



Dismantling the monolith: ethnic origin, racial identity, and major depression among US-born Black Americans

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Abstract

Purpose Numerous investigations have sought to understand why Black Americans have a lower prevalence of major depressive disorder (MDD) than white Americans, yet fewer have explored within-racial group variation or its causes. Limited extant evidence indicates that US-born Caribbeans have higher levels of MDD relative to African Americans. Among African Americans, racial identity is considered protective against depression, yet it is unclear how it functions among Black Americans with recent immigrant origins. We examined the extent to which differential effects of racial identity on MDD by ethnic origin explain the elevated prevalence among US-born Caribbeans relative to all other US-born Black Americans.

Methods With data from the largest nationally representative study of Black mental health, log-binomial models assessed effect modification of ethnic origin (Caribbean, non-Caribbean) on the relationship between racial identity and MDD. Separate models evaluated four indicators of racial identity—“closeness to Black people,” “importance of race to one’s identity,” “belief that one’s fate is shared with other Black people,” and “Black group evaluation.”

Results Belief in “shared fate” was positively associated with MDD for US-born Caribbeans alone (PR = 3.43, 95% CI 1.87, 6.27). Models suggested that “importance of race” and “Black group evaluation” were detrimental for Caribbeans, yet protective for non-Caribbeans. “Closeness” appeared protective for both groups.

Conclusion Findings suggest that the protective effect of racial identity against MDD among US-born Black Americans may depend on both ethnic origin and the operationalization of racial identity. Results provide new insight into the role of racial identity on depression and suggest promising directions for future research.

Keywords Depression · Black Americans · Ethnicity · Racial identity

Introduction

The “Black-white depression paradox” refers to the pattern of a lower lifetime prevalence of major depressive disorder (MDD) and an equivalent or lower past-year prevalence of MDD among non-Hispanic Black adults compared with non-Hispanic white adults, despite greater exposure to social stressors as a result of anti-Black systemic racism [1]. This “paradox” has been documented extensively using multiple national datasets [2–6] and has been the focus of

substantial research seeking to explain it, as illustrated in a recent review [7]. But far less documented and explored are marked differences in the prevalence of MDD within the US Black population by immigration-related domains such as ethnic origin and immigrant generation, due in part to limited national data with the capacity to disaggregate the US Black population.

In the US, the Black population as a racial group is ethnically heterogeneous, comprised of African Americans—an ethnic group whose members largely trace their origins in the US to chattel slavery—and immigrants from the Caribbean, sub-Saharan African nations, Latin America, among other regions of the world. Heterogeneity is additionally marked by biracial, multiracial, and multiethnic subgroups. The US Black population is also characterized by increasing numbers of second- and third-generation immigrants, i.e., those with foreign-born parents and grandparents, respectively; while 12% of the US Black population are

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first-generation immigrants, additional 9% are estimated to be second-generation immigrants [8].

This ethnic diversity within the US Black population is also patterned by differences in sociodemographic characteristics between immigrant groups and non-immigrant Black Americans. For instance, in 2012, 40% of Black second-generation immigrants aged 25 or older had a bachelor's degree, higher than both first-generation Black immigrants (31%) and all other US-born Black Americans (20%) [9]. Related, one study found Black second-generation immigrants not only attained higher socioeconomic status than their foreign-born parents, but also reached parity with the intergenerational mobility of the white mainstream across education, income, and occupation indices [10]. Sociocultural differences between Black Americans who descend from enslaved people and Black Americans with recent immigrant origins (i.e., first-, second-, and third-generation immigrants) stem from at least two sources: the historical legacy of slavery in the US and socialization of first-generation immigrants in majority-Black countries [11]. Despite ethnic, socioeconomic, and sociocultural differences between Black Americans with and without recent immigrant origins, Black people in the US are often treated as a monolithic group in health research. Black ethnic heterogeneity may have important implications for explaining differences in the prevalence of depression within the US Black population.

In response to the lack of studies disaggregating the US Black population, the National Survey of American Life (NSAL), conducted from 2001 to 2003, was designed to examine within-racial differences in DSM-IV psychiatric disorders in a national sample, allowing for investigations that distinguish the Black population by nativity (foreign-born vs. US-born) and Caribbean origin (first-, second-, and third-generation Caribbean immigrants vs non-Caribbeans) [12]. It should be noted that Caribbeans are the largest subgroup of Black immigrants in the US, and in the NSAL, African Americans almost exclusively comprise the “non-Caribbean” subgroup. These data reveal that the prevalence of MDD among first-generation Caribbean immigrants was considerably lower than all US-born Black subgroups [13]. This finding is consistent with evidence of the “healthy immigrant effect,” where foreign-born populations display more favorable health outcomes compared to their US-born counterparts [14].

Among US-born Black Americans, NSAL data also reveal that second- and third-generation Caribbean immigrants (i.e., US-born Caribbeans) have a prevalence of MDD nearly twice as high as US-born non-Caribbeans (e.g., lifetime MDD: 19.8% vs. 10.4%, respectively) [13]. Such differences between these two groups of US-born Black Americans (Caribbeans and non-Caribbeans) both challenge the general presumption that these two US-born Black subgroups share similar social stress exposure levels

and underscore the importance of better understanding conditions unique to US-born Caribbeans that lead to MDD.

The pattern of foreign-born Caribbean immigrants having a lower prevalence of MDD when compared with US-born Caribbeans is consistent with patterns observed among other ethnic-immigrant groups (e.g., Chinese Americans, Mexican Americans), when drawing from the National Latino and Asian American Study of Mental Health (NLAAS), a sister study of the NSAL [15–17]. However, patterns appear to suggest Caribbeans are among the ethnic-immigrant groups who have faced the most pronounced intergenerational decline in MDD [16]. These patterns in MDD prevalence both add complexity to the “Black-white depression paradox” and suggest additional variation in causal mechanisms explaining observed intergenerational increases in MDD across racial and ethnic-immigrant groups—variation that may disproportionately impact US-born Caribbeans.

Comparable estimates of patterns in health outcomes by immigrant generation among both white Americans and Black Americans (when including African Americans) are complicated by the relative predominance among those labeled as “third + generation,” typically identified as having two US-born parents. “Third + generation” is usually the highest generation level discernible in population health data, but at least among white and Black Americans, these individuals are disproportionately at least fourth-generation Americans (i.e., all four grandparents are US-born). This overrepresentation by the “fourth + generation” among white and Black Americans is due to longer settlement histories in the US, a function of historic patterns of migration—voluntary or involuntary. Such individuals are much less likely to be connected culturally to their immigrant histories or countries of origin, which is especially true for African Americans, whose ethnic heritage prior to enslavement was systematically erased. That said, the available data suggest that among adults, the pattern of successively worse mental health with each subsequent generation deviates for Black adults alone.

Treating Black Americans as a monolithic group therefore masks differences in the prevalence of MDD, but it also implies that mechanisms causing MDD are the same across subgroups defined by ethnic origin. Yet, because NSAL data reveal US-born Caribbeans have a markedly higher prevalence of MDD compared to (US-born) non-Caribbeans, this may suggest mechanisms causing MDD vary. For Black Americans, and people of color broadly, strong racial identity are generally considered to be a protective factor against poor mental health outcomes such as MDD. The protective effect of racial identity is consistent with the potentially self-protective properties of stigma [18]. One mechanism through which group identification may be protective against MDD among members of stigmatized or oppressed groups is by attributing one's negative outcomes

to the prejudiced attitudes of others [18–20]. For instance, attributing negative outcomes caused by discrimination to racism, rather than personal inadequacies, may be a successful coping strategy; and the process of making racial attributions could be a function of a strong racial identity. In fact, toward explaining the “Black-white depression paradox,” some have attributed Black racial identity as a source of mental health resiliency [21, 22].

While much of the published work on racial identity and depression within communities of color has focused on depressive symptoms, racial identity appears to function as a protective factor against both diagnostic depression and its related symptoms. Reviews and meta-analyses of racial identity and depressive symptoms among racial minorities support the hypothesis that aspects of racial identity are protective, through either an inverse main effect or as a buffer (i.e., negative interaction term) on the relationship between discrimination and depressive symptoms [23–28]. Among the US Black population in the NSAL, results from previous studies also support racial identity as a protective factor against both MDD and related symptom measures [29–32]. However, only two studies to our knowledge have explored whether the main effect of racial identity on depression may differ within the US Black population; results from both, also using NSAL data, suggested racial identity was more protective for non-Caribbeans than Caribbeans for MDD in one study [29] and depressive symptoms in another [30]. Yet, despite this evidence of ethnic variation in the effects of racial identity, no study has examined the extent to which this variation explains differences in MDD seen between US-born Caribbean and non-Caribbean Black adults.

Within the US Black population, ethnic or nativity differences in the impact of racial identity on mental health suggest racial identity formation, salience, or expression may both vary and be relevant for the psychosocial effect of identity. Racial identity (and by extension, ethnic identity) is largely considered an outcome of the ethnic–racial socialization (ERS) process [33–35], which refers to the ways parents teach their children about race, ethnicity, and how to cope in a racialized society. Historically, research on ERS among Black samples came from scholars’ efforts to understand how parental childrearing strategies influenced Black children to maintain high self-esteem, given racialized barriers such as discrimination [33]. Qualitative research has found differences in the content of ERS messages between Black Americans with and without immigrant origins, which may imply that there exist differences in the salience of race to one’s identity. For instance, studies suggest that Black children of immigrants may receive messages situating non-immigrant Black Americans as outgroup members—i.e., promoting social distancing from and mistrust toward non-immigrant Black Americans [36–38]. To illustrate with a quote from a study on ERS messages

among second-generation Haitian immigrants, one participant remarked: “[my] father wouldn’t allow us to play with any of the Black American children” [37]. Black children of immigrants may also receive fewer messages promoting racial pride but rather messages promoting *ethnic* or *cultural* pride [37, 39, 40]. These differences in ERS messages may be attributed to immigrant parents not holding race as central to their identity from (largely) being socialized in majority-Black countries, and thus not socializing their children around race in the same way African American parents would.

Qualitative studies have also revealed the added complexity of immigration in the racial identities of Black Americans who are the children of immigrants. For instance, in interviews of West Indian children of immigrants in New York City, Waters (1994) identified three distinct identities: (1) those who identified most with their immigrant nationality (i.e., being Jamaican), (2) those with a hyphenated-American identity who stressed an ethnic/immigrant identity (e.g., being Jamaican-American) over a racial identity, and (3) those with a Black American identity, who stressed a racial identity over an ethnic/immigrant identity [41]. More recent research finds support that as young adults, the children of Black immigrants may not necessarily see a conflict between a Black racial identity and an ethnic identity; rather, these individuals may embrace both simultaneously [42–46]. Because immigration adds complexity in the process of racial identity formation for Black Americans of immigrant origin, it appears that the meaning of “being Black” differs between this group and non-immigrant Black Americans. And if the meaning of “being Black” differs, then one might expect effects of racial identity on mental health should also differ between these two groups, thus potentially explaining MDD differences.

To summarize, NSAL data from 2001 to 2003 suggest that US-born Black Americans with recent immigrant origins have a higher prevalence of MDD relative to their US-born non-immigrant counterparts. Having a strong sense of racial identity may protect against negative mental health outcomes like MDD for Black Americans, but less is known about *how* it operates in preventing MDD. Furthermore, racial identity processes appear to differ across Black ethnicities—specifically between those with and without immigrant origins. As such, how racial identity functions as protective mechanism against MDD may also differ between US-born Black Americans with and without immigrant origins, thus explaining the higher prevalence of MDD among those with recent immigrant origins, as seen in NSAL data.

In this study, we focus on US-born Black Americans, because racial identity as a protective function may be less relevant for first-generation immigrants, who were largely not socialized in the US [47–49]. Our objective is to assess the extent to which differential effects of racial identity

on MDD by ethnic origin explain the elevated prevalence among US-born Caribbeans relative to all other US-born Black Americans in the NSAL. We hypothesized that due to differences in racialization processes between US-born Black Americans with and without recent immigrant origins (i.e., US-born Caribbeans vs non-Caribbeans), the nature and magnitude of racial identity as a protective factor will vary between these two groups. Specifically, among US-born Black Americans, racial identity will be less protective for those with Caribbean ethnic origins compared with non-Caribbeans.

Methods

Data source

This study used secondary data from the NSAL, collected from 2001 to 2003. To date, it remains the largest study of Black mental health in the US and is one of the only health data sources designed to be disaggregated by ethnicity, specifically Caribbean vs all other Black Americans. The NSAL contains 3570 respondents categorized as “African American” and 1,621 self-identified Caribbean respondents. Because this study seeks to examine the extent to which variation in the effect of racial identity may explain differences in the prevalence of MDD between among US-born Black Americans, analyses will only include US-born respondents. The NSAL includes sample weights to correct for nonresponse and population representation. Additional details of the survey can be found elsewhere [12, 13].

Measures

Major depressive disorder. The main outcome in this analysis is lifetime DSM-IV MDD, evaluated using a fully structured, modified version of the World Mental Health Composite International Diagnostic Interview (CIDI) administered by trained lay interviewers [50]. The CIDI has been previously shown to have good concordance with DSM-IV MDD diagnoses made by clinicians in clinical reappraisal studies [51, 52].

Ethnic origin. The NSAL defines Caribbeans as those who self-identified as having been born in the Caribbean or had parents or grandparents born in the Caribbean. The NSAL defines “African American” as those who self-identified as Black but who did not identify having ancestral ties to the Caribbean [13]. However, dichotomizing Black ethnicities as “Caribbean” or “African American” is subject to imprecision. “African American” is generally understood as an ethnic category whose members are largely descendants of enslaved Africans brought to the US primarily between the seventeenth and nineteenth centuries.

These Black Americans potentially differ from those with more recent, immigrant origins in the US (i.e., in the latter half of the twentieth century through today) in terms of cultural identification and socioeconomic factors, and these differences are often ignored in both the public discourse and in population health research. Thus, by dichotomizing Black ethnicities and defining as “African American” all respondents who did not affirmatively identify as of Caribbean origin, it is possible in the NSAL that “African American” includes Black Americans of immigrant origin (e.g., first- or second-generation African immigrants). In fact, the NSAL categorized 64 (1.8% of 3570) respondents born in Africa as “African American” first-generation immigrants. However, it is unlikely that any potential measurement error due to misclassifying second- (or even third-) generation immigrants as “African American” (e.g., US-born Nigerians, US-born Ethiopians) will meaningfully impact results, since the number of foreign-born Africans, here, was low. Moving forward, this study will distinguish US-born Black Americans in the NSAL in terms of Caribbean ethnic origin—Caribbean or non-Caribbean.

Racial identity. We assessed racial identity using four separate items, which correspond to either the *centrality* or *private regard* dimensions of the Multidimensional Model of Racial Identity (MMRI), a widely used framework for conceptualizing Black racial identity [53]. Centrality refers to the extent to which a person normatively defines their identity with respect to race, while private regard refers to the extent to which a person feels positively about their race [53]. In the NSAL, there are three centrality proxies, assessing: (1) *closeness* in ideas and feelings about Black people, (2) the relative *importance* of race to one’s identity, and (3) whether one believes they *share fate* with Black people in the US generally. The proxy for private regard assesses the extent to which one endorses positive stereotypes and opposed negative stereotypes about Black people in the US (“Black group *evaluation*”). The decision to use these measures as proxies for centrality and private regard dimensions was informed by characterizations in previous studies of racial identity using NSAL data [54, 55]. Racial identity as a multidimensional construct, as opposed to a single composite score, allows for exploring whether the relationship between racial identity and MDD varies across dimensions, which has been captured in previous studies drawing from the MMRI [56–58]. Furthermore, because these measures are unvalidated scales, the conceptual meaning of a collapsed summary measure may be unclear. Table 1 describes each racial identity measure as proxies for centrality and private regard MMRI dimensions and includes coding schema.

Potential confounders. We included the following variables as confounders, based on prior research indicating these variables are associated with racial identity and MDD and are conceivably common causes of each within the US

Table 1 Racial identity measures and their relation to the multidimensional model of racial identity, National Survey of American Life (NSAL)

Dimension	Measure	Item in NSAL	Coding
Centrality <i>The extent to which a person normatively defines their identity with respect to race</i>	Closeness to Black Americans	Eight-item index, where respondents were asked, "How close do you feel in your ideas and feelings about things to: (1) Black people who are poor, (2) Black people who are religious, (3) young Black people, (4) upper-class Black people, (5) working-class Black people, (6) Black elected officials, (7) Black doctors, lawyers, and other professional people, and (8) older Black people. Responses were ascertained using the following scores: 0 = not close at all, 1 = not too close, 2 = fairly close, and 3 = very close; the theoretical range of values is 0–24	Values were categorized into the following tertiles: 0–16 = low 17–20 = moderate 21–24 = high
	The relative importance of race to one's identity	A single item asking participants which is more important: being Black, being American, both are equally important, or something else. This item was dichotomized as "being Black" versus all other responses	1 = "Black" 0 = "American", "both equally", something else
	Shared fate with Black Americans	A single, binary item asking respondents, "Do you think what happens generally to Black people in this country will have something to do with what happens in your life?"	1 = yes 0 = no
Private regard <i>The extent to which a person feels positively about their race</i>	Black group evaluation	A six-item index of positive and negative stereotypes, where respondents were asked how true they believed most Black Americans: (1) are intelligent, (2) are lazy, (3) are hard-working, (4) give up easily, (5) are proud of themselves, and (6) are violent. Responses were ascertained using the following scores: 0 = not at all true, 1 = a little true, 2 = somewhat true, and 3 = very true. Negative stereotypes (i.e., items 2, 4, and 6) were re-coded so that higher scores reflect a more favorable group evaluation	Values were categorized into the following tertiles: 0–11 = low 12–14 = moderate 15–18 = high

Black population [13, 55, 59]: binary sex (male, female), age (continuous), and achieved markers of SES—years of education (0–11, 12, 13–15, ≥ 16), annual household income (continuous), marital status (married/cohabitating, divorced/separated/widowed, never married), and employment status (employed, unemployed, not in labor force).

Statistical analyses

First, we conducted bivariate analyses to compare the distribution of MDD, potential confounders, and racial identity measures between Caribbeans and non-Caribbeans. Next, we estimated prevalence ratios (PRs) for each racial identity indicator on MDD using separate multivariable Poisson regression models with robust variance estimation. Then, we assessed effect modification on the multiplicative scale. Here, we modeled interaction terms between each racial identity indicator and ethnic origin (i.e., racial identity \times ethnic origin) separately for each of the four racial identity variables. Then, we estimated PRs of racial identity on MDD within each stratum of ethnic origin using indicator variables. Finally, to facilitate interpretation of statistical interactions, we estimated and graphed marginal predicted probabilities. All analyses were performed on available cases and incorporated NSAL complex survey weights. Additionally, all models adjusted for potential confounders. For all effect estimates, we reported 95% confidence intervals (CIs). Analyses were performed using R version 4.1.1.

Sensitivity analyses

We repeated analyses using past-year MDD as the main outcome, rather than lifetime MDD. Focusing on lifetime MDD preserves statistical power that is otherwise lost using past-year MDD, as the prevalence of MDD is higher under “lifetime” versus “past-year” time frames, yet focusing on past-year MDD reduces possibility of reverse causation, which may be of concern as the NSAL is a cross-sectional study. If results are similar between these two outcomes, this may provide some evidence that reverse causation did not drive results under the outcome of lifetime MDD.

Results

Table 2 displays sample characteristics overall and by ethnic origin. There were 432 Caribbean and 3340 non-Caribbean respondents with MDD measures; as expected, the prevalence of lifetime MDD among Caribbeans was twice as high as the prevalence among non-Caribbeans (20.9% vs. 10.3%). Caribbeans were generally younger than non-Caribbeans in this sample (35.2 years vs. 42.2 years), had more years of education (e.g., 23.7% vs. 13.7%

for ≥ 16 years of education), had greater mean annual household incomes (\$52,300 vs. \$36,000), and were more likely to be never married (46.8% vs 31.9%). Overall, each of the four racial identity measures—closeness to other Black Americans, the relative importance of race to one’s identity, shared fate with other Black Americans, and Black group evaluation—did not differ appreciably between non-Caribbeans and Caribbeans in this sample.

Analyses of effect modification assessed whether the effects of racial identity on MDD vary between Caribbean and non-Caribbean Black Americans. We present results stratified by Caribbean origin in Table 3 (models using cross-product terms are presented in Supplemental Table 1). Estimates suggest the presence and degree of variation in the effect of racial identity by ethnic origin depends on the domain of racial identity. In models where *closeness* to other Black Americans was the main exposure (Panel 1), estimates suggested no substantial effect modification by ethnic origin. Results showed that higher levels of *closeness* were associated with a lower prevalence of MDD within strata of non-Caribbeans (e.g., high vs. low PR = 0.67, 95% CI 0.49, 0.92). Within strata of Caribbeans, estimates appeared more strongly protective (e.g., high vs. low PR = 0.43, 95% CI 0.27, 0.69).

However, in models where the relative *importance* of race to one’s identity was the main exposure (Panel 2), effect modification was suggested whereby effects are in opposite directions; however, 95% CIs were imprecise for both non-Caribbeans and Caribbeans. Specifically, while results suggest endorsing that it is more important to identify as Black (versus something else) was associated with a lower prevalence of MDD within strata of non-Caribbeans, this measure was suggestive of higher prevalence of MDD within strata of Caribbeans.

Where *shared fate* with Black Americans was the main exposure (Panel 3), models revealed substantial effect modification across strata of ethnic origin. Models showed that while estimates suggest that *shared fate* was associated with a somewhat higher prevalence of MDD within strata of non-Caribbeans, an affirmative response was associated with a markedly higher prevalence of MDD among Caribbeans (PR = 3.43, 95% CI 1.87, 6.27).

Finally, in models where Black group *evaluation* was the main exposure (Panel 4), effect modification was suggested. Similar to results for the relative importance of race to one’s identity, stratified PRs were also in opposite directions. For instance, while high (vs relatively low) levels of Black group evaluation were associated with a lower prevalence of MDD among non-Caribbeans (PR = 0.67, 95% CI 0.47, 0.96), results suggested that the same measure was associated with a higher prevalence of MDD among Caribbeans, albeit marked with imprecise 95% confidence intervals.

Table 2 Sample characteristics of US-born Black Americans by Caribbean ethnic origin, National Survey of American Life ($n = 3772$)

	N ^a	Overall ($n = 3772$)	Non-Caribbean ($n = 3340$)	Caribbean ($n = 432$)
Lifetime major depressive disorder, % (SE)	424	10.57 (0.61)	10.29 (0.60)	20.87 (5.94)
Age (years), M (SE)	3772	41.98 (0.53)	42.17 (0.54)	35.17 (1.33)
Education, % (SE)				
0–11 years	931	24.40 (1.18)	24.47 (1.21)	21.89 (4.35)
12 years	1394	37.39 (1.01)	37.77 (1.04)	23.88 (1.57)
13–15 years	905	24.24 (1.00)	24.07 (1.01)	30.47 (5.89)
≥ 16 years	542	13.97 (1.09)	13.70 (1.12)	23.75 (2.20)
Annual household Income (thousands, \$), M (SE)	3772	36.47 (1.34)	36.04 (1.36)	52.26 (6.63)
Marital status, % (SE)				
Married/cohabitating	1291	41.13 (1.05)	41.23 (1.07)	37.52 (2.65)
Divorced/separated/widowed	1164	26.57 (0.85)	26.87 (0.86)	15.67 (3.45)
Never married	1317	32.30 (1.33)	31.90 (1.36)	46.81 (3.68)
Sex, % (SE)				
Male	1344	43.71 (0.88)	43.52 (0.86)	50.54 (9.44)
Female	2428	56.29 (0.88)	56.48 (0.86)	49.46 (9.44)
Work status, % (SE)				
Employed	2484	66.47 (1.07)	66.29 (1.10)	72.85 (3.32)
Unemployed	402	10.44 (0.75)	10.46 (0.77)	9.65 (3.31)
Not in labor force	886	23.10 (1.00)	23.25 (1.02)	17.50 (1.83)
Closeness to Black Americans, % (SE) ^b				
High	1156	31.09 (1.10)	31.34 (1.12)	21.99 (3.24)
Moderate	1003	26.27 (1.09)	26.40 (1.11)	21.39 (5.27)
Low	1547	42.64 (1.35)	42.25 (1.38)	56.61 (6.46)
More important to be Black or something else, % (SE) ^b				
Black	752	19.44 (0.84)	19.38 (0.85)	21.72 (3.12)
Something else	3013	80.56 (0.84)	80.62 (0.85)	78.28 (3.12)
Shared fate with Black Americans, % (SE) ^b				
Yes	2339	62.43 (1.35)	62.17 (1.39)	71.37 (4.59)
No	1364	37.57 (1.35)	37.83 (1.39)	28.63 (4.59)
Black group evaluation, % (SE) ^b				
High	1288	34.34 (1.40)	34.25 (1.44)	37.44 (3.19)
Moderate	1294	34.77 (1.16)	34.84 (1.18)	32.41 (4.57)
Low	1147	30.89 (1.20)	30.91 (1.23)	30.15 (3.73)

All estimates incorporated complex survey weights

^aUnweighted

^bRacial identity measures are missing for some observations

Figure 1 visualizes these above effect modification results in the form of marginal predicted probabilities. Finally, additional analyses where past-year MDD was modeled as the outcome were not substantively different from main analyses (Supplemental Table 1); however, confidence intervals were generally wider in these sensitivity analyses.

Discussion

The goal of this study, using data from the largest survey of Black mental health, was to examine the role of racial identity in explaining the heightened prevalence of MDD

Table 3 Effect modification of racial identity on lifetime major depressive disorder by Caribbean ethnic origin among US-born Black Americans using indicator terms

	Prevalence		Prevalence ratios (PRs) ^a	
	Non-Caribbean % (95% CI)	Caribbean % (95% CI)	Non-Caribbean PR (95% CI)	Caribbean PR (95% CI)
Panel 1 (<i>n</i> = 3706)				
Closeness to Black Americans				
High	8.30 (6.56, 10.44)	10.99 (7.74, 15.39)	0.67 (0.49, 0.92)	0.43 (0.27, 0.69)
Moderate	8.97 (6.36, 12.50)	18.84 (6.29, 44.54)	0.70 (0.49, 1.01)	0.70 (0.29, 1.70)
Low	12.50 (10.80, 14.43)	25.63 (12.08, 46.37)	Ref	Ref
Panel 2 (<i>n</i> = 3765)				
More important to be Black or something else				
Black	8.05 (5.83, 11.02)	25.84 (9.47, 53.72)	0.75 (0.52, 1.08)	1.29 (0.76, 2.21)
Something else	10.84 (9.46, 12.40)	19.65 (11.95, 30.59)	Ref	Ref
Panel 3 (<i>n</i> = 3703)				
Shared fate with Black Americans				
Yes	10.53 (9.07, 12.20)	26.19 (13.98, 43.64)	1.12 (0.89, 1.43)	3.43 (1.87, 6.27)
No	9.64 (8.01, 11.56)	7.74 (4.11, 14.10)	Ref	Ref
Panel 4 (<i>n</i> = 3729)				
Black group evaluation				
High	8.35 (6.34, 10.93)	24.38 (8.14, 54.00)	0.67 (0.47, 0.96)	1.66 (0.50, 5.50)
Moderate	10.56 (9.19, 12.10)	24.78 (11.42, 45.69)	0.87 (0.66, 1.16)	1.90 (0.64, 5.61)
Low	12.13 (9.64, 15.14)	12.65 (5.53, 26.38)	Ref	Ref

All estimates incorporated complex survey weights

Ns are unweighted

^aRobust Poisson models adjusted for age, sex, marital status, education, annual household income, and employment status. Each panel reflects a separate model and estimates are stratified by Caribbean ethnic origin

among US-born Caribbeans compared to US-born non-Caribbeans. Specifically, we sought to assess whether the relationship between racial identity and MDD varies by ethnic origin among Black Americans born in the US. We hypothesized that racial identity would be less protective against MDD for US-born Caribbeans than non-Caribbeans. This was supported for the measure of racial identity capturing the sense of shared fate with Black Americans; while the relationship between this measure and MDD suggested a weak, positive effect among non-Caribbeans, an affirmative response was associated with a substantially higher prevalence of MDD among Caribbeans. Further, for two racial identity measures—relative importance of race to one’s identity and Black group evaluation—results were somewhat consistent with our hypothesis, as 95% CIs contained null values. Here, analyses suggested that these measures were inversely associated with MDD among non-Caribbeans yet were associated with a higher prevalence of MDD among Caribbeans, albeit non-appreciably. These effect modification results for US-born Caribbeans contrast with an established literature supporting racial identity as a protective factor against depression [23–28, 56–58].

Findings from this study support the notion that whether racial identity functions as a source of mental health resiliency depends on an unmeasured factor related to ethnic origin. That is, ethnic origin (in this study, Caribbean vs non-Caribbean) may function as a proxy for sociocultural factors, like ethnic differences in the racial socialization process, that produce variation in the racial identity formation process, leading to differences in the meaning—and thus effect—of racial identity on MDD. Additional research is needed to elucidate the role of racial socialization on differences in depression across Black ethnicities among the US-born.

It is possible that racial identity may only be protective if there are sufficient levels of social support. Indeed, one study using a sample of Black medical students found that higher levels of centrality were associated with increased depressive symptoms; authors attributed this finding to limited in-group interactions, leading to low levels of social support [60]. For US-born Caribbeans, limited in-group interactions could refer to limited interactions with other Black Americans of immigrant origin, who may share similar sociocultural exposures. Further work is needed to clarify the role of social support toward explaining variation in the effect of

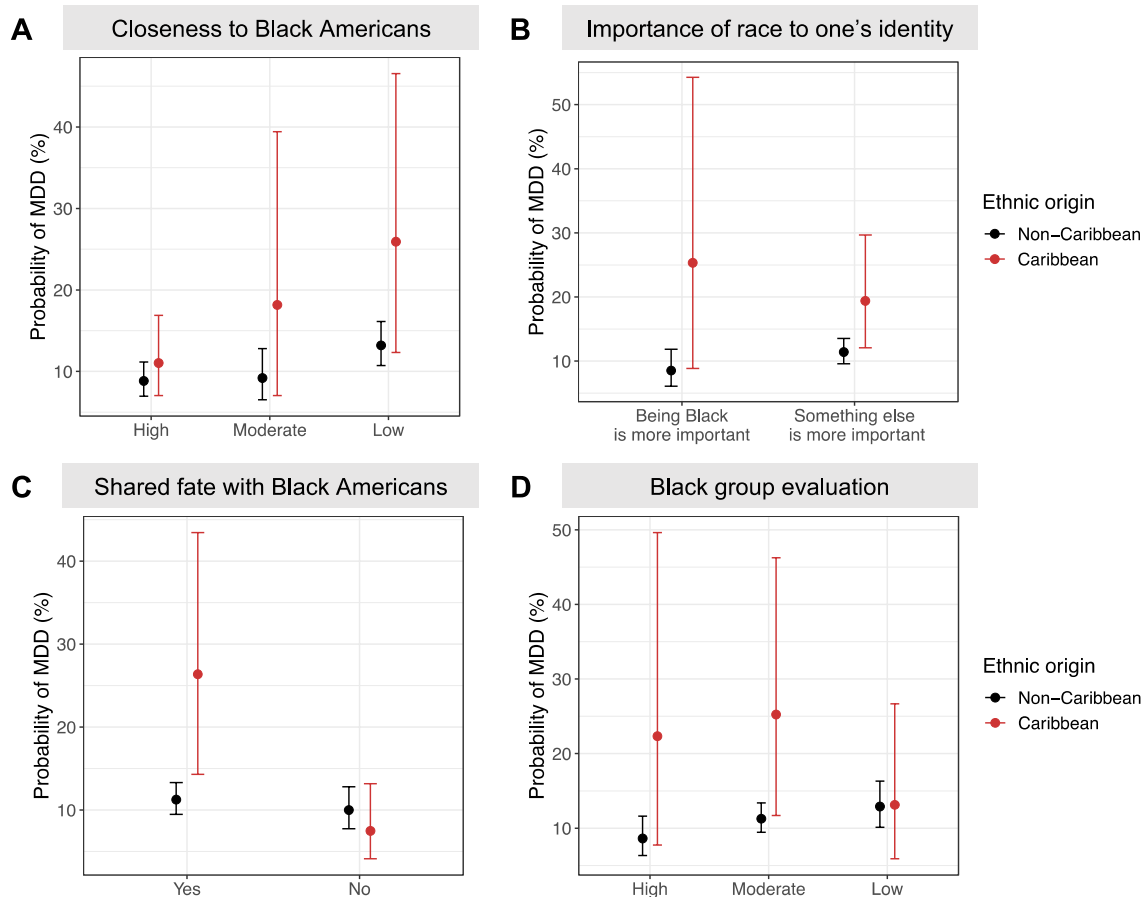


Fig. 1 Marginal predicted probabilities of lifetime major depressive disorder by levels of Black racial identity and Caribbean ethnic origin using logistic regression models with cross-product interaction terms. Separate models—each adjusting for age, sex, marital status, education, annual household income, and employment status—were gener-

ated for each racial identity indicator: **A** closeness to Black Americans, **B** the relative importance of race to one’s identity, **C** shared fate with Black Americans, and **D** Black group evaluation. Data were drawn from the US-born sample of the National Survey of American Life

racial identity on MDD between US-born Caribbeans and non-Caribbeans.

One finding inconsistent with the present pattern of results was that closeness to other Black Americans was the only racial identity measure where increased levels were associated with a lower prevalence of MDD for both US-born Caribbeans and non-Caribbeans. These results suggest that ethnic variation in the impact of racial identity may additionally vary across dimensions of racial identity. Additional studies are needed to better understand this potential heterogeneity of racial identity dimensions on the relationship between racial identity and MDD across Black ethnicities.

At least two previous studies using the NSAL have explored whether the main effect of racial identity on depression differs by Caribbean ethnicity. Consistent with the present study, results from both found the proxy for private regard (i.e., Black group evaluation) was less protective for Caribbeans than for non-Caribbeans on depressive

symptoms [30] and was associated with an increased MDD prevalence for Caribbeans alone [29]. However, unlike other studies using NSAL, the present is the first to our knowledge that excluded foreign-born Caribbeans and focused on variation within the US-born, for whom racial identity effects may be more relevant in part due to differences in socialization contexts. Studies on ethnic variation in the effect of racial identity on subsequent health outcomes that do not exclude foreign-born participants assume racial identity functions the same across nativity status, despite research suggesting the contrary [47–49].

There are limitations to consider when interpreting the findings of this study. First, although the NSAL is a nationally representative data set, power limitations likely contributed to wide confidence intervals, some of which contained null values. Consequently, estimates where confidence intervals overlap or contained null values were interpreted as suggestive. Thus, our ability to draw inferences are limited by imprecision. Second, the racial

identity measures used in this study may have also contributed to null findings. In contrast to validated measures such as the Multidimensional Inventory of Black Identity [61], the measures used in the NSAL are proxies, potentially resulting in measurement error. Third, data designed to disaggregate Black Americans are limited to the NSAL, conducted 20 years ago from 2001 to 2003 and only considers those of Caribbean origin as recent Black immigrants. Changes in the composition of US-born Black Americans (e.g., by ethnic origin), the prevalence of MDD, or the prevalence or effects of racial identity limit transportability to Black Americans today, and it is unclear whether patterns in MDD among Caribbeans apply similarly to other Black immigrant populations (e.g., those from sub-Saharan Africa). Despite potential transportability and generalizability limitations, this study contributes to arguments questioning the homogenous treatment of Black Americans [62–64] and may inform future studies and data collection efforts. Finally, the NSAL is a cross-sectional study and establishing the temporal order of racial identity and MDD is limited. However, conceptual frameworks supported by empirical studies do support racial identity leading to poor subsequent mental health [23–25, 65]. And sensitivity analyses using past-year MDD as the outcome of interest yielded similar results.

This study, using data from NSAL which is the largest survey of Black mental health, is the first empirical investigation to our knowledge seeking to explain why US-born Caribbeans have a heightened prevalence of MDD relative to US-born non-Caribbeans in the NSAL. Findings provide new insight into the role of racial identity on MDD; namely, while racial identity was generally protective for non-Caribbean Black Americans, indicators of racial identity were associated with a higher prevalence of MDD for US-born Caribbeans. One area of future work includes exploring whether racial identity and ethnic origin function similarly across other mental health outcomes that are often comorbid with MDD, such as anxiety disorders. This study contributes to the scant literature examining within-group heterogeneity among Black populations and responds to recent calls to focus on racialization processes and their consequences in the study of Black immigrants and their descendants [66–68].

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s00127-022-02412-w>.

Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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