HHS Public Access

Author manuscript

J Prev (2022). Author manuscript; available in PMC 2023 February 02.

Published in final edited form as:

J Prev (2022). 2023 February ; 44(1): 85–104. doi:10.1007/s10935-022-00706-y.

The Association Between Racial Attitudes, Alcohol Use and Mood Disorders Among Black Adolescents

Ijeoma Opara[1,2], **David T. Lardier**[3], **Donte Boyd**[2,4], **Augustine Cassis Obeng Boateng**[5], **Bridgette M. Brawner**[6]

[1]Department of Social and Behavioral Sciences, Yale University School of Public Health, New Haven, USA

[2]Center for Interdisciplinary Research On AIDS, School of Public Health, Yale University, New Haven, USA

[3]Department of Psychiatry and Behavioral Sciences, University of New Mexico, Albuquerque, USA

[4]School of Social Work, Ohio State University, Columbus, USA

[5]School of Nursing, University of Pennsylvania, Philadelphia, USA

[6]M. Louise Fitzpatrick College of Nursing, Villanova University, Villanova, USA

Abstract

Alcohol is the most widely used substance among adolescents. Although Black adolescents use alcohol at lower rates than White adolescents, Black adolescents tend to have worse outcomes. This includes higher rates of mood disorders and criminal justice involvement associated with alcohol use and misuse compared to any other racial group. Black adolescents are also more likely to experience racial discrimination and be exposed to traumatic events within their communities, which may increase their chances of using substances. Understanding the relationship between racial attitudes (towards one's own group and others) and substance use and mental health can provide unique and meaningful insight into prevention programming for Black adolescents. Yet, these concepts have been understudied. To fill this gap, we examined the association between racial attitudes and alcohol use and mood disorders in Black adolescents in Philadelphia, PA (N = 154). We used the revised Adolescent Survey of Black Life to measure pro-Black (positive attitudes toward being Black and factors related to Black people), anti-White (negative attitudes toward White people due to experiences of racism and discrimination) and racism awareness (recognition of racism) domains. Logistic regression analyses were conducted to test the associations. Results showed that: higher pro-Black attitudes were associated with a lower

✉Ijeoma Opara, ijeoma.opara@yale.edu.

Conflict of Interest The authors report no conflicts of interest related to this study. The study sponsors had no role in the study design, collection, analysis or interpretation of the data, nor the writing of the report or decisions related to submission of the manuscript.

Informed Consent Parental consent was waived due to the sensitive nature of the study involving youth sexual risk behaviors. Youth assent was obtained.

Ethical Approval All authors mentioned in the manuscript have agreed to authorship, read and approved the manuscript, and gave consent for submission and subsequent publication of the manuscript. This study received IRB approval from the University of Pennsylvania, the Philadelphia Department of Public Health, and the School District of Philadelphia.

odds of mood disorder (odds ratio [OR] = 0.72, 95% CI = 0.55, 0.89); and higher racism awareness was associated with an increased odds of alcohol use (OR = 1.18, 95% confidence interval [CI] = 1.06, 1.29). Findings provide preliminary support for interventions and policies for Black adolescents that bolster positive racial identity and eliminate experiences of racism as alcohol use and mood disorder prevention strategies.

Keywords

Black adolescents; Racial identity; Prevention; Alcohol use; Protective factors

Introduction

Alcohol remains the most used substance among adolescents in the United States (SAMHSA, 2011, 2017). In 2019, the prevalence of current alcohol use was lower among Black adolescents (16.8%) compared with White (34.2%) and Hispanic adolescents (28.4%; Jones et al., 2020). While Black adolescents have lower rates of alcohol use compared to White and Hispanic adolescents, they experience worse outcomes associated with alcohol use (Chen & Jacobson, 2012; Swendsen et al., 2012). Black adolescents tend to have an elevated risk for alcohol use disorder, legal troubles, academic challenges, gun violence, alcohol-related death, and varying mental health disorders related to alcohol use (Branas et al., 2009; Zapolski et al., 2017). Black adolescents between the ages of 12–20 years have also been found to engage in sexual risk behaviors while under the influence of alcohol (Brawner et al., 2021; Oshri et al., 2013), and are at increased risk of unintentional injuries such as car crashes due to alcohol use (CDC, 2007; Duncan et al., 2012).

Compared to their non-Black peers, Black adolescents are more likely to live in neighborhoods where they are overly exposed to high amounts of alcohol marketing and advertisements, high density of alcohol outlets, and the trauma-inducing events that go along with these exposures (Lee et al., 2020; Kwate & Lee, 2007; Scott et al., 2020). In Philadelphia, for example, a city with about 43% Black population, high alcohol outlet density was associated with neighborhood disturbance and gun violence (Branas et al., 2009; Grubesic et al., 2013). Researchers have identified this phenomenon as a result of systematic racism leading to under-resourced communities for people of color (Opara et al., 2020a).

The disparity in the adverse effects of alcohol use among Black adolescents points to structural, systemic, and cultural barriers to healthcare utilization and prevention education for Black adolescents. Due to a lack of prevention education programs that are culturally tailored, Black adolescents may be unaware of the negative effects of drinking alcohol and may use alcohol to cope with the structural issues (e.g., poverty, gun violence, racism) that can contribute to negative mental health outcomes (Lopez et al., 2017; Opara et al., 2020a).

Posttraumatic stress disorder (PTSD) and major depressive disorder (MDD) represent the most common mental health outcomes associated with violence and traumatic exposures (Lopez et al., 2017). Black adolescents who live in urban neighborhoods are more likely to live in neighborhoods where they witness crime, violence, and other traumatic and nontraumatic events (Sheats et al., 2018). There is a strong association between alcohol use

and negative mental health outcomes among adolescents (Gibbs et al., 2013). About 30–50% of individuals in the U.S. with mood disorders such as bipolar disorder (BPD) are also dual diagnosed with substance use disorders (Assari & Caldwell, 2017; Fortuna et al., 2018), and 30–55% of individuals with major depressive disorder (MDD) have an alcohol use disorder as a primary diagnosis (Boschloo et al., 2012). Among adolescents, Black adolescents are less likely to receive mental health treatment than White adolescents (Opara et al., 2021), thus resulting in underlying and underdiagnosed mental health disorders which are key risk factors for alcohol misuse and dependence (Ward et al., 2013). According to the National Survey on Drug Use and Health, Black people were less likely than White people and other racial groups to receive alcohol treatment in the past year (Lipari & Hager, 2013).

Beyond stigma, cultural incompetence in prevention programs, a justice system that has a disproportionate percentage of Black adolescents living with mental health disorders, and lack of access to health insurance and quality healthcare all reign paramount in addition to lack of alcohol use treatment for Black adolescents (Planey et al, 2019; Ward et al., 2013). In 2017, about 90% of Black Americans over age 12 years with substance use disorders did not receive either substance use or mental health treatment (CDC, 2019). More than half of Black young adults aged 18–25 years with serious mental illness had no access to treatment in 2018 (CDC, 2019). Experiences of racial discrimination are a predictor of poor mental health symptoms (Cooper et al., 2008), low racial identity and pride (Butler-Barnes et al., 2018a, 2018b; Butler-Barners et al., 2019), and higher levels of alcohol and drug use among Black adolescents (Anderson et al., 2020; Steele, 2016). In addition, early experiences of racial discrimination in adolescence have even been found to predict mood and other mental health disorders in adulthood (Assari et al., 2017).

Prior literature has identified that racism can impact the physical and mental health of Black adolescents (Pachter et al., 2009; Pittman et al., 2018). Racism causes severe stress, life stressors, maladaptive outcomes, and contributes to poor mental health outcomes and a higher likelihood of using and misusing substances (Banyard & Graham-Bermann, 1998; Browman, 2007; Cutrona et al, 2000; Pittman et al., 2018). Furthermore, there is some evidence within the literature that indicates the relationship between racial discrimination and alcohol use among Black adolescents. For example, the Family and Community Health Study (FACHS), reported that Black adolescents who had early experiences with discrimination (by ages 10 or 11 years) were more likely to use substances (alcohol and marijuana) in the later stage of adolescence (Gibbons et al., 2007). Another study found that racial discrimination and substance use were mediated by external reactions such as anger and hostility (Gibbons et al., 2012).

There remains a dire need for effective alcohol use and mood disorder prevention interventions for Black adolescents. Despite the work that has been done which explored cultural protective factors on mental health and substance use (Fisher et al., 2017; Opara et al., 2019a, 2020b; Stock et al., 2018), additional efforts are needed to reduce alcohol use and improve mental health outcomes for Black youth living in under-resourced environments. There is promising empirical evidence on the role of racial identity in Black adolescents as a protective factor for alcohol use, misuse, and mood disorders.

Racial identity refers to the importance of race for an individual's self-concept and perceptions about what it means to be a certain race (Sellers et al., 2006; Sellers & Shelton, 2003). Various definitions of racial identity typically encompass an individual's view of self and their racial group, derived from their knowledge of membership in that group in addition to their values, beliefs, and emotional attachment to that group. Using race as a social construction references an individual's sense of collective identity, based on self-perceptions of shared commonalities, values, and beliefs with a racial group (Carter & Marony, 2018). Commonly, racial identity is based on outward visual appearances such as skin color and contributes to how groups are treated, which opportunities they will receive, and the types of environments in which they reside.

For Black adolescents, their racial identity tends to develop within environments that produce conflicting messages about their race, and challenge positive pro-Black attitudes and racial identity formation (Stevenson et al., 1997). This may contribute to the development of anti-White attitudes as Black adolescents experience racism and discrimination, leading to higher racism awareness, and resultantly reject oppressive aspects of White society in their ethnic-racial socialization experiences (Whaley & McQueen, 2010). Moreover, anti-White attitudes may initially serve as a defense mechanism to buffer against the noxious effects of anti-Black racism during this critical developmental window; however, such defense mechanisms can lead to conflicted racial identity profiles, which are noted to increase clinically significant experiences of mood disorder symptoms (Worrell et al., 2014).

Black racial identity as a cultural protective factor has been found in prior and contemporary research to have a relationship with mental health symptoms. Higher levels of racial identity are associated with lower levels of anxiety and depression symptoms and low alcohol use among adolescents (e.g., Caldwell et al., 2004; Opara et al., 2019b; Sellers et al., 2006; Zapolski et al., 2017). Other research has found that Black adolescents and young adults who endorsed a stronger racial identity used fewer illegal substances than their peers (Caldwell et al., 2004; Choi et al., 2006; Zapolski et al., 2017). In other studies, strong racial identity dimensions (e.g., higher levels of private regard and racial pride) served as a protective factor against sexual risk behaviors (Brawner et al., 2021; Corneille & Belgrave, 2007), alcohol use (Caldwell et al., 2004) and drug use and exposure among Black adolescents (Marsiglia et al., 2001). The notion of strengthening racial identity in adolescents may be an effective and innovative approach to challenging the effects of racism and promoting healthy and positive coping mechanisms. As a protective factor, increasing one's racial identity may also impact alcohol use through its positive relationship with self-esteem and self-worth (Fisher et al., 2017). Racial identity may reduce the likelihood of alcohol use among adolescents by improving self-esteem, reducing psychological emotions, and normalizing positive group norms and cultural values.

Alcohol use and mood disorders in adolescence are associated with continued alcohol use and dependence, and mood disorders, that can transcend into adulthood. We sought to determine whether positive racial identity has protective effects for Black adolescents to advance culturally relevant substance use and mental health prevention efforts and improve long-term outcomes in this key demographic. The measured racial attitudes incorporated

three domains: (1) pro-Black attitudes (positive attitudes toward being Black and factors related to Black people), (2) anti-White attitudes (negative attitudes towards White people due to experiences of racism and discrimination), and (3) racism awareness (recognition of racism; Resnicow et al., 1999). We hypothesized that higher levels of pro-Black attitudes would be associated with lower odds of alcohol use and mood disorders, and that higher levels of anti-White attitudes and racism awareness would be associated with higher odds of alcohol use and mood disorders. The ultimate goal is to advance prevention science and inform future intervention and policy work to reduce alcohol use and mood disorders among Black adolescents.

Methods

Design

This paper presents findings from a secondary analysis conducted on a subsample of participants in a pilot randomized controlled trial (RCT). The trial was conducted from August 2014 to December 2016; see (*Blinded Authors*) for details on the larger study. The parent study was approved by Institutional Review Boards (IRBs) at the University of Pennsylvania, the Philadelphia Department of Public Health, and the School District of Philadelphia. The purpose was to design and test a psychoeducational HIV/STI prevention intervention to address the role of mental illness and emotion regulation in HIV/STI risk among heterosexually-active Black youth aged 14 to 17. A structured clinical interview (Sheehan et al., 1998) was administered to determine RCT eligibility. Data from these interviews serve as the basis for the current analyses.

Sample

Black adolescent participants (N = 154) were recruited from community mental health agencies and public spaces (e.g., parks, recreation centers) in Philadelphia, PA (Brawner et al., 2019). Those who were recruited from community mental health agencies, or from public spaces and self-reported current mental health treatment at the time of screening, were labeled as “in mental health treatment” for the analyses. Those recruited from public spaces who denied mental health treatment were labeled as “not in mental health treatment”. Recruitment methods included placing flyers in high-traffic areas (e.g., barbershops), face-to-face recruitment by trained research assistants, and community mental health provider referrals. Initial screenings took place in person or by telephone using a structured screening script. Preliminarily eligible adolescents then met with members of the research staff for informed consent procedures, an electronic sociodemographic survey, and the structured clinical interview to ascertain mental health diagnoses; this process took approximately 2 h. All interviews were conducted by research staff. Research staff were trained by a mental health nurse and a doctoral nursing student with experience in psychodiagnostics assessment.

Participants: (1) were aged 14 to 17 years old, (2) self-identified as Black (e.g., African-American, Caribbean-American, mixed-race), (3) had ever had vaginal sexual intercourse, (4) were able to provide signed informed consent, and (5) were able to speak, read and write in English. Those who: (1) displayed significant cognitive deficit, as determined by

staff during screening and consent procedures, (2) reported active suicidal ideation that required intervention by staff, or (3) displayed symptoms of active psychosis were excluded. All participants provided written informed consent for participation and parental consent/permission was not required; see *Blinded Authors* for the determination process based on guidance from the IRB and youth legal experts.

Measures

Criterion Variables

Dimensions of Racial Identity—The revised Adolescent Survey of Black Life (Resnicow et al., 1999) is composed of 16 items that examined domains related to racial-ethnic identity. These measures included the seven-item *pro-Black* domain (sample items: "It is important to learn more about African American History"; "I am happy that I am Black"; $M = 3.38$, SD = 0.44, Cronbach's $\alpha = 0.84$), four-item *anti-White* domain (sample items: "It is okay for Black people to date or marry White people"; "I trust most White people"; $M = 1.97$, SD = 0.45; Cronbach's $\alpha = 0.70$), and five-item *racism awareness* domain (sample items: "Most White people feel they are better than Black people"; "In America, it is harder for Black people to succeed than White people"; $M = 3.38$, $SD = 0.42$; Cronbach's $\alpha = 0.84$). Items were measured on a four-point Likert-type scale ranging from *agreeing a lot* (1) to *disagree a lot* (4). Responses were reverse coded for the *pro-Black* and *racism awareness* subscales. Higher values indicate higher pro-Black attitudes, anti-White attitudes, and racism awareness.

Outcome Variables

Mood Disorders and Alcohol Use—Mental health diagnoses were determined by scoring the MINI International Neuropsychiatric Inventory (MINI) for different conditions (e.g., major depressive disorder, bipolar disorder, generalized anxiety disorder, agoraphobia). The MINI is a diagnostic instrument that assesses psychiatric mental health disorders based on the Diagnostic Statistical Manual of Mental Disorders (DSM-IV TR) criteria (Bell, 1994), and was used to determine mood disorder diagnoses in the study sample. At the time of the study (2014), we used the DSM-IV and not DSM-5 criteria. *Mood disorders* were measured using seven mental health diagnoses (e.g., major depressive disorder, generalized anxiety disorder, bipolar disorder) with a "yes" (1) answer indicating a diagnosis (see Table 1 for list of included mood disorder diagnoses). The combined continuous mood disorder measure ranged from 0 to 7 mental health diagnoses ($M = 0.35$, $SD = 0.84$). For the purposes of this study, the measure was dichotomized with those having a score of "0" or "no mental health diagnoses" coded as "0" or "no mood disorder diagnosis" and those having a score of 1 to 7 coded as "1" or "Yes, a mood disorder diagnosis". The original continuous measure was highly correlated with the recoded dichotomized outcome ($r = 0.72$, $p < 0.001$). Of the 154 participants in the present study, 21.4% had a mood disorder ($n = 33$).

The second outcome of interest *alcohol use* was based on a single item, with responses of "yes" indicating alcohol use in the 12 months prior to being interviewed. Fifteen percent ($n = 23$) of participants responded "yes" indicating alcohol use in the 12 months prior to being interviewed.

Sociodemographic Covariates

Several *sociodemographic covariates* were tested as statistical controls. Covariates were included in fully specified multivariate models and retained based on performance in the model (Aneshensel, 2012). These covariates included age, gender, race, grade in school, current living arrangement, self-rated health, mental health treatment, and family member mental health treatment. *Age* was measured in years. *Race* was coded as a series of dichotomous variables (*Yes* = 1, *No*=0) asking participants their race including Black/African American (ancestors brought to U.S. as slaves), Caribbean/West Indian, Hispanic/Latinx, Asian/Pacific Islander, African, Arabic, Native American/American Indian, Mixed racial identity, and other group not named. *Grade* was categorized using a five-point response of 9th grade (1), 10th grade (2), 11th grade (3), 12th grade (4), or graduated from high school (5). Current living arrangement was categorized using a six-point response of in a house that my parent/guardian owns (1), in a house that my parent/guardian rents (2), in an apartment that my parent/guardian rents (3), with my parent/guardian in someone else's house or apartment (4), in my own house or apartment (5), and in a shelter (6). Self-rated health was measured on a four-point Likert scale from fair (1) to excellent (4). Mental health treatment was a dichotomous response (Mental health treatment = 1, Not in mental health treatment = 0). Family member mental health treatment was measured using the question "did anyone in your family ever receive mental health treatment", with responses collected dichotomously (*Yes* = 1, *No* = 0).

Results

Descriptive Analyses and Biserial Correlations

All analyses were conducted in *R version 4.2.0* (R Core Team, 2021) with the *psych* package (Revelle, 2021). Preliminary data analyses included the examination of normality, descriptive statistics, alpha-level reliabilities (Cronbach's alpha), between-group analyses among sociodemographic covariates and main analytic variables, and a bivariate correlation matrix. Univariate skew and kurtosis were within normal distribution ranges. Multicollinearity was also examined, and all variables were within the designated parameter ranges for variance inflation factor (< 10) and tolerance (> 0.2).

The sample demographics are presented in Table 1. Participants were 15.84 (*SD* = 0.87) years old, with 97% enrolled in high school. There were more males (62%) than females (38%). Most participants identified as only Black (89.6%). Many participants lived in a house that was either owned (41%) or rented (43%); one participant reported living in a shelter. Over 60% reported very good to excellent self-rated health, 63.2% received treatment from a mental health provider, and 40% identified having a family member who received mental health treatment.

Between group difference tests examined mean level differences among main analytic variables on sociodemographic covariates including age (in years), gender, race, grade in school, current living arrangement, self-rated health, mental health treatment, and family member mental health treatment. Significant differences emerged for gender among boys (*M* = 3.80, *SD* = 1.95) and girls (*M* = 3.09, *SD* = 1.45) on pro-black attitudes (*t* [152] =

2.42, $p = 0.01$). Chi-square test results indicated significant differences between those in treatment and not in treatment in relation to a diagnosis of a mood disorder (X^2 [1] = 5.22, $p = 0.02$). No significant differences were present based on race or grade in school. Covariates were included in preliminary analyses and retained based on performance in these models (Aneshensel, 2012).

Mean, standard deviations, and both bivariate and biserial correlations are presented in Table 2. Bivariate correlations were calculated between all continuous variables. Biserial correlations were conducted between continuous and dichotomous variables. Again, racial attitudes were measured as pro-Black attitudes (positive attitudes toward being Black and factors related to Black people), anti-White attitudes (negative attitudes toward White people due to experiences of racism and discrimination), and racism awareness (recognition of racism; Resnicow et al., 1999). Pro-Black attitudes were positively correlated with racism awareness ($r = 0.51$, $p < 0.001$), anti-White attitudes ($r = 0.43$, $p < 0.001$), and mood disorders ($r = 0.31$, $p < 0.001$); there was an inverse relationship between pro-Black attitudes and gender ($r = -0.24$, $p < 0.01$). Anti-White attitudes were correlated with all main analytic variables and had a moderate negative correlation with alcohol use ($r = -0.21$, $p < 0.001$) and mood disorders ($r = -0.20$, $p < 0.001$); there was also an inverse relationship between anti-White attitudes and gender ($r = -0.17$, $p < 0.01$). Racism awareness was correlated with anti-White attitudes ($r = 0.51$, $p < 0.001$), pro-Black attitudes ($r = 0.51$, $p < 0.001$) and alcohol use ($r = 0.10$, $p < 0.05$). Alcohol use was positively associated with mood disorders ($r = 0.25$, $p < 0.01$).

Logistic Regression Analyses

Logistic regression analyses involved testing the association between pro-Black attitudes, anti-White attitudes, and racism awareness and both alcohol use and mood disorders. Table 2 presents parameter estimates and standard errors for model. Inspection of data in Model 1 indicated that racism awareness was associated with an 18% increase in odds of alcohol use (e^B/ odds ratio [OR] = 1.18, $p = 0.009$, 95% confidence interval [CI] = 1.06, 1.29) and anti-White attitudes were associated with a 18% lower odds of alcohol use (e^B/ OR = 0.82, $p = 0.03$, 95% CI = 0.60, 0.97). The association between pro-Black attitudes and alcohol use approached significance (e^B/ OR = 0.94, $p = 0.062$, 95% CI = 0.77, 1.12).

Inspection of estimates in Model 2 also suggested that pro-Black attitudes (e^B/ OR = 0.72, $p = 0.0002$, 95% CI = 0.55, 0.89) and anti-White attitudes (e^B/ OR = 0.82, $p = 0.04$, 95% CI = 0.88, 0.91) were associated with a 28% and 18% lower odds of mood disorder, respectively. Gender (female = 1) was associated increased odds of mood disorder (e^B/ OR = 1.85, $p = 0.04$, 95% CI = 0.33, 0.91); although this association was not present for alcohol use (Table 3).

Discussion

Alcohol use and mood disorders among Black adolescents are alarming public health concerns. The current study results contribute to not only prevention science but also our collective understanding of the possible impact of structural racism on Black youth. First, youth in the study that exhibited higher pro-Black attitudes had lower odds of a mood

disorder; however, the association with alcohol use was not statistically significant. Second, increased racism awareness was associated with increased odds of alcohol use. Lastly, counter to our hypothesis, youth in the study who had higher levels of anti-White attitudes had lower odds of both alcohol use and mood disorders, although the overall level of anti-White attitudes were low in the study overall. However, it may indicate that for some Black adolescents, racial identity may be formed in a context so entrenched with racism, as an adaptive response, that may negatively inform how they relate to and engage with White people. Altogether, these results provide preliminary support for interventions and policies that bolster positive racial identity and challenge racism. In addition, our findings indicate the need to work with Black adolescents to aid in a deeper understanding of racial attitudes and its impact on alcohol use and mood disorders.

To our knowledge, there is a shortage of literature that discusses how racial attitudes influence alcohol use and mood disorders among Black adolescents. This is an important area of research as it is essential that prevention researchers determine protective mechanisms that can aid in protecting Black adolescents from using and misusing substances, such as alcohol, and developing mood disorders. Furthermore, such efforts are timely and significant given that despite using alcohol less frequently, Black adolescents' experiences with alcohol use have been associated with more severe outcomes than White and Hispanic adolescents (D'Amico et al., 2016). While there is limited literature on pro-Black attitudes which can be measured through Black racial identity scales, and its association with alcohol use, pro-Black attitudes among Black adolescents have been associated with higher self-esteem, positive school outcomes, and improved mental health symptoms (Jones & Neblett, 2017; Mandara et al., 2009). Consistent with our findings, infusing values and attitudes that foster a sense of pride in Black culture and racial identity for youth can be beneficial as a protective factor against mood disorders. There may also be a need to consider gender-specific approaches to promote racial pride and identity given that boys in the sample had higher pro-Black attitudes than girls.

The findings around anti-White attitudes warrant further investigation. Anti-white attitudes may be reflective of youth's views of White people based on experiences of racism and discrimination. Although anti-White attitudes were lower among the sample, it is essential for prevention programs to explore racial attitudes and possibly engage in reframing to encourage youth to engage in activism in challenging white supremacy as a response to anger towards their perceived oppressors. Consistent with empowerment theory literature (Zimmerman & Zahniser, 1991), youth who engage in activities that seek to dismantle systems of power and work towards action, can increase sociopolitical control (e.g., leadership competency and policy control) which is strongly positively associated with lower drug use among Black youth (Opara et al., 2021; Lardier et al., 2021). Given that other studies have suggested that anti-White attitudes are directly associated with clinically significant mood disorder symptoms (Worrell et al., 2014), it is essential that researchers work with Black youth to focus on increasing pro-Black attitudes and challenging systems of oppression, with support from adult allies as a response to racism. For Black youth, simply being aware of racism can lead towards a negative view of self, which is associated with alcohol use and mood disorders (Boynton et al., 2014). To this end, parental influences in these processes can be used to build pride and heritage socialization toward healthy racial

identity (Huguley et al., 2019), in a way that promotes individual racial identity in terms of positive views of being Blac. This is critical for prevention science as it highlights the need for family-based research and interventions in racial identity promotion, specifically in cognitive restructuring that moves away from the focus on anti-White attitudes and focuses more on positive attitudes towards self (e.g. Black people, Black pride leading to dismantling oppressive systems).

Our findings highlight the importance of pro-Black attitudes, as a dimension of racial identity, in potentially buffering Black adolescents from experiencing a mood disorder due often to experiences of racial discrimination and other systemic inequalities (Butler-Barnes et al., 2019). Our findings highlight the importance of addressing racism's impact on Black adolescents in the U.S. Without the proper tools to mitigate the effects of racism, such as improving their sense of pride and strengthening their identity, Black adolescents may continue to unintentionally suffer the consequences of racism which can be detrimental to their mental health (Hope et al., 2021).

Limitations

Several study limitations should be acknowledged. Given that this was a secondary data analysis, it is possible that the participants who consented to the original sexual health study may have experienced different psychological risks and disorders than those who would not consent to such a study. The study utilized a small convenience sample of youth with more than a third of the sample receiving mental health treatment from a provider in the Philadelphia area. Due to sampling, findings cannot be generalized to the Philadelphia Black youth population. Similarly, the implications and applicability of the findings must be tempered by the sample limitations. We encourage future research to obtain larger randomized samples of Black adolescents to allow for generalizability. While we used a common diagnostic tool i.e., MINI) to increase scientific rigor of mood disorder and alcohol use determination, such assessments are not always developed and/or tested in various cultural contexts, particularly including samples of racial and ethnic minority groups. This could result in underdiagnosis, misdiagnosis or overreporting of different conditions. However, the study findings contribute to advancing research on alcohol use prevention and mental health promotion among Black adolescents. Moreover, the results highlight the utility of racial identity and anti-racist strategies to mitigate the effects of racism for Black adolescents.

Implications for Prevention Science

Despite the study limitations, there are several strengths that have implications for mental health and alcohol use prevention science for Black adolescents. First, findings suggest racial identity dimensions such as pro-Black attitudes are important internal resources that can serve as a buffer against racism for Black adolescents. Second, given that racism awareness had a positive association with alcohol use and mood disorders among Black adolescents, it is essential that researchers and clinicians working with Black adolescents provide strengths-based strategies that seek to improve their internal responses to racist attacks, improve their self-esteem and confidence, and strengthen their racial identity and

pride. This must occur simultaneously with interventions and policies that aim to eradicate racism (e.g., eschewing race-driven notions of health inequities, structural competence training for providers). We want to note that the burden of eradicating racism should not be placed on the shoulders of Black adolescents, as they are victimized by systemic racism. Instead, it is essential for those working with Black adolescents to actively challenge negative stereotypes and mistreatment of Black people while also acknowledging that the concept of racism is illogical and has no indication of the value of Black people.

In terms of future research, this study has provided a collection of measures and analytic tools that provide a unique approach to understanding the complex feelings that Black adolescents may experience as a result of merely recognizing racism. Grasping the significance of the meaning of racial identity and the role it serves in responding to and managing emotions related to racial discrimination is key to working with Black adolescents to eliminating disparities that uniquely affect them. Further examination of these within group differences and gender differences is essential to comprehending how racism-related events and racial identity influence mental health symptoms and alcohol use among Black adolescents. Qualitative and mixed methods research designs may add important insight into the unique experiences of these important subgroups. In addition, understanding how Black adolescents develop racial attitudes is essential as anti-White attitudes may be formed as an adaptive response to experiences with racism. As Audre Lorde mentioned,

> “My response to racism is anger. I have lived with that anger, on that anger, beneath that anger, on top of that anger, ignoring that anger, feeding upon that anger, learning to use that anger before it laid my visions to waste, for most of my life. Once I did it in silence, afraid of the weight of that anger. My fear of that anger taught me nothing. Your fear of that anger will teach you nothing, also.”
>
> Audre Lorde.

It is essential for prevention researchers to understand how Black adolescents form such attitudes while also providing them with the tools to reframe in a positive way that supports their mental health, increasing positive attitudes and encourages youth empowerment. This study sought to examine the association between racial attitudes and alcohol use and mood disorders among Black adolescents. The findings indicate that these elements of racial identity, specifically pro-Black attitudes, are associated with both alcohol use and mood disorders among Black adolescents and are thus modifiable factors to consider in substance use prevention and mental health promotion for this group. This work contributes to prevention science as it can be used to inform future intervention strategies and policy initiatives. Specifically, the results highlight the need for multi-level interventions that mitigate racism while bolstering positive racial identity among Black adolescents, toward the reduction of alcohol use, mood disorders and the associated negative consequences. Though our findings are preliminary, the study serves as an entry point for a more nuanced assessment of racial identity development and racial socialization among Black adolescents, and how these processes shape drinking behaviors and mental health symptoms in this population.

Funding

This research was funded by the Centers for Disease Control and Prevention (Minority AIDS Research Initiative) grant # U01PS003304 awarded to Dr. Brawner. The first author is supported with funding from the National Institutes of Health, Office of the Director (DP5OD029636) and partially supported by an education grant from the National Institute on Mental Health (R25-MH087217). Points of view, opinions, and conclusions in this paper do not necessarily represent the official position of the U.S. Government.

References

Anderson RE, Lee DB, Hope MO, Nisbeth K, Bess K, & Zimmerman MA (2020). Disrupting the Behavioral health consequences of racial discrimination: A longitudinal investigation of racial identity profiles and alcohol-related problems. Health Education & Behavior, 47(5), 706–717. 10.1177/1090198120923268 [PubMed: 32456566]

Aneshensel CS (2012). Theory-based data analysis for the social sciences. California: Sage Publications.

Assari S, & Caldwell CH (2017). Mental health service utilization among black youth: Psychosocial determinants in a national sample. Children, 4(5), 40. 10.3390/children4050040 [PubMed: 28513567]

Assari S, Moazen-Zadeh E, Caldwell CH, & Zimmerman MA (2017). Racial discrimination during adolescence predicts mental health deterioration in adulthood: Gender differences among Blacks. Frontiers in Public Health, 5, 104. 10.3389/fpubh.2017.00104 [PubMed: 28611972]

Banyard VL, & Graham-Bermann SA (1998). Surviving poverty: Stress and coping in the lives of housed and homeless mothers. American Journal of Orthopsychiatry, 68(3), 479–489. 10.1037/h0080357 [PubMed: 9686299]

Bell CC (1994). DSMIV-IV: Diagnostic and statistical manual of mental disorders. JAMA, 272(10), 828–829.

Boschloo L, Vogelzangs N, van den Brink W, Smit JH, Veltman DJ, Beekman AT, & Penninx BW (2012). Alcohol use disorders and the course of depressive and anxiety disorders. The British Journal of Psychiatry, 200(6), 476–484. 10.1192/bjp.bp.111.097550 [PubMed: 22322459]

Boynton MH, O'Hara RE, Covault J, Scott D, & Tennen H (2014). A mediational model of racial discrimination and alcohol-related problems among African American college students. Journal of Studies on Alcohol and Drugs, 75(2), 228–234. 10.15288/jsad.2014.75.228 [PubMed: 24650816]

Branas CC, Elliott MR, Richmond TS, Culhane DP, & Wiebe DJ (2009). Alcohol consumption, alcohol outlets, and the risk of being assaulted with a gun. Alcoholism Clinical and Experimental Research, 33(5), 906–915. 10.1111/j.1530-0277.2009.00912.x [PubMed: 19320627]

Brawner BM, Jemmott LS, Hanlon AL, Lozano AJ, Abboud S, Ahmed C, & Wingood G (2021). Results from project GOLD: A pilot randomized controlled trial of a psychoeducational HIV/STI prevention intervention for black youth. AIDS Care, 33(6), 767–785. 10.1080/09540121.2021.1874273 [PubMed: 33550841]

Brawner BM, Jemmott LS, Wingood G, Lozano AJ, & Hanlon AL (2019). Project GOLD: A pilot randomized controlled trial of a novel psychoeducational HIV/STI prevention intervention for heterosexually-active black youth. Research in Nursing & Health, 42(1), 8–28. 10.1002/nur.21930 [PubMed: 30730043]

Butler-Barnes ST, Cook S, Leath S, & Caldwell C (2018a). Teacher-based racial discrimination: The role of racial pride and religiosity among African American and Caribbean Black adolescents. Race and Social Problems, 10(1), 30–41.

Butler-Barnes ST, Richardson BL, Chavous TM, & Zhu J (2019). The importance of racial socialization: School-based racial discrimination and racial identity among African American adolescent boys and girls. Journal of Research on Adolescence, 29(2), 432–448. 10.1111/jora.12383 [PubMed: 29504688]

Caldwell CH, Sellers RM, Bernat DH, & Zimmerman MA (2004). Racial identity, parental support, and alcohol use in a sample of academically at-risk African American high school students. American Journal of Community Psychology, 34(1), 71–82. 10.1023/B:AJCP.0000040147.69287.f7 [PubMed: 15495795]

Carter MJ, & Marony J (2018). Examining self-perceptions of identity change in person, role, and social identities. Current Psychology. 10.1007/s12144-018-9924-5

CDC. (2019, January 1). Summary Health Statistics: National Health Interview Survey: 2017. Table A-7. Retrieved March 8, 2021, from https://www.cdc.gov/nchs/nhis/shs/tables.htm

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System, 2007. Retrieved March 8, 2021, from www.cdc.gov/ncipc/wisqars

Chen P, & Jacobson KC (2012). Developmental trajectories of substance use from early adolescence to young adulthood: Gender and racial/ethnic differences. Journal of Adolescent Health, 50(2), 154–163. 10.1016/j.jadohealth.2011.05.013

Choi Y, Harachi TW, Gillmore MR, & Catalano RF (2006). Are multiracial adolescents at greater risk? Comparisons of rates, patterns, and correlates of substance use and violence between monoracial and multiracial adolescents. American Journal of Orthopsychiatry, 76(1), 86–97. 10.1037/0002-9432.76.186 [PubMed: 16569131]

Cooper SM, McLoyd VC, Wood D, & Hardaway CR (2008). Racial discrimination and the mental health of African American adolescents. In Quintana SM & McKown C (Eds.), Handbook of race, racism, and the developing child (pp. 278–312). John Wiley & Sons Inc.

Corneille MA, & Belgrave FZ (2007). Ethnic identity, neighborhood risk, and adolescent drug and sex attitudes and refusal efficacy: The urban African American girls' experience. Journal of Drug Education, 37(2), 177–190. 10.2190/UJ17-34J7-U306-2822 [PubMed: 17977240]

Cutrona CE, Russell DW, Hessling RM, Brown PA, & Murry V (2000). Direct and moderating effects of community context on the psychological well-being of African American women. Journal of Personality and Social Psychology, 79(6), 1088. [PubMed: 11138756]

D'Amico EJ, Tucker JS, Miles JN, Ewing BA, Shih RA, & Pedersen ER (2016). Alcohol and marijuana use trajectories in a diverse longitudinal sample of adolescents: Examining use patterns from age 11 to 17 years. Addiction, 111(10), 1825–1835. 10.1111/add.13442 [PubMed: 27130360]

Duncan SC, Strycker LA, & Duncan TE (2012). Alcohol use of African Americans and Whites from ages 9–20: Descriptive results from a longitudinal study. Journal of Ethnicity in Substance Abuse, 11(3), 214–225. 10.1080/15332640.2012.701550 [PubMed: 22931156]

Fisher S, Zapolski TC, Sheehan C, & Barnes-Najor J (2017). Pathway of protection: Ethnic identity, self-esteem, and substance use among multiracial youth. Addictive Behaviors, 72, 27–32. 10.1016/j.addbeh.2017.03.003 [PubMed: 28343088]

Fortuna LR, Porche MV, & Padilla A (2018). A treatment development study of a cognitive and mindfulness-based therapy for adolescents with co-occurring post-traumatic stress and substance use disorder. Psychology and Psychotherapy: Theory, Research and Practice, 91(1), 42–62. 10.1111/papt.12143

Gibbons FX, O'Hara RE, Stock ML, Gerrard M, Weng C-Y, & Wills TA (2012). The erosive effects of racism: Reduced self-control mediates the relation between perceived racial discrimination and substance use in African American adolescents. Journal of Personality and Social Psychology, 102(5), 1089–1104. 10.1037/a0027404 [PubMed: 22390225]

Gibbons FX, Yeh H, Gerrard M, Cleveland MJ, Cutrona C, Simons RL, & Brody GH (2007). Early experience with racial discrimination and conduct disorder as predictors of subsequent drug use: A critical period hypothesis. Drug and Alcohol Dependence, 88, S27–S37. 10.1016/j.drugalcdep.2006.12.015 [PubMed: 17275213]

Gibbs TA, Okuda M, Oquendo MA, Lawson WB, Wang S, Thomas YF, & Blanco C (2013). Mental health of African Americans and Caribbean blacks in the United States: Results from the national epidemiological survey on alcohol and related conditions. American Journal of Public Health, 103(2), 330–338. 10.2105/AJPH.2012.300891 [PubMed: 23237171]

Grubesic TH, Pridemore WA, Williams DA, & Philip-Tabb L (2013). Alcohol outlet density and violence: The role of risky retailers and alcohol-related expenditures. Alcohol and Alcoholism, 45(5), 613–619. 10.1093/alcalc/agt055

Hope EC, Brinkman M, Hoggard LS, Stokes MN, Hatton V, Volpe VV, & Elliot E (2021). Black adolescents' anticipatory stress responses to multilevel racism: The role of racial identity. American Journal of Orthopsychiatry., 91(4), 487–498. [PubMed: 34338546]

Huguley JP, Wang M-T, Vasquez AC, & Guo J (2019). Parental ethnic–racial socialization practices and the construction of children of color's ethnic–racial identity: A research synthesis and meta-analysis. Psychological Bulletin, 145(5), 437–458. 10.1037/bul0000187 [PubMed: 30896188]

Jones CM, Clayton HB, Deputy NP, Roehler DR, Ko JY, Esser MB, & Hertz MF (2020). Prescription opioid misuse and use of alcohol and other substances among high school students—Youth Risk Behavior Survey, United States, 2019. MMWR Supplements, 69(1), 38. 10.15585/mmwr.su6901a5 [PubMed: 32817608]

Jones SC, & Neblett EW (2017). Future directions in research on racism-related stress and racial-ethnic protective factors for Black youth. Journal of Clinical Child & Adolescent Psychology, 46(5), 754–766. [PubMed: 27145002]

Kwate NOA, & Lee TH (2007). Ghettoizing outdoor advertising: Disadvantage and ad panel density in black neighborhoods. Journal of Urban Health, 84(1), 21–31. 10.1007/s11524-006-9127-5 [PubMed: 17146710]

Lardier DT, Opara I, Garcia-Reid P, & Reid RJ (2021). The mediating role of ethnic identity and social justice orientation between community civic participation, psychological sense of community, and dimensions of psychological empowerment among adolescents of color. The Urban Review, 53(3), 403–423. [PubMed: 34483379]

Lee JP, Ponicki W, Mair C, Gruenewald P, & Ghanem L (2020). What explains the concentration of off-premise alcohol outlets in Black neighborhoods? SSM-Population Health, 12, 100669. 10.1016/j.ssmph.2020.100669 [PubMed: 33102679]

Lipari RN, Hager C (2013). Need for and Receipt of Substance Use Treatment among Blacks. In The CBHSQ Report. Substance Abuse and Mental Health Services Administration (US). Retrieved March 8, 2021, from https://www.ncbi.nlm.nih.gov/books/NBK384654/

López CM, Andrews AR III., Chisolm AM, De Arellano MA, Saunders B, & Kilpatrick D (2017). Racial/ethnic differences in trauma exposure and mental health disorders in adolescents. Cultural Diversity and Ethnic Minority Psychology, 23(3), 382. 10.1037/cdp0000126 [PubMed: 27786496]

Mandara J, Gaylord-Harden NK, Richards MH, & Ragsdale BL (2009). The effects of changes in racial identity and self-esteem on changes in African American adolescents' mental health. Child Development, 80(6), 1660–1675. [PubMed: 19930344]

Marsiglia FF, Kulis S, & Hecht ML (2001). Ethnic labels and ethnic identity as predictors of drug use among middle school students in the Southwest. Journal of Research on Adolescence, 11(1), 21–48. 10.1111/1532-7795.00002

Opara I, Lardier DT, Metzger I, Herrera A, Franklin L, Garcia-Reid P, & Reid RJ (2020a). "Bullets have no names": A qualitative exploration of community trauma among Black and Latinx youth. Journal of Child and Family Studies, 29(8), 2117–2129. 10.1007/s10826-020-01764-8 [PubMed: 34475729]

Opara I, Lardier DT Jr., Reid RJ, & Garcia-Reid P (2019b). "It all starts with the parents": A qualitative study on the protective factors for drug use prevention among Black and Hispanic girls. Affilia Journal of Women & Social Work. 10.1177/0886109918822543

Opara I, Rivera Rodas E, Garcia-Reid P, & Reid RJ (2020b). Ethnic identity, empowerment, social support, and sexual risk behaviors among black adolescent girls: Examining Drug Use as a Mediator. Child and Adolescent Social Work. 10.1007/s10560-020-00706-z

Opara I, Rivera Rodas EI, Lardier DT Jr., Garcia-Reid P, & Reid RJ (2019a). Validation of the abbreviated socio-political control scale for youth among girls of color. Child and Adolescent Social Work Journal, 37, 83–95. 10.1007/s10560-019-00624-9 [PubMed: 32982036]

Opara I, Weissinger GM, Lardier DT Jr., Lanier Y, Carter S, & Brawner BM (2021). Mental Health Burden among Black Adolescents: The Need for Better Assessment, Diagnosis and Treatment Engagement. Social Work in Mental Health, 19(2), 88–104. 10.1080/15332985.2021.1879345 [PubMed: 34248423]

Oshri A, Tubman JG, Morgan-Lopez AA, Saavedra LM, & Csizmadia A (2013). Sexual sensation seeking, co-occurring sex and alcohol use, and sexual risk behavior among adolescents in

treatment for substance use problems. The American Journal on Addictions, 22(3), 197–205. [PubMed: 23617859]

Pachter LM, & Coll CG (2009). Racism and child health: A review of the literature and future directions. Journal of Developmental and Behavioral Pediatrics: JDBP, 30(3), 255. 10.1097/DBP.0b013e3181a7ed5a [PubMed: 19525720]

Pittman DM, & Kaur P (2018). Examining the role of racism in the risky alcohol use behaviors of black female college students. Journal of American College Health, 66(4), 310–316. 10.1080/07448481.2018.1440581 [PubMed: 29448892]

Planey AM, Smith SM, Moore S, & Walker TD (2019). Barriers and facilitators to mental health help-seeking among African American youth and their families: A systematic review study. Children and Youth Services Review, 101, 190–200. 10.1016/j.childyouth.2019.04.001

R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. Retrieved from: https://www.R-project.org/.

Resnicow K, Soler RE, Braithwaite RL, Selassie MB, & Smith M (1999). Development of a racial and ethnic identity scale for African American adolescents: The Survey of Black Life. Journal of Black Psychology, 25(2), 171–188. 10.1177/0095798499025002003

Revelle W (2021). psych: Procedures for Psychological, Psychometric, and Personality Research. Northwestern University, Evanston, Illinois. R package version 2.1.9, https://CRAN.R-project.org/package=psych.

Scott J, Danos D, Collins R, Simonsen N, Leonardi C, Scribner R, & Herd D (2020). Structural racism in the built environment: Segregation and the overconcentration of alcohol outlets. Health & Place, 64, 102385. 10.1016/j.healthplace.2020.102385 [PubMed: 32755812]

Sellers RM, & Shelton JN (2003). The role of racial identity in perceived racial discrimination. Journal of Personality and Social Psychology, 84(5), 1079. [PubMed: 12757150]

Sellers RM, Copeland-Linder N, Martin PP, & Lewis RLH (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. Journal of Research on Adolescence, 16(2), 187–216. 10.1111/j.1532-7795.2006.00128.x

Sheats KJ, Irving SM, Mercy JA, Simon TR, Crosby AE, Ford DC, & Morgan RE (2018). Violence-related disparities experienced by black youth and young adults: Opportunities for prevention. American Journal of Preventive Medicine, 55(4), 462–469. 10.1016/j.amepre.2018.05.017 [PubMed: 30139709]

Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, & Dunbar GC (1998). The Mini-International Neuropsychiatric Interview (MINI): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. Journal of Clinical Psychiatry, 59(20), 22–33.

Steele JL (2016). Race and general strain theory: Examining the impact of racial discrimination and fear on adolescent marijuana and alcohol use. Substance Use & Misuse, 51(12), 1637–1648. 10.1080/10826084.2016.1191513 [PubMed: 27484580]

Stevenson HC, Reed J, Bodison P, & Bishop A (1997). Racism stress management: Racial socialization beliefs and the experience of depression and anger in African American youth. Youth & Society, 29(2), 197–222.

Stock ML, Gibbons FX, Beekman JB, Williams KD, Richman LS, & Gerrard M (2018). Racial (vs. self) affirmation as a protective mechanism against the effects of racial exclusion on negative affect and substance use vulnerability among black young adults. Journal of Behavioral Medicine, 41(2), 195–207. 10.1007/s10865-017-9882-7 [PubMed: 28905204]

Swendsen J, Burstein M, Case B, Conway KP, Dierker L, He J, & Merikangas KR (2012). Use and abuse of alcohol and illicit drugs in US adolescents: Results of the National Comorbidity Survey-Adolescent Supplement. Archives of General Psychiatry, 69(4), 390–398. 10.1001/archgenpsychiatry.2011.1503 [PubMed: 22474107]

Ward E, Wiltshire JC, Detry MA, & Brown RL (2013). African American men and women's attitude toward mental illness, perceptions of stigma, and preferred coping behaviors. Nursing Research, 62(3), 185. 10.1097/NNR.0b013e31827bf533 [PubMed: 23328705]

Whaley AL, & McQueen JP (2010). Evaluating cohort and intervention effects on black adolescents' ethnic–racial identity: A cognitive–cultural approach. Evaluation and Program Planning, 33(4), 436–445. [PubMed: 20392495]

Worrell FC, Andretta JR, & Woodland MH (2014). Cross Racial Identity Scale (CRIS) scores and profiles in African American adolescents involved with the juvenile justice system. Journal of Counseling Psychology, 61(4), 570. [PubMed: 25151117]

Zapolski TC, Fisher S, Banks DE, Hensel DJ, & Barnes-Najor J (2017). Examining the protective effect of ethnic identity on drug attitudes and use among a diverse youth population. Journal of Youth and Adolescence, 46(8), 1702–1715. 10.1007/s10964-016-0605-0 [PubMed: 27830403]

Zimmerman MA, & Zahniser JH (1991). Refinements of sphere-specific measures of perceived control: Development of a sociopolitical control scale. Journal of Community Psychology, 19(2), 189–204.

Table 1

Demographic variables for sample (N = 154)

Variable	Total
Gender	
Female	59 (38%)
Male	95 (62%)
Age (M = 15.84, SD = .87)	
14	8 (5%)
15	48 (31%)
16	58 (38%)
17	40 (26%)
Race	
Black / African American	138 (89.6%)
Caribbean/West Indian	2 (1.3%)
Mixed race	12 (7.8%)
Native American	1 (0.6%)
Other identity	1 (0.6%)
Grade	
9th	30 (19%)
10th	52 (34%)
11th	43 (28%)
12th	24 (16%)
Graduated from high school	5 (3%)
Current living arrangement	
In a house (owned)	63 (41%)
In a house (rented)	66 (43%)
In an apartment (rents)	16 (10%)
In a shelter	1 (1%)
Other	4 (3%)
Self-rated health	
Excellent	38 (25%)
Very good	56 (36%)
Good	42 (27%)
Fair	18 (12%)
Mental health treatment	
In mental health treatment	82 (36.8%)
Not in mental health treatment	141 (63.2%)
Did anyone in your family ever receive mental health treatment?	
Yes	61 (40%)
No	93 (60%)
Mood disorder mental health diagnoses	
Major depressive disorder	18 (11.7%)

Variable	Total
Generalized anxiety disorder	22 (14.3%)
Social anxiety disorder	6 (3.9%)
Panic disorder	8 (5.2%)
Agoraphobia	4 (2.6%)
Bipolar disorder	0 (0%)
Post-traumatic stress disorder (PTSD)	9 (5.8%)
Mood disorder	
Yes, a mood disorder diagnosis	33 (21.4%)
No mood disorder diagnosis	121 (78.6%)
Alcohol use	
Yes	23 (15%)
No	131 (85%)

Table 2

Means, standard deviations, and correlations with confidence intervals (N = 154)

Variable		1	2	3	4	5	6	7	M (SD)	Range	α
1	Racism awareness	–							2.81 (0.52)	1.80 to 4.00	0.61
2	Anti-White attitudes	0.51*** [0.41, 0.60]	–						1.97 (0.45)	1.00 to 3.25	0.70
3	Pro-Black attitudes	0.51*** [0.41, 0.60]	0.43*** [0.36, 0.56]	–					3.38 (0.44)	2.42 to 4.00	0.84
4	Alcohol use (Yes = 1)[a]	0.10* [0.01, 0.23]	− 0.21** [− 0.53, − 0.11]	− 0.02 [− .15, .11]	–				0.13 (0.33)	0.00 to 1.00	–
5	Mood disorder (Yes = 1)[a]	− 0.07 [− 0.20, 0.06]	− 0.20*** [− 0.30, − 0.05]	0.31*** [0.06, 0.37]	0.25** [0.07, 0.37]	–			0.21 (0.15)	0.00 to 1.00	–
6	Gender (Female = 1)[a]	− 0.10 [− 0.23, 0.03]	− 0.17** [− 0.30, − 0.04]	− 0.24** [− 0.36, − 0.12]	0.03 [− 0.10, 0.16]	0.14* [0.01, 0.26]	–		1.38 (0.48)	1.00 to 2.00	–
7	Treatment (Yes = 1)[a]	0.01 [− 0.06, 0.20]	0.19* [0.04, 0.34]	0.07 [− 0.14, 0.30]	0.20** [0.07, 0.37]	0.33*** [0.21, 0.44]	0.06 [− 0.18, 0.26]	–	0.63 (0.48)	0.00 to 1.00	–

M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014).

[a]Biserial correlations calculated

*$p < .05$ (two-tailed);

**$p < .01$ (two-tailed);

***$p < .001$ (two-tailed)

J Prev (2022). Author manuscript; available in PMC 2023 February 02.

Table 3

Summary of logistic regression analysis for variables associated with alcohol use and mood disorders, controlling for gender (N = 154)

Predictors	Model 1: Alcohol use				Model 2: Mood disorder			
	B	SE *B*	*z* value	OR (95% CI)	*B*	SE *B*	*z* value	OR (95% CI)
1 Racism awareness	0.17	0.06	2.58	1.18*** (1.06, 1.29)	0.02	0.05	0.29	1.02 (0.92, 1.12)
2 Anti-White Attitudes	− 0.24	0.11	− 2.12	0.82* (0.60, 0.97)	− 0.20	0.05	− 2.91	0.82* (0.88, 0.91)
3 Pro-Black Attitudes	− 0.06	0.09	− 0.70	0.94 (0.77, 1.12)	− 0.33	0.09	3.69	0.72*** (0.55, 0.89)
4 Gender (Female = 1)	0.06	0.38	0.16	1.06 (0.32,1.80)	0.62	0.14	1.79	1.85* (0.33, 0.91)
(Intercept)	− 1.13	0.56	− 1.99	0.32* (0.77,1.41)	− 0.98	0.25	− 1.94	0.37* (0.12, 0.87
Null deviance (*df*)	264.22 (226)				314.16 (226)			
Residual deviance (*df*)	255.22 (222)				294.26 (222)			
Akaike information criterion	265.22				304.26			

OR = odds ratio. Alcohol use coded as 1 for *yes* and 0 for *no*. Mood disorder coded as 1 for *yes* and 0 for *no*. Gender coded as 1 for *female* and 0 for *male*.

* $p < .05$;

** $p < .01$;

*** $p < .001$