was developed by Cross (1971) proposing the Nigrescence model of African American identity development. Within this model, individuals would progress through 5 stages of "becoming Black" which were: pre-encounter, encounter, immersion-emersion, internalization, and internalization-commitment. Across these stages, an individual moved from having a Eurocentric, non-Black worldview, to incorporating a more Black-centric worldview into their self-concept, which is indicative of the final stage of Black racial identity. This model proposes that these stages are the sequential process for Black

self-actualization, drawing on the work of theorists and activists like Franz Fanon, Malcolm X, W.E.B. Du Bois, Marcus Garvey, and Angela Davis (Cross, 1971). Based on Cross' original model, the Racial Identity Attitude Scale was developed (RIAS-B; Parham & Helms, 1981). However, in 1991 Cross revised his model making substantive revisions in order to reflect a more multidimensional theory of racial identity and to de-pathologize his earlier model. For example, he removed the assumption that African Americans in the pre-encounter stage uniformly hate themselves. The revised model also collapsed the fourth and fifth stage into one: Internalization. Based on this revised model the Cross Racial Identity Scale (CRIS) was developed (Vandiver et al., 2002).

Departing from the stage model for racial identity, Baldwin and Bell (1985) developed a theory for racial identity known as the Africentric theory. This theory aimed to depart from previous attempts in American society to establish European racial supremacy and utilized an African psychology framework, drawing from African history, philosophy, and culture, to establish the link between personality and race. The two core assumptions of this theory included the following: 1) humans live in social environments and this is part of how they define themselves; and 2) an individual's world-view and culture are derived from this social interpretation of themselves. In this model, race forms the basis of one's reality and how they interpret the world around them. Based on this theory, the African Self-Consciousness Scale was developed (Baldwin & Bell, 1985).

In the late 1980s more work was conducted on the stage model of racial identity. Phinney (1989) proposed a model of ethnic identity development that was similar to Cross' Nigrescence model in that individuals were conceptualized to progress through stages, but differed in that it was constructed for adolescents and was not specific to African Americans. Phinney's model for

racial identity development consisted of four stages: Diffuse, Foreclosed, Moratorium, and Achieved. Across these stages, it is proposed that an individual moves from the Diffuse stage, where there is little or no understanding or exploration of one's ethnicity to Achievement, the most advanced stage, characterized by strong and positive group identification. Thus, this model aimed to consider ego identity development across adolescence which could be applied across several ethnic groups. The Multigroup Ethnic Identity Measure (MEIM) was developed based on this model (Phinney, 1992).

The most recent model for African American racial identity was developed by Sellers et al. (1998) who proposed the Multidimensional Model of Racial Identity (MMRI). The MMRI has similar components to the models and theory presented above, as the MMRI was developed to integrate existing models and theories on racial identity, group identity, and individual identity. However, unlike Phinney's model, the MMRI was specifically developed for African Americans by taking into account the unique historical and cultural experiences of this population. In addition, the MMRI is less concerned with racial identity development and more concerned with the current status of an individual's racial identity. As such, the authors defined racial identity in African Americans as "the significance and qualitative meaning that individuals attribute to their membership within the Black racial group within their self-concepts" (Sellers et al., 1998, pg. 23)
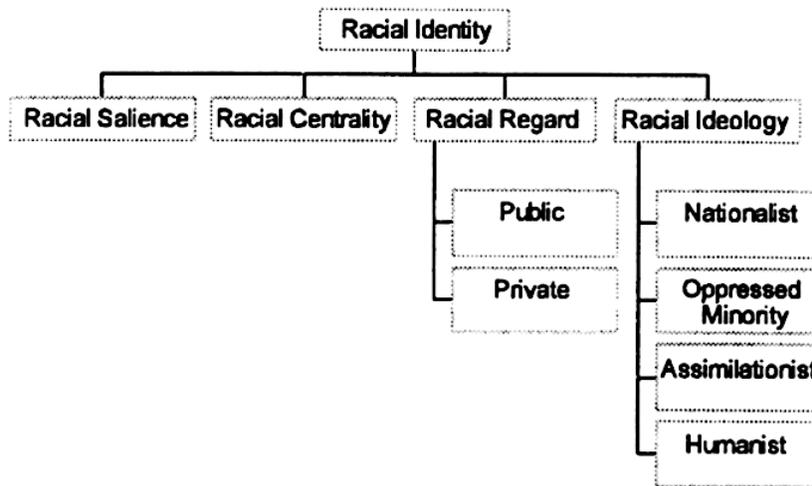
Figure 1: Schematic Representation of the Multidimensional
Model of Racial Identity (Sellers et al., 1998)

The MMRI breaks racial identity into two components: how important race is to the individual's self-concept and what the individual believes it means to belong to this group. As depicted in Figure 1, this model is further broken down into 4 distinct dimensions: racial salience, racial centrality, racial regard, and racial ideology (Sellers et al., 1998). Racial salience and racial centrality are similar in that they both refer to the significance of race to an individual's self-concept (Sellers et al., 1998). Specifically, racial salience is conceptualized as whether race is relevant to an individual's self-concept in a particular situation at a particular time, whereas racial centrality is conceptualized as the extent to which an individual considers race to be a core part of their racial identity (Sellers et al., 1998). The final two dimensions are racial regard and racial ideology, which both more broadly refer to an individual's perception of what it means to belong to their racial group (Sellers et al., 1998), and are each broken into sub-dimensions. Racial regard is conceptualized as the extent to which an individual feels positively or negatively about their race and consists of two sub-dimensions which are private regard (i.e., how individuals view their race) and public regard (i.e., an individual's perceptions of others' or society's view of African

Americans; Sellers et al., 1998). Racial ideology is conceptualized as how an individual believes African Americans should interact with society and consists of four sub-dimensions: assimilation (i.e., an emphasis on similarities between African Americans and the rest of Americans), humanist (i.e., emphasizes the similarities between all humans), oppressed minority (i.e., emphasizes the similarities between the oppression faced by African Americans and that of other groups), and nationalist (i.e., emphasizes the uniqueness of being African American; Sellers et al., 1998).

The uniqueness and advantage of the MMRI model for racial identity over the other models described is that it creates an integrative framework for understanding the heterogeneity of African American identity within a historical and cultural context (Sellers et al., 1998). Another advantage of the MMRI, is that this model allows the researcher to examine a more comprehensive assessment of racial identity through the construction of profiles. As while it is useful and informative to look at particular components of racial identity, a profile approach allows for analysis of patterns of racial identity, as well as how racial identity might look on the individual level with many interacting patterns. The measure that operationalizes the MMRI and allows for the creation of these profiles is the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton & Smith, 1997), which measures 3 of the 4 components of racial identity (i.e., racial centrality, racial regard, and racial ideology). Racial salience was excluded as it is thought to be more of a state dimension rather than a trait dimension.

Since the development of the MIBI, an emerging body of research has been published examining the direct and moderating effects of various racial identity profiles among African Americans on various outcomes. In relation to the direct effects of racial identity, among a sample of 606 12th grade African American adolescents, Chavous et al. (2003) found a link between four MIBI profiles with academic performance, attitudes, and adjustment, including level of school

attachment, level of school importance, school status, and GPA (Chavous et al., 2003). Specifically, profiles identified were buffering/defensive, low connectedness/high affinity, idealized, and alienated. The buffering/defensive cluster was characterized by youth with positive group affiliation in the face of racism awareness (i.e., high scores on the race centrality and private regard scale, and low scores on public regard). The low connectedness/high affinity cluster was characterized by youth who did not consider race to be central to their identity but held positive group beliefs, even though they felt that others did not value African Americans (i.e., low race centrality and public regard scores and high private regard scores). The idealized cluster was characterized by youth who had strong positive group affiliation and felt that others valued African Americans (i.e., high scores on race centrality, public regard, and private regard). Finally, the alienated cluster was characterized by youth who had low group affiliation and personally felt negatively about African Americans and believed society viewed African Americans negatively (i.e., low scores on race centrality, public regard, and private regard).

In regard to outcomes, the alienated group was associated with poorer academic outcomes (i.e., greater school dropout and lower college attainment), whereas the buffering/defensive group was promotive and associated with lower school dropout and higher post-high school educational attainment. The buffering/defensive, low connectedness/high affinity and idealized groups were also associated with significantly more positive school attitudes than was the alienated group. Due to the contrast in findings between the alienated group and the other groups, the authors concluded that a positive group connection was an important factor that facilitated academic success. Moreover, they speculated that the absence of a positive group connection may also interact with discrimination experiences to decrease academic success among African American adolescents (Chavous et al., 2003).

In terms of moderating effects, studies utilizing racial profiles indicate that the profiles may influence the relationship between racial discrimination and psychological outcomes, such as depressive symptoms, self-esteem, and the imposter phenomenon (Banks & Kohn-Wood, 2007; Seaton, 2009; Bernard, Hoggard & Neblett, 2018). For example, Banks and Kohn-Wood (2007) identified four racial identity profile clusters (integrationist, multicultural idealist, undifferentiated, and race-focused) among a sample of 194 African American college students. The researchers found that the effect of racial discrimination on depressive symptoms remained positive across all racial identity profiles. However, the magnitude of the effect did differ by profile, with the strongest positive relationship between racial discrimination and depression symptoms found for the integrationist profile. The authors suggested that given that this profile is indicative of individuals who have a strong desire to connect with the mainstream society and are not connected with the African American culture. They also suggested that individuals in the integrationist profile may be less prepared for exposure to discrimination or how to cope with discriminatory experiences and in turn are at higher risk for experiencing negative outcomes as a result of discrimination (Banks & Kohn-Wood, 2007).

Another study examining the moderating effect of the MIBI profiles was conducted by Seaton (2009) among a sample of 322 African American adolescents. For the study, only the public regard and private regard subscales of the MIBI were utilized, which resulted in the identification three racial identity profile clusters (i.e., buffering/defensive, alienated, and idealized). In contrast to the two previous studies, significant differences in the direction of the effect of racial discrimination on depressive symptoms were found across profiles. The researchers found a significant positive effect for alienated adolescents, with a non-significant effect found between discrimination and depressive symptoms for the buffering/defensive and idealized adolescents.

The author posited that due to high scores on the race centrality scale for both the buffering/defensive and idealized groups, that race centrality may be an important factor for protection against the negative impact of racial discrimination. However, because of profile differences in private and public regard between the buffering/defensive and idealized groups, the author also noted it is still important to think about racial identity holistically, and that different groups may have different outcomes in various realms based on these variables (Seaton, 2009).

In a more a recent study by Bernard, Hoggard and Neblett (2018), the researchers created racial identity profiles among a sample of 157 African American college students. Utilizing all seven subscales of the MIBI, the researchers estimated six latent class models, finding that the four-cluster model was the most appropriate solution. These clusters were labeled as undifferentiated, multiculturalist, race-focused, and humanist—the same four racial identity profile clusters as the Banks and Kohn-Wood (2007) study. Additionally, the researchers examined whether the relationship between racial discrimination and the imposter phenomenon (i.e., feelings of intellectual incompetence) differed across racial profiles. It was hypothesized that profiles with high levels of race centrality and private regard, as well as low levels of public regard would protect against the effects of racial discrimination on the imposter phenomenon. Conversely, it was hypothesized that profiles with high humanist or assimilationist ideology would worsen these effects. However, these hypotheses were not supported. Racial discrimination was positively related to subsequent imposter phenomenon for all profile groups, with non-significant differences in the magnitude of the effect found across profiles (Bernard et al., 2018).

The Current Study

In summary, while racial identity profiles have been studied to examine their direct effects on academic motivation among African American adolescents, as well as potential moderating

effects on risk for internalizing outcomes (i.e., depressive symptoms, self-esteem, and the imposter phenomenon) as a consequence of racial discrimination among adolescents and young adults, there is a dearth of studies conducted in this area. Moreover, inconsistencies in observed effect across studies may be due to the small sample sizes and therefore limited power to detect an effect. Additionally, to date, no study has directly studied the direct or moderating role of racial identity profiles in the relationship between racial discrimination on externalizing outcomes, such as substance use. Thus, the aim of the current study was to fill some of the gaps within this emerging area of research by exploring the direct and moderating effect of racial identity profiles using all seven subscales of the MIBI on multiple health and academic outcomes among a large sample of African American college students. We examined these relationships among college students, as young adulthood is a developmental period in which a substantial proportion of the small, but growing literature based on racial identity profiles has been conducted. This is also a developmental period in which racial discrimination has been speculated to intensify (Kogan, Yu, Allen, & Brody, 2015; Madkour et al., 2015), and risk for negative psychological and behavioral outcomes increase in prevalence (Hope, Hoggard, & Thomas, 2015).

Based on the existing literature (i.e., Banks & Kohn-Wood, 2007; Chavous et al., 2003; Bernard et al., 2018), our first hypothesis was that four racial identity clusters would emerge representing young adults who were 1) connected to the African American culture and aware of racism specific to African Americans (i.e., race-focused), 2) aware of race and oppression more broadly but also believed that overall other groups hold a positive view of African Americans (i.e., multiculturalist), 3) connected to African American culture and focused on shared human qualities (i.e., integrationist), and 4) those who did not hold a strong race-based worldview (i.e., undifferentiated). Our second hypothesis, based on available evidence by Chavous and colleagues

(2003), was that the probability of being in each racial identity profile would be linked to lower rates of alcohol and cannabis use, fewer symptoms of depression and anxiety, and higher levels of academic motivation for some profiles, but not for others. Specifically, we hypothesized that a promotive effect would be observed based on the probability of being in the multiculturalist and race-focused profile, however either a weak promotive effect or a risk effect based on the probability of being in the undifferentiated profile on these outcomes. As for the integrationist profile, we hypothesized that a risk effect would be found for the outcomes based on the probability of being in this profile. Our third hypothesis, based on available evidence by Banks and Kohn-Wood (2007) and Seaton (2009), was that the racial profiles would moderate the strength of the relationship between racial discrimination and alcohol and cannabis use, and depression and anxiety symptoms. Specifically, we hypothesized that the relationship between racial discrimination and the outcomes would be positive for all profiles, but multiculturalist profile would have the weakest positive relationship between racial discrimination and these outcomes, followed by the race-focused profile, then the undifferentiated profile. We hypothesized that the integrationist profile would have the strongest positive relationship between racial discrimination and these outcomes.

METHODS

Design

This study used a cross-sectional design. Participants completed an online questionnaire at a single time point, measuring racial discrimination, racial identity, substance use, mood symptoms, academic motivation, and demographic variables. Only individuals who self-identified as African American/Black, who were currently enrolled at a college/university, and who were between the ages of 18 and 35 were recruited for the study. Validity checks were included throughout the recruitment and survey completion process to increase assurance that participants were African American, currently enrolled students, and between the ages of 18 and 35. Data collection occurred between August 2018-May 2019.

Procedures and Participants

Upon obtaining IRB approval, an online questionnaire was made available to African American students in the introductory psychology course at Indiana University—Purdue University, Indianapolis (IUPUI), an email distribution of students through the IUPUI School of Science, and flyers posted throughout the university campus and neighboring campus (i.e., Ivy Technical college). After the participant consented to participate in the study, the online survey first asked the participant to mark their race. If the participant did not select the African American/Black response option, they were not allowed to complete the remainder of the questionnaire. A second question asked if participants were currently enrolled in a college or university. If the participant did not endorse this item they were not allowed to complete the remainder of the questionnaire. A third question asked the participant to disclose their age. If the participant did not indicate that they were between ages 18 to 35, they were not allowed to

complete the remainder of the survey. Those participants enrolled in the introductory psychology course were compensated with class research credit. All non-introductory psychology students were compensated with a $5 online gift card.

410 individuals met eligibility criteria; however 46 individuals did not complete any items after demographics and an additional 19 individuals did not complete any of the MIBI measure and thus did not have sufficient data to be included for the latent profile analysis (LPA). After removal of these participants, the final sample size for the current study was 345. These participants were mostly females (80.0%), USA-born (88.4%), and the average age was 21.56 (SD=3.85).

Measures

Demographics

Participants were asked to provide demographic information including their age, gender, race, ethnicity, education status, socioeconomic status, and immigrant status/nationality. Gender, income, and immigrant status were used as control variables for this study as previous studies have documented some differences in conceptualization of racial identity based on gender (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008), income (Clerge, 2014), and immigration status (Waters, 1994).

Racial Discrimination

Experience of racial discrimination was measured using the Schedule of Racist Events (SRE; Landrine & Klonoff, 1996). This scale was used to assess frequency of experiences of racial discrimination. The SRE includes 18 items that are rated on a Likert-type scale with potential responses ranging from 1 (*never*) to 6 (*almost all of the time*). Each item is completed three times,

once for the experience of racist events in the past year, once for the experience of racist events over the lifetime, and once for the perception of how stressful the event was. Higher scores on this scale indicate more frequent experiences of racial discrimination. For the current study, we utilized the past year subscale of the SRE, and it had high internal consistency (Cronbach's alpha=0.928).

Racial Identity

Racial identity was measured using Multidimensional Inventory of Black Identity (MIBI; Sellers et al., 1997). Three domains measured by seven subscales of the MIBI were utilized with responses rated on a scale with potential responses ranging from 1(*strongly disagree*) to 7(*strongly agree*). Racial centrality was assessed using eight items that measure the extent to which being African American is central to the participant's identity. Items include statements like: "Overall, being Black has very little to do with how I feel about myself" and "My destiny is tied to the destiny of other Black people." Higher scores on the Centrality subscale are indicative of greater endorsements that race is more central to the respondent's identity. Racial regard was assessed via two subscales. Private regard was measured using six items that examine the respondent's feelings toward African Americans and their membership in the group. Items include statements like: "I feel good about Black people" and "I am happy that I am Black." A higher score on the Private Regard subscale indicates that individuals hold more positive attitudes about being African American. Public regard was measured using six items that examine how the respondent feels that others view African Americans. Items include statements like: "Overall, Blacks are considered good by others" and "Society views Black people as an asset." Higher scores on the Public Regard subscale indicate that individuals believe that other groups hold more positive attitudes toward African Americans. Lastly, racial ideology was assessed via four subscales. Assimilationist ideology was measured using nine items including statements like: "Blacks who espouse

separatism are as racist as White people who also espouse separatism." Higher scores on the Assimilationist subscale indicate that individuals emphasize the similarities between African Americans and mainstream America. Humanist ideology was measured using nine items including statements like: "Black values should not be inconsistent with human values." Higher scores on the Humanist subscale indicate that individuals emphasize the similarities among individuals of all races. Oppressed minority ideology was measured using nine items including statements like: "The same forces which have led to the oppression of Blacks have also led to the oppression of other groups." Higher scores on the Oppressed Minority subscale correspond with a greater emphasis of the similarities between African Americans and other minority groups. Nationalist ideology was measured using nine items including statements like: "It is important for Black people to surround their children with Black art, music and literature." Higher scores on the Nationalist subscale indicate that individuals emphasize the uniqueness of being African American. For the current study, the internal consistency for each subscale was low to acceptable (racial centrality=0.618, private regard=0.845, public regard=0.740, assimilationist=0.725, humanist=0.524, oppressed minority=0.662, nationalist=0.707). These internal consistency scores are similar to what has been found in some previous studies using the MIBI, scores ranging from .55 to .85 (Banks & Kohn-Wood, 2007; Bernard et al., 2018; Chavous et al, 2003).

Substance Use

Alcohol use was measured using the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente & Grant, 1993). The AUDIT is a 10-item measure designed to assess hazardous and harmful alcohol consumption. The maximum score on the AUDIT is 40. A sum score was used for the current study. A score of 8 or more is suggestive of a

higher likelihood for hazardous and harmful alcohol use. For the current study, internal consistency was acceptable (Cronbach's alpha=0.845).

Cannabis use was measured using the Cannabis Use Disorders Identification Test- Revised (CUDIT-R; Adamson, Kay-Lambkin, Baker, Lewin, Thornton, Kelly & Sellman, 2010). This is an 8-item measure designed to assess harmful or problematic cannabis use that was adapted from the original CUDIT measure. The CUDIT-R is shorter than the original CUDIT and has shown equivalent or superior psychometric properties (Adamson & Sellman, 2003). A sum score was used for the current study, with a score of 13 or higher suggestive of a higher likelihood for harmful and/or problematic cannabis use. However, the authors note that scores below this do not necessarily denote an absence of harmful and/or problematic cannabis use (Adamson & Sellman, 2003). For the current study, internal consistency was acceptable (Cronbach's alpha=0.772).

Anxiety and Depression Symptoms

Mood symptoms were measured using the short-form version of the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995). This measure is composed of three subscales that have 7 items each (for a total of 21 items), intended to measure symptoms of depression, anxiety, and stress over the past week. The responses to items are rated on scale with potential responses ranging from 0(*Never*) to 3(*Almost Always*). Items include statements like: "I felt I was close to panic" and "I couldn't seem to experience any positive feelings at all." Higher scores on each subscale indicate increased severity of depression, anxiety, or stress. For the current study, the internal consistency for each subscale was acceptable (Depression scale=0.919, Anxiety Scale=0.793, Stress Scale=0.859).

Academic Motivation

Academic motivation was measured using the self-efficacy subscale of the Academic Motivation Survey (Wu & Fan, 2017). The self-efficacy sub-scale is 7-items. All items use a five-point Likert scale with potential responses ranging from 1(*strongly disagree*) to 5(*strongly agree*), with higher ratings indicating higher self-efficacy. Items include statements like: "I am confident in my ability to concentrate and stay fully focused on the materials being presented throughout each class period" and "I am able to discriminate between more important and less important facts, concepts, and arguments covered in my classes." High self-efficacy has been shown to be related to student academic engagement and students high on this subscale are more likely to persist in academic tasks and consequently enhance learning (e.g., Marra, Rodgers, Shen & Bogue, 2009; Wu & Fan, 2017). For the current study, internal consistency was good (Cronbach's alpha=0.892).

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Data Analyses

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Profile Analysis

To test our first hypothesis, that four racial profiles would emerge, a latent profile analysis (LPA) was performed in Mplus (Muthen & Muthen, 1998). LPA is a person-centered approach, that allows identification of within individual patterns of responding to the MIBI subgroups. Using LPA, we can examine an individual's probability of falling into each different profile, and then examine which profile each individual had the highest probability of belonging to. This approach was chosen as it has been suggested to be the most appropriate means of answering questions about latent variables (Hagenaars & McCutcheon, 2002), and is also the most appropriate approach to latent analysis when two or more underlying latent subgroups are expected to be present (Lanza & Rhoades, 2013). LPA was chosen rather than latent class analysis (LCA) because while we are trying to identify a categorical latent variable, our indicators are treated as continuous (i.e.,

participants can score on a continuum on the MIBI subscales) rather than categorical indicators, for which LCA is the appropriate statistical analysis.

As noted in other studies utilizing LPA (e.g., Brody et al., 2013; Wang et al., 2017), a robust maximum likelihood (MLR) estimator was used to estimate the optimal number of profiles. We examined a range of one to six potential profiles based on previous studies utilizing LPA with the MIBI (e.g., Bernard et al., 2018). Gender, income, and immigrant status were also included in the model as control variables. To determine the best number of profiles, we relied on the following criteria: Akaike's Information Criterion (AIC; Akaike, 1974), the Constant AIC (CAIC), the Bayesian Information Criterion (BIC; Schwarz, 1978), the sample-size adjusted BIC (SSA-BIC), and the Lo-Mendell-Rubin likelihood ratio test (LMR; Lo, Mendell, & Rubin, 2001), as suggested by previous research (e.g., Marsh, Lüdtke, Trautwein, & Morin, 2009). For the first four indicators, a lower value suggests better fit, thus a model with the minimum AIC or BIC might be selected. However, all the criteria did not suggest the same model as optimal. Therefore, information criteria were used to rule out models and narrow down the options (Collins & Lanza, 2013). For the LMR, acceptable fit is based on comparison of the estimated model (k) with a model that has one class less than the estimated model ($k-1$). A non-significant p value supports the $k-1$ profile model. We also assessed entropy, which refers to average accuracy in assigning individuals to classes. Entropy values range from 0 to1, with higher scores reflecting greater accuracy in classification. Optimal models were chosen based on goodness-of-fit and parsimony. After the number of profiles were determined, the standardized means (indexed by z scores) of each racial identity variable were used to describe and label each profile. Participants are provided probability scores for belonging to each of the profiles. Participants were described as belonging to the profile for which they had

the highest probability for descriptive purposes for hypothesis one, as well as for the moderation analysis for hypothesis three.

Direct effects and moderating effects

To test our second hypothesis that higher probabilities of being in particular racial identity profiles are significantly related to mood symptoms, substance use, and academic motivation, a structural equation model (SEM) including all of these variables was analyzed in Mplus (Muthen & Muthen, 1998). This was an examination of the direct effects of the probability of being in each racial identity profile on each outcome, controlling for gender, socioeconomic status, and immigrant status/nationality.

Our third hypothesis that racial identity moderates the relationship between racial discrimination and mood symptoms, academic motivation, and substance use, was also examined utilizing SEM in Mplus (Muthen & Muthen, 1998). The independent variable was racial discrimination, the racial identity profiles were the moderators, and alcohol use, cannabis use, depression, anxiety, stress, and academic motivation were included as the dependent variables, controlling for gender, socioeconomic status, and immigrant status/nationality. Multiple-group path analysis was employed to examine and test whether differences in the structural parameters across groups were statistically significant. Testing for cross-group invariance involved comparing two nested models: (1) a baseline model wherein no constraints were specified and (2) a second model where all paths were constrained to be invariant between the groups. Comparison of nested models employed a robust nested chi-square test as implemented in Mplus. Moderation analysis was conducted through a series of multiple linear regressions rather than through tests of invariance for specific paths in order to illustrate and facilitate interpretation of significant interaction effects.

For the SEM model, five common fit indices were used to examine the acceptability of the data to the model: chi-square index with a degrees of freedom ratio (Kline, 2015; Ullman, 1996); the comparative fit index (CFI: Bentler, 1990); the root mean squared error of approximation (RMSEA; Browne & Cudeck, 1993; Steiger & Lind, 1980); and the standard root mean squared residuals (SMSR; Bentler, 1995). Based on the recommendations by Hu and Bentler (1999), a chi-square to degrees of freedom ratio less than 2.0, a CFI of at least .90, a RMSEA less than .06, and SMSR less than .08 together indicate a good fit between the hypothesized model and the data.

Power Considerations

We examined the sample sizes utilized in previous studies examining racial identity profiles as a guide for how many participants we need to examine our first hypothesis. Bernard et al. (2018) is the only known study to utilize all seven MIBI subscales and employed LPA to examine the racial profiles. Their sample size was 157 participants. Among the other published studies, samples sizes ranged from 194 to 724 participants (Banks & Kohn-Wood, 2007; Rowley, Chavous, & Cooke, 2003; Seaton, 2009). Thus, averaging across the four studies, the average sample size was 350, which we used as the desired sample size for the current study. For hypotheses two and three, based on an a priori G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) analysis for examining both the direct and moderating effect of 8 predictor variables (gender, socioeconomic status, immigrant status/nationality, multiculturalist, integrationist, race-focused, undifferentiated, racial discrimination) in the multiple linear regression analyses (alpha=.05 and power=.80), the projected sample size needed for a medium effect (f_2=.15) is N=92 and for a small effect (f_2=0.02), the sample size needed is N=647. Cohen's (1992) guidelines for small and medium effect sizes were used due to the lack of research in this specific area. In addition, regarding hypothesis three, the studies that used racial identity profiles as the moderator had

sample sizes of 157, 194, and 322 (average=224). Based on this information, we aimed to gather

a minimum of 225 participants, and had a desired sample size of 350.

RESULTS

Profile Identification

Using the data from the seven subscales of the MIBI, six latent class models (ranging from one to six profiles) were estimated using latent profile analysis (Vermunt & Magidson, 2005). Of the six models estimated, the four-profile model was determined to be the most appropriate solution. It had the lowest Bayesian information criterion (BIC=13229) and the second lowest Constant Akaike's Information Criterion (CAIC=13267.141). The Lo-Mendell-Rubin (LMR) likelihood ratio test criterion had a non-significant p-value (value=52.526, p=0.1755), which suggested that the three-profile solution rather than the four-profile solution would be sufficient. However, previous studies have found that the bootstrapped parametric likelihood ratio test (BLRT; McCutcheon, 1987; McLachlan & Peel, 2004) may be more reliable than the LMR (Tein, Coxe, & Cham, 2013). Thus, after examining the BLRT test, which had a p-value of 0.0000, the four-profile model was chosen. The four-profile model also fit the theoretical expectations for this study. See Table 1 for a summary of all fit statistics for all six latent class models.

Table 1: Fit Statistics for Latent Profile Analysis

Fit Criteria						
	1 PROFILE	2 PROFILES	3 PROFILES	4 PROFILES	5 PROFILES	6 PROFILES
AIC	13550.987	13255.973	13120.736	13083.086	13056.388	13028.490
BIC	13604.796	13340.530	13236.042	13229.141	13233.191	13236.041
CAIC	13618.796	13362.53	13266.042	13267.141	13279.191	13290.041
SSA-BIC	13560.385	13270.740	13140.874	13108.594	13087.267	13064.738
LMR	—	304.501 (p=0.0032)	148.069 (p=0.0313)	52.526 (p=0.1755)	45.669 (p=0.2620)	42.979 (p=0.2751)
Entropy	—	0.947	0.831	0.864	0.776	0.811

Next, standardized means (z scores) of each racial identity variable were used to describe and label the profiles (see Figure 2). The first and largest profile was labeled *Race-Focused* (*n=228*; 66% of sample). This profile was characterized by scores above the sample mean (~0.5 SD above the mean) on the subscales measuring centrality, private regard, and nationalist ideology—which were higher than in any other profile. This profile also had scores slightly below the mean on the subscales measuring public regard, humanist, assimilationist ideology and oppressed minority ideology. These individuals might be described as being connected to the African American culture and are aware of racism specific to African Americans.

The second profile was labeled *Multiculturalist* (*n=64*; 19%) and was characterized by scores below the mean (~0.5 SD below the mean) on subscales measuring centrality and nationalist ideology. The profile is also made up of individuals who scored above the mean on all other subscales. These individuals might be described as being aware of race and oppression more broadly, but also believing that overall, other groups hold a positive view of African Americans.

The third profile was labeled *Integrationist* (*n=38*; 11%) and was characterized by low standardized scores (~1 SD below the mean) on centrality, private regard, and nationalist ideology subscales. These individuals might be described as being disconnected to African American culture specifically and instead having a focus on shared human qualities.

The fourth and smallest profile was labeled *Undifferentiated* (*n=15*; 4%) and had scores well below the mean (~1-3 SD below the mean) on subscales measuring centrality, private regard, assimilationist ideology, and nationalist ideology. They have scores slightly above the mean (~0.5 SD above the mean) on the humanist ideology subscale. These individuals may not hold a strong race-based worldview.
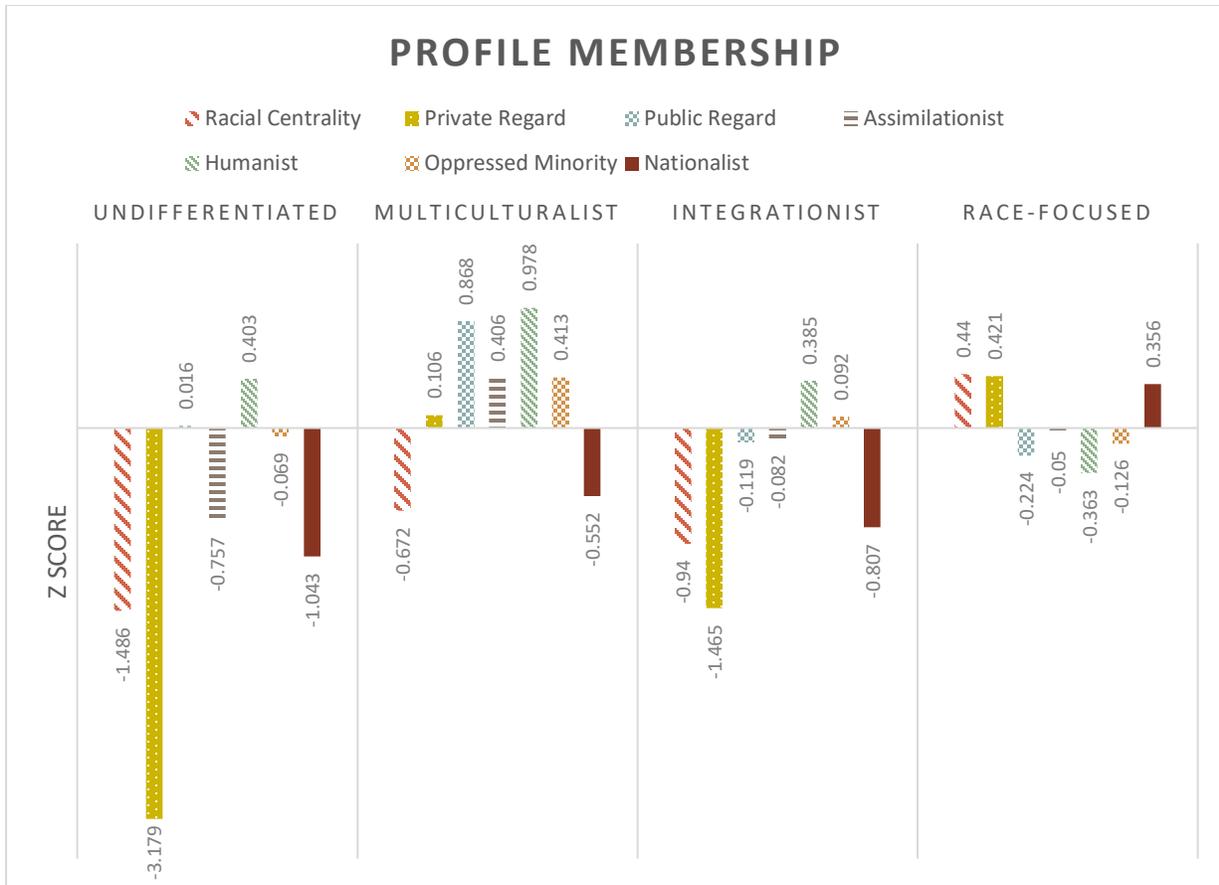
Figure 2: MIBI Subscale Z-Scores Illustrating Profile Membership

Path Analysis

A path model was used to test the hypotheses that the probability of belonging to each racial identity profile would be significantly related to mood symptoms, substance use, and academic motivation. The path model had acceptable fit to the data, $\chi^2(0) = 0.000, p < 0.0001, CFI = 0.1.000, RMSEA = 0.000, SMSR = 0.000$. Given that this model is just-identified, the model is perfectly fitting and hypotheses regarding model fit cannot be tested, however the individual paths can still be examined (Ullman & Bentler, 2003). The probability of being in the undifferentiated profile was not significantly associated with alcohol use, cannabis use, depression, anxiety, stress, or academic motivation among the current sample. The probability of being in the multiculturalist profile was not significantly associated with alcohol use, cannabis

use, or anxiety. However, as probability of being in the multiculturalist profile increased, depression scores decreased (b=-5.15, p<0.01), stress scores decreased (b=-4.75, b<0.0), and academic motivation scores increased (b=1.77, p<0.05). The probability of being in the integrationist profile was not significantly associated with alcohol use, cannabis use, depression, anxiety, or stress. However, as the probability of being in the integrationist profile increased, academic motivation scores decreased (b=-3.32, p<0.01). Finally, the probability of being in the race-focused profile was not significantly associated with alcohol use, depression, anxiety, stress, or academic motivation. However, as the probability of being in the race-focused profile increased, cannabis use scores also increased (b=1.37, p<0.05). See Table 2 below for full results regarding the direct effect of profile membership.

Table 2: Unstandardized Path Coefficients from Path Model Examining Direct Effects of Racial Identity Profile

Direct Effects of Profile Membership

	Alcohol Use		Cannabis Use		Depression		Anxiety		Stress		Academic Motivation	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Undifferentiated	-1.34	1.15	-1.74	1.41	3.57	2.66	1.49	2.12	2.98	2.51	-1.95	1.46
Multiculturalist	0.07	0.70	-1.11	0.85	-5.15**	1.58	-1.92	1.28	-4.75**	1.50	1.77*	0.88
Integrationist	-0.54	0.78	-0.66	0.95	2.43	1.79	1.22	1.43	1.97	1.69	-3.32**	0.97
Race-Focused	0.51	0.54	1.37*	0.66	1.14	1.24	0.24	0.99	1.25	1.17	0.96	0.68

Note: Path model adjusted for gender, income, and immigrant status/nativity. †$p<.10$; *$p< .05$; **$p< .01$; ***$p< .001$.

Multigroup Analysis by Profile Membership

Multigroup analysis was used to stratify the model by racial identity profiles. Constraining the structural parameters in the model to be equal across the four subgroups resulted in a statistically significant worsening of overall model fit ($\Delta\chi_2 = 32.05$, $\Delta\,df = 18$; $p < .05$), rejecting the null hypothesis that the paths (as a whole) are the same across the four racial identity profiles. The fully unconstrained path model had good fit to the data, according to Hu and Bentler's (1999) suggested fit statistics ($\chi^2(12) = 20.486, p = 0.0584, CFI = 0.991, RMSEA = 0.091, SMSR = 0.041$). For individuals in the undifferentiated profile, racial discrimination was not significantly associated with alcohol use, cannabis use, anxiety, stress, or academic motivation. However, there was a trending effect such that, for individuals in the undifferentiated profile, as racial discrimination increased, depression scores increased (b=0.32, p<0.10). For individuals in the multiculturalist profile, racial discrimination was not related to alcohol use, cannabis use, depression, stress, or academic motivation. However, there was a trending effect such that, for individuals in the multiculturalist profile, as racial discrimination increased, anxiety scores increased (b=0.13, p<0.10). For individuals in the integrationist profile, racial discrimination was not significantly associated with alcohol use, cannabis use, or academic motivation. However, there was a trending effect such that, for individuals in the integrationist profile, as racial discrimination increased, depression scores increased (b=0.15, p<0.10). Additionally, for individuals in the integrationist profile, increased reports of racial discrimination were significantly associated with increased anxiety scores (b=0.18, p<0.05) and increased stress (b=0.21, p<0.01). Finally, for individuals in the race-focused profile, racial discrimination was not significantly associated with depression scores or academic motivation scores. However, there was a trending effect such that, for individuals in the race-focused profile, as racial discrimination

increased stress scores increased (b=0.07, p<0.10). Additionally, for individuals in the race-focused profile, increased reports of racial discrimination were significantly associated with increased alcohol use (b=0.07, p<0.001), cannabis use (b=0.07, p<0.01), and anxiety (b=0.10, p<0.01). See Table 3 for full results of the multi-group analysis.

Table 3: Unstandardized Path Coefficients from Multiple-Group Path Model Stratified by Racial Identity Profile

Effects of Racial Discrimination by Racial Identity Profile

	Alcohol Use		Cannabis Use		Depression		Anxiety		Stress		Academic Motivation	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Undifferentiated	0.04	0.04	0.03	0.04	0.32†	0.18	0.02	0.15	-0.07	0.17	-0.07	0.09
Multiculturalist	0.05	0.05	0.04	0.04	0.10	0.07	0.13†	0.07	0.11	0.08	-0.04	0.04
Integrationist	0.01	0.03	0.00	0.04	0.15†	0.08	0.18∗	0.07	0.21∗∗	0.07	-0.07	0.05
Race-Focused	0.07∗∗∗	0.02	0.07∗∗	0.02	0.05	0.04	0.10∗∗	0.03	0.07†	0.04	0.03	0.02

Note: Multiple-group path model adjusted for gender, income, and immigrant status/nativity.
†*p*<.10; ∗*p*< .05; ∗∗*p*< .01; ∗∗∗*p*< .001.

We further tested our hypotheses that certain groups would differ from others on each of the relations in the path model, using a similar method of analysis as Molina, Alegría, and Mahalingham (2012). Results showed that racial identity profile membership moderated the relationship between racial discrimination and academic motivation. Specifically, individuals in the integrationist profile differed from individuals in the race-focused profile on the relations between racial discrimination and academic motivation. Specifically, individuals in the integrationist profile were significantly lower in academic motivation as a result of racial discrimination than individuals in the race-focused profile (b=0.10, SE=0.05, p=0.046). However,

it should be noted that although differences were significant, the main effects of racial discrimination on academic motivation was non-significant for both the integrationist profile and the race-focused profile. No subgroup differed from another on the paths predicting alcohol use, cannabis use, depression, anxiety, or from racial discrimination. However, there was an effect that was trending towards significance for stress, where individuals in the integrationist profile differed from individuals in the race-focused profile on the relations between racial discrimination and stress. Specifically, individuals in the integrationist profile were significantly higher in stress as a result of racial discrimination than individuals in the race-focused profile (b=-0.14, SE=0.08, p=0.080). See Table 4 for full results of the comparisons by racial identity profile.

Table 4: Unstandardized Path Coefficients from Multiple-Group Path Model, Comparisons between Racial Identity Profiles

Specific Path	Undifferentiated VS Multiculturalist		Undifferentiated VS Integrationist		Undifferentiated VS Race-Focused		Multiculturalist VS Integrationist		Multiculturalist VS Race-Focused		Integrationist VS Race-Focused	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
SRE→AUD	0.01	0.06	-0.03	0.05	0.03	0.04	-0.04	0.06	0.02	0.05	0.06	0.04
SRE→CUD	0.02	0.05	-0.02	0.06	0.05	0.04	-0.04	0.06	0.03	0.05	0.07	0.05
SRE→DEP	-0.22	0.20	-0.17	0.20	-0.26	0.19	0.05	0.11	-0.05	0.08	-0.10	0.09
SRE→ANX	0.10	0.16	0.15	0.16	0.07	0.15	0.05	0.10	-0.03	0.07	-0.08	0.08
SRE→STRESS	0.17	0.19	0.28	0.19	0.14	0.18	0.11	0.11	-0.04	0.09	-0.14†	0.08
SRE→AMS	0.03	0.10	0.01	0.10	0.11	0.09	-0.03	0.06	0.08	0.05	0.10*	0.05

Note: Multiple-group path model adjusted for gender, income, and immigrant status/nativity.
†$p<.10$; *$p<.05$.

DISCUSSION

The current study aimed to identify racial identity profiles among African American college students. Furthermore, we examined the direct effect of probability of belonging to a racial identity profile on a multiple health and academic outcomes (i.e., substance use, depression and anxiety symptoms, and academic motivation), as well as the moderating role of racial identity profiles in the relationship between the experience of racial discrimination and these outcomes. This study has the potential to make substantial contributions to the body of literature examining racial identity in relation to various health and behavioral outcomes.

Profile Identification

In support of our first hypothesis, we identified four racial identity profiles within our dataset, representing young adults who are connected to the African American culture and are aware of racism specific to African Americans (i.e., race-focused), those who are aware of race and oppression more broadly but also believed that overall other groups hold a positive few of African Americans (i.e., multiculturalist), those who are not connected to African American culture and focus on shared human qualities (i.e., integrationist), and lastly those who do not hold a strong race-based worldview (i.e., undifferentiated). This finding was largely consistent with previous studies using the MIBI to identify racial identity profiles (Banks & Kohn-Wood, 2007; Chavous et al., 2003; Bernard et al., 2018). For instance, both Banks and Kohn-Wood (2007) and Bernard et al. (2018) identified four racial identity profiles among their samples, which had similar makeup to those found in this study.

The largest profile found among this sample, race-focused, was identified in both aforementioned studies, characterized by high scores on subscales measuring centrality, private

regard, and nationalist ideology relative to other profiles and below average scores on public regard (Banks & Kohn-Wood, 2007; Bernard et al., 2018). Chavous et al. (2003) found that individuals in a profile with similar makeup (characterized by high race centrality, high private regard, and low public regard) were more likely to have higher post-high school educational attainment, which may help to explain why this was the largest profile among the current sample. The second largest profile found in this sample (multiculturalist), and the third largest profile (integrationist) are also similar to profiles found in previous studies examining Black racial identity profiles (i.e., Chavous et al., 2003; Bernard et al., 2018). Finally, our smallest profile was the undifferentiated group, which represented 4% of the total sample. Although this profile has a small sample size (n=15), we retained it for the current study as it represents a profile similar to what has been identified in previous studies of individuals who do not have a strong race-based worldview (Banks & Kohn-Wood, 2007; Bernard et al., 2018). Thus, we felt it theoretically important to include these individuals in the study. Additionally, Chavous et al. (2003) found that individuals in a profile with similar make-up to the undifferentiated profile (characterized by low race centrality and low private regard) had greater school dropout and lower college attainment, which may help to explain why this was the smallest profile among the current sample.

Direct Effects of Racial Identity Profiles

Based on limited previous literature examining the direct effects of racial identity profiles, it was hypothesized that the probability of belonging to some racial identity profiles would be linked to lower rates of alcohol and cannabis use, fewer symptoms of depression and anxiety, and higher academic motivation, and others would be associated with risk. Specifically, we hypothesized that the probability of belonging to the multiculturalist and race-focused profiles would be associated with lower reports of substance use, depression, anxiety, and higher reports

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of academic motivation. Regarding the multiculturalist profile, we found that as the probability of being in the multiculturalist profile increased, reports of depression and stress decreased, and reports of academic motivation increased. The findings in relation to the multiculturalist profile appeared to partially support our hypotheses, finding that for all outcomes except for substance use, higher probability of being in the multiculturalist profile was promotive. Perhaps, in relation to substance use, this is truly a null effect. Being in the multiculturalist profile may not be related to increased or decreased rates of substance use and there may be other more important mechanisms that facilitate or protect against substance use for these individuals. But, it is difficult to make definitive conclusions due to lack of previous research. Thus, more research is needed in this area of study.

Regarding the race-focused profile, findings were in the opposite direction of our hypotheses and previous researchers (e.g., Chavous et al., 2003). Among our sample, higher probability of being in the race-focused profile was unrelated to most outcomes and was actually associated with increased cannabis use. Perhaps among this specific sample there are unique characteristics of individuals in the race-focused profile that introduce risk. Of note, it was also found within the multigroup analysis, that was stratified based on profile membership, that for the race-focused group, racial discrimination was associated with increased cannabis use. Thus, it may be the case that racism more broadly and exposure to racial discrimination specifically, may be particularly impactful on cannabis use for this group of African American young adults. Researchers have also found that African American adults tend to have more social motives related to cannabis use than White adults (Buckner, Shah, Dean, & Zvolensky, 2016). As individuals in the race-focused profile may be more highly connected to their community, they may also be more likely to engage in social cannabis use, particularly in a college environment where cannabis use

prevalence is fairly common (Schulenberg et al., 2018). Thus, our sample of African American college students may be at a particularly unique developmental stage and environment that uniquely impacts cannabis use outcomes, particularly those in the race-focused profile.

We hypothesized that the probability of belonging to the integrationist profile would be associated with a risk effect for each outcome. This hypothesis was partially supported, as increased probability of being in the integrationist profile was significantly associated with decreased academic motivation. The integrationist profile was characterized by low race centrality scores, low private regard, and low public regard and researchers have found that having high centrality, group pride and a positive view of one's race is associated with positive self-esteem and positive perceptions about school (Rowley, Sellers, Chavous, & Smith, 1998; Spencer, Noll, Stolzfus, & Harpalani, 2001). Perhaps feeling disidentified with one's group has some specifically deleterious impacts on academic outcomes for African American young adults who are pursuing higher education.

For the undifferentiated profile, we hypothesized either a weak promotive or risk effect on our measured outcomes. However, we did not find any significant direct effects for this profile. It is plausible that this null effect is due more to a floor effect, given that this profile was not highest probability for most participants in our sample. When examining the directionality of the relationship, it appeared that higher probability of being in the undifferentiated profile was associated with decreased substance use and academic motivation and with increased internalizing symptoms (depression, anxiety, and stress). This appears to support our hypothesis; but, no definitive conclusions can be drawn due to null findings. However, given previous literature and directionality, if we had more individuals that had a higher probability of belong to this profile, these findings may have been significant. While this profile appears to make up a smaller

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proportion of individuals in this study and other studies, this profile might be rarer (and/or these individuals might be less likely to participate in research studies), so future studies may need to work to oversample for individuals who would fall into this profile to truly understand the risks and benefits associated with this racial identity profile.

Moderating Effects of Racial Identity Profiles

Additionally, based on the limited body of literature examining racial identity profiles, we expected that the racial profiles would moderate the strength of the relationship between racial discrimination and alcohol use, cannabis use, depression symptoms, anxiety symptoms, and academic motivation. It was hypothesized that increased reports of racial discrimination would be associated with increased negative outcomes, but that those individuals in the multiculturalist profile would have the weakest positive relationship between racial discrimination and all outcomes, followed by the race-focused profile, then the undifferentiated profile. We hypothesized that the integrationist profile would have the strongest positive relationship between racial discrimination and these outcomes. We did find among our multi-group analysis results, that for all significant results, there was a positive relationship between racial discrimination and the outcome variable. However, when comparing across profiles it appeared that the only significant differences between profiles in the relationship between racial discrimination and outcomes was between the integrationist and race-focused profile.

Specifically, relative to those in the integrationist profile, individuals in the race-focused profile who experienced racial discrimination were higher in their academic motivations and lower in stress (though the finding for stress was only trending toward significance). Based on these results, individuals in the integrationist profile were at higher risk for negative outcomes as a result of racial discrimination (compared to those in the race-focused profile). We postulate that the

reason for the effect is that individuals with less connection to African American culture who focused on shared human qualities are as highest risk for negative outcomes when they encounter discriminatory acts, whereas individuals who are connected to African American culture and aware of racism specific to African Americans are more prepared to the potential exposure to discrimination and are less impacted by it. This hypothesis is supported by other researchers, such as Banks and Kohn-Wood (2007), who noted that individuals in the integrationist profile may be less prepared for exposure to discrimination or how to cope with discriminatory experiences and in turn are at higher risk for experiencing negative outcomes as a result of discrimination. Additionally, researchers have speculated that the absence of a positive group connection may interact with discrimination experiences to decrease academic success among African Americans (Chavous et al., 2003).

The results among the current sample were specific to stress and academic motivation outcomes and are consistent with available literature. However, we did not find significant results for any other outcomes measured in this study. Examining directionality, from the results of the multi-group stratified analysis, it appears that increased racial discrimination was positively related to increased substance use and depression and anxiety symptoms for all profiles. Thus, perhaps racial identity alone is not a significant factor in varying the impact of racial discrimination on substance use and mood symptoms among college students. However, an alternative explanation is that while the current study was well-powered to examine direct effects, given the small sample sizes within each racial identity profile, this study was not as well-powered to examine moderating effects for each racial identity profile. Given findings in previous studies, should the sample sizes for each racial identity profile have been larger, we expect that all profiles would have had significant moderating effects. Of note, there were low rates of substance use among this sample

(the modal values for both alcohol and cannabis use were 0; $M_{alcohol}=2.42$; $M_{cannabis}=2.40$). Thus, there may not have been enough power to detect an effect among substance use outcomes for this sample. Perhaps in more diverse sample that included more individuals who engaged in substance use, we would have found significant moderating effects for substance use outcomes. As suggested by Anglin and Wade (2007), perhaps this kind of college environment (predominately white institution; PWI) is easier to adjust to for individuals who have a more "inclusive" racial identity and are connected to other minority/racial groups. Both the undifferentiated and multiculturalist profiles were characterized by relatively high humanist ideology. Thus, we expect that these profiles would have been protective in a larger sample. These hypotheses should be tested with larger samples of African American college students.

Limitations

While there are many strengths to this study, there are also some limitations. This study was conducted at a predominately white institution (PWI), therefore the findings may not be able to be generalized to other college study populations, such as African American college students who attend historically black college or university (HBCU). Worrell and colleagues (2006) found that the number of profiles identified using the Nigrescence model differed based on if participants attended a PWI compared to an HBCU. The authors concluded that the number of profiles does differ based on institutional setting, with the multicultural profile more likely to be found at institutions where African Americans are the minority or there are several other racial/ ethnic groups present. Additionally, the measure of Black racial identity in this study (MIBI) had low to moderate internal consistency in the current study. Perhaps the low number of items in each subscale is contributing to this, but nonetheless it might be important to examine these effects using different measures of racial identity to determine if the results would be similar. Given the

low internal consistency of the MIBI across studies (i.e., Chavous et al., 2003; Banks & Kohn-Wood, 2007; Bernard et al., 2018), the subscales may not be appropriately or accurately measuring the different components of racial identity proposed in the Multidimensional Model of Racial Identity (Sellers et al., 1998). We also did not examine profile differences by sociodemographic variables, such as gender, socioeconomic status, or immigrant status/nationality, as this is a preliminary study to look at broad effects rather than specifics based on these demographic variables. However, of note, one previous study examining racial centrality among adolescents found differences in the moderating effect of centrality on academic outcomes by gender (Chavous et al., 2008). However, when gender was examined in an MIBI profile study, few differences were observed (Rowley et al., 2003). The authors noted that the MIBI does not prime test-takers to choose answers through a gendered lens and that African American men and women view their race in similar ways and ascribe similar meanings. Thus, given mixed findings, we controlled for gender, but this could also be examined as a variable of interest in future studies. Additionally, it is plausible that socioeconomic status or immigrant status/nationality may affect a number of different factors related to racial identity (e.g., Clerge, 2014), so they were controlled for in this study and should be examined more in-depth in future research. Lastly, this study focused on African American college students, without examining potential differences in findings observed based on age or education level, thus limiting the generalizability of the study. Future research should replicate this study with these different demographics in mind.

Future Directions and Conclusions

While our findings only partially supported our hypotheses, it is important to point out that these findings are not necessarily in complete opposition to what has been found in the previous MIBI profile studies. For instance, Bernard et al. (2018) found that for all profiles, racial

discrimination was significantly related to the outcome and that there were non-significant differences in the magnitude of the effect found across profiles. More research is needed with even larger and more diverse sample sizes for more definitive conclusions related to racial identity profiles. Our findings in relation to directionality were interesting but no generalizations about these results can be made as many of the results were null. While this study had a larger sample size than previous studies examining racial identity profiles, future studies should replicate with larger sample sizes within each profile group. Some profiles may be more difficult to recruit into research studies, so special attention should be paid to sampling these groups.

As noted in the limitations, the current study sets the stage for future research in a number of areas, including disaggregating risk based on sociodemographic variables, such as gender, socioeconomic status, or immigrant status. In addition, some studies on racial identity profiles have been published utilizing different racial identity models and measurements, such as Phinney's ethnic identity model measured by the MEIM (Seaton, Scottham & Sellers, 2006), the Nigrescence model measured by the RIAS-B (Carter, 1996; Neville & Lilly, 2000), and the White Racial Identity Scale (WRIAS—white version of the RIAS; Carter, Helms & Juby, 2004). As several of the subscales on the MIBI had low internal reliability for the current study, perhaps other measurements of racial identity should be examined in the future. Relatedly, future research is also warranted examining whether the profiles identified and their relationship to various outcomes differ based on the measurement. Moreover, since many of the earlier models of racial identity are developmental (i.e., looking at change in racial identity over time), perhaps profiles based on these models would be more applicable to different individuals, based on the developmental stage of respondents, particularly when examining effects among children and adolescents. Such work can be conducted as an extension of findings from the current study.

Findings from the study can also inform intervention programming. For example, Street and colleagues (2012) found that a particular component of racial identity, higher private regard, was associated with a greater number of reasons for living among a sample of African American women who have attempted suicide. The authors offer that bolstering private regard among African American women could help reduce risk for suicide. Thus, as it relates to the current study, a more multidimensional view of racial identity could provide clinicians with more areas for intervention for individuals who may be at risk for depression, anxiety, substance use, and low academic motivation. When thinking about intervention, it is important not to see some racial identity profiles as "good" and others as "bad," but rather to think about how these profiles influence the way an individual interacts with their environment. In one study conducted by Oyserman et al. (2003), researchers examined the impact of reminding students of their racial identity before a math task impacted their performance differently depending on their identity. For individuals who saw themselves as both a member of their racial in-group and a member of society at large, a reminder of racial identity improved performance. However, for students who only conceptualized themselves in terms of their racial in-group, the reminder negatively impacted performance (Oyserman et al., 2003).

Perhaps discussing racial identity could differentially impact outcomes for different individuals and discussing beliefs related to these identities could be useful in a therapeutic setting. For individuals in the race-focused profile, perhaps a discussion of a strong group identification along with the introduction of culturally-relevant coping skills could be useful. For individuals in the integrationist and undifferentiated profiles, perhaps highlighting shared human qualities while discussing potential internalizing of racist events that these individuals experience could be useful. Finally, for individuals in the multiculturalist profile, discussing awareness of race and oppression

broadly and how it may affect day to day functioning could be useful. In this way, a clinician could tailor their interventions to each individual in a culturally-responsive way. This is important, as research has provided support for adapting therapies and treatments to incorporate culturally relevant factors to culturally and ethnically diverse clients (e.g. Benish, Quintana & Wampold, 2011). Moreover, culturally adaptive therapies have also been found to increase client-therapist rapport, length of therapy, and successful therapy outcomes (e.g., Griner & Smith, 2006). Thus, taking into account one's racial identity could be viewed similarly and related to these positive therapeutic outcomes.

In sum, given the dearth of research in examining racial profiles on health outcomes among African American young adults, this current study is significant as it is the first, to our knowledge, to examine an externalizing outcome like substance use in relation to racial identity profiles. African American young adults have a potentially elevated risk for substance use associated with experiencing racial discrimination (Hope et al., 2015; Hurd, Varner, Caldwell, & Zimmerman, 2014). Evidence regarding the direct and moderating effects of racial identity profiles could be used to inform both future research and intervention programming for this population of young adults, to protect against the deleterious impact of racial discrimination.

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