Published in final edited form as:

Subst Use Misuse. 2016 July 28; 51(9): 1147–1158. doi:10.3109/10826084.2016.1160124.

Substance Abuse Among Blacks Across the Diaspora

Krim K. Lacey^a, Dawne M. Mouzon^b, Ishtar O. Govia^{a,c}, Niki Matusko^a, Ivy Forsythe-Brown^d, Jamie M. Abelson^a, and James S. Jackson^a

^aProgram for Research on Black Americans, University of Michigan, Ann Arbor, Michigan, USA

^bEdward J. Bloustein School of Planning and Public Policy, Rutgers, The State University of New Jersey, New Brunswick, New Jersey, USA

^cTropical Medicine Research Institute, University of the West Indies, Kingston, Jamaica

^dDepartment of Behavioral Sciences, University of Michigan–Dearborn, Dearborn, Michigan, USA

Abstract

Background—Lower rates of substance abuse are found among Black Americans compared to Whites, but little is known about differences in substance abuse across ethnic groups within the black population.

Objectives—We examined prevalence rates of substance abuse among Blacks across three geographic regions (US, Jamaica, Guyana). The study also sought to ascertain whether length of time, national context and major depressive episodes (MDE) were associated with substance abuse.

Methods—We utilized three different data sources based upon probability samples collected in three different countries. The samples included 3,570 African Americans and 1,621 US Caribbean Black adults from the 2001–2003 *National Survey of American Life* (NSAL). An additional 1,142 Guyanese Blacks and 1,176 Jamaican Blacks living in the Caribbean region were included from the 2005 NSAL replication extension study, *Family Connections Across Generations and Nations* (FCGN). Mental disorders were based upon DSM-IV criteria. For the analysis, we used descriptive statistics, chi-square, and multivariate logistic regression analytic procedures.

Results—Prevalence of substance abuse varied by national context, with higher rates among Blacks within the United States compared to the Caribbean region. Rates of substance abuse were lower overall for women, but differ across cohorts by nativity and length of time in the United States, and in association with major depressive episode.

Conclusions—The study highlights the need for further examination of how substance abuse disparities between US-based and Caribbean-based populations may become manifested.

Keywords

Migration; substance abuse; African diaspora

CONTACT: Krim K. Lacey, krimlacey@gmail.com, University of Michigan, Institute for Social Research, Program for Research on Black Americans, 426 Thompson Street, 5062 ISR Building, Ann Arbor, MI 48106, USA.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

Epidemiological data from the United States consistently reveals higher substance abuse rates among Whites than people of color (Breslau et al., 2007; Gibbs et al., 2013; Mericle, Ta Park, & Arria, 2012; Merline, O'Malley, Schulenberg, Bachman, & Johnston, 2004). Nonetheless, there is widespread societal perception that Blacks use (and misuse) drugs at rates that are higher than other racial groups. These perceptions may result from the long-term health and behavioral consequences that drugs have had on Blacks and their communities (Broman, Neighbors, Delva, Torres, & Jackson, 2008). For example, mortality rates for chronic diseases associated with substance use are twice as high for Blacks as compared to Whites (Broman, Neighbors, Delva, Torres, & Jackson, 2008).

Concerns over the impact of alcohol and drug use in Black communities coincide with the noticeable growth of the US Black population due in part to increased migration from the Caribbean region. In fact, one in two Black immigrants residing in the United States today is of Caribbean origin, most hailing from sending countries such as Jamaica, Haiti and Guyana (Kent, 2007; Thomas, 2012). Despite the growing Caribbean immigrant population in the United States, very little is known about the influence of nativity status and social and environmental conditions on substance abuse within the Black population. A large body of research suggests that these factors are important determinants of physical and mental health (Breslau, Borges, Hagar, Tancredi, & Gilman, 2009; Breslau & Chang, 2006; Williams, 2012; Williams, Haile, Gonzalez, Baser, & Jackson, 2007; Williams & Sternthal, 2010).

Our understanding of substance abuse among the US Black population is further limited by research that tends to group ethnic minorities into one large category for Blacks, which can obscure significant within-group differences (e.g. Nazroo, 2001). Disaggregation will assist in understanding patterns of substance abuse among ethnic groups within the US Black population, and those residing within their homelands, in an effort to broaden awareness regarding the role of geographic residence and migratory experiences. This study explores the influence of nativity, environmental conditions, length of stay, and major depressive episodes (MDE) on substance abuse among adult US Blacks and Blacks currently residing in the Caribbean region (Jamaica, Guyana).

Background

Research demonstrates that social and structural conditions are linked to racial and ethnic physical and mental health outcomes. Structural inequalities such as poverty and racial residential segregation limit access to important social determinants of health (e.g., quality school systems, access to affordable health food outlets, and health care facilities and providers) that subsequently affect health outcomes (Williams & Mohammed, 2013). The social consequences of inequality produce psychological and emotional stress and can have a lasting effect on the health, well-being, and life course of individuals (Diez-Roux & Mair, 2010; Kramer & Hogue, 2009; Williams, 2012).

Racial and ethnic minorities, particularly Blacks, are more likely to experience these structural and social stressors given their disadvantaged social standing in US society. Blacks especially remain materially disadvantaged and geographically segregated, particularly in poor, core urban and rural areas (Landrine & Corral, 2009; Massey & Denton,

1998). Low educational attainment and high rates of unemployment also plague Black communities, predominantly affecting Black men (U.S. Bureau of Labor Statistics, 2013). Moreover, Blacks' high levels of exposure to racism and discrimination contribute greatly to the poor health profiles of this group (Williams & Mohammed, 2009).

Immigration, mental disorders, and substance abuse

Migrant Black populations face similar stressors as native Blacks, as well as other stressors commonly related to relocating to new environments and associated acculturative stress. In pursuit of a better life and improved socioeconomic opportunities, they may encounter challenges with which native minority groups contend on a daily basis (Bhugra, 2004; Bhugra & Jones, 2001). In addition, migrant Black populations may confront issues of cultural marginality, family separation, poverty, language barriers, loss of status and discrimination; all factors which can encourage substance use (Johnson, VanGeest, & Cho, 2002).

Stress levels among US immigrants may also heighten while searching for housing and employment in the host country (Portes & Rumbaut, 2006). Obtaining high-income jobs may especially pose a challenge if they lack experience or the educational background necessary to compete with others on the job market. And although some migrants have the experience and credentials required for their profession, they are often not given the same value in the United States as in their homeland. The lack of available opportunities can leave individuals feeling disappointed and discouraged. There is evidence that suggests immigrants who are frustrated with opportunities in American society are more likely to feel depressed (e.g. Latkin & Curry, 2003; Vega & Rumbaut, 1991) and depression has been shown to be strongly associated with increased substance use (Pacek, Malcolm, & Martins, 2012).

Substance use is often an outcome of living under stressful conditions; a form of coping that can have negative health effects. The stress associated with poor economic conditions, exacerbated by lower educational attainment, neighborhood disadvantage, and racism are believed to make individuals more vulnerable to addictive behaviors such as drug use (Boardman, Finch, Ellison, Williams, & Jackson, 2001; Brady, Back, & Coffey, 2004; Galea, Nanji, & Vlahov, 2004). For example, Broman and colleagues (2008) found that low levels of education and low income were linked to increased substance dependence among both African Americans and Caribbean Blacks; unemployment was a unique additional stressor for African Americans. Other studies have also found a moderate relationship between disadvantaged neighborhoods and substance use indirectly through increased social stressors and higher levels of psychological distress (Boardman et al., 2001; Galea, Nadi, & Vlahov, 2004).

Extant literature suggests that the process of migration and acculturation also places migrants at risk for mental disorders (see Bhugra, 2004 for review). However, studies consistently find that foreign-born migrants often have more favorable mental health than their native-born counterparts (Breslau et al., 2007). More specifically, this initial immigrant advantage has been found when examining the risk of substance use among Asian immigrants (Breslau & Chang, 2006; Bui, 2013), Black immigrants (Broman et al., 2008;

Bui, 2013; Keane, Tappen, Williams, & Roselli, 2008; Lo, Howell, & Cheng, 2012), and Hispanic/ Latino immigrants (Alegría et al., 2008; Bui, 2013; Kimbo, 2009; Ojeda, Patterson, & Strathdee, 2008), relative to their native-born race/ethnic counterparts. Importantly, most studies also find that immigrants' initial mental health advantage deteriorates with length of time in the United States (Blake, 2001; Breslau et al., 2007; Broman et al., 2008; Gfroere & Tan, 2003; Lacey et al., 2015). Younger immigrants appear to be at highest risk for eventual substance use and mental disorders (Breslau et al., 2009; Kimbro, 2009).

Although studies comparing substance use and disorder rates by race and ethnicity and nativity statuses are becoming more common, few studies have examined these in conjunction with geographic location (e.g. in the United States vs. the Caribbean). The primary goals of this study are to: (a) examine substance abuse rates between native Black Americans and Caribbean Blacks in the United States, and those residing in the Caribbean; (b) evaluate influences of substance abuse across cohorts; and (c) assess the role of ethnicity, nativity, length of time in the United States, and geographic location in lifetime substance abuse.

Methods

This study draws from three data sources that used probability sampling frames collected on adult participants 18 years of age and older within the United States (2003), Guyana (2005), and Jamaica (2005).

United States data source

The National Survey of American Life (NSAL) is the most comprehensive study to date on the health and well-being of Black Americans, including the first national probability sample collected on US Caribbean Blacks (Jackson et al., 2004). Collection of the data in the US began in February 2001 and ended in March 2003. Face-to-face interviewing was the primary method of collection, with an additional 14% of the sample collected by telephone interviews. Interviewers were matched to the race/ethnic background of the participants, when possible. The average length of interviews of African Americans was 2 hours and 20 minutes, slightly shorter than interviews conducted (in English) with US Caribbean Blacks, which typically lasted for 2 hours and 43 minutes. US Caribbean Blacks were participants of African descent from English, Spanish, French and a few Dutch speaking countries in the Caribbean that: (a) directly immigrated to the United States and were residing there at the time of data collection; (b) had parents or grandparents who were born in the Caribbean; (c) or indicated they were from a country included on a list of Caribbean countries presented by the interviewers. Over 65% of the NSAL Caribbean sample identified the following as their country of origin: Jamaica, Haiti, Guyana, and Trinidad and Tobago.¹ In total, 6,082 interviews were completed: 3,570 of which were African Americans, 1,621 Caribbean Blacks, and 891 non-Hispanic Whites residing in Black populated regions of 10% or more. An overall sample response rate of 72.3% was obtained: 70.7% for African Americans; 77.7% for Caribbean Blacks; and 69.7% for non-Hispanic Whites. For this study, we focused only on individuals of African descent.

Guyana and Jamaica data sources

The *Family Connections Across Generations and Nations* (PI: James S. Jackson) is the 2005 NSAL replication and extension study. As part of a broader examination of multigenerational and cross-national contexts for the health and well-being of Black Americans, this study included data collections in Guyana and Jamaica. These data collections used an abridged version of the NSAL questionnaire. While the NSAL included over 23 sections of the World Health Organization World Mental Health Composite International Diagnostic Interview (WMH CIDI) instrument, the FCGN questionnaires included the screener and three complete CIDI sections (Depression, Mania, Substance Abuse and Dependence) and a brief version of the Tobacco section). There were also minor adaptations in the FCGN questionnaires for Jamaica and Guyana to ensure cultural appropriateness (e.g. revised categories for the education levels attained, racial/ethnic categories that were consistent with those in the country's national data collections). Details for the datasets from these two countries are provided below.

Guyana

Questionnaires were administered by indigenous interviewers to a probability sample of study participants in rural, urban and suburban census regions of the greater Georgetown area (Bynoe, Choy & Seligson, 2006). The data were collected between July and December 2005, with a response rate of 82%. The sample included 55.2% Black, 34.7% East Indian, and 10.1% Mixed/Other participants. This analysis focuses specifically on the 1,141 Guyanese Blacks in the sample.

Jamaica

Face-to-face interviewing was also used for data collection in Jamaica. Data were collected between August and December 2005. Interviews were conducted with a regional probability sample from urban Kingston, St. Andrew and Portmore. Of the 1,216 participants included in the sample, 97.4% were Blacks, 1.3% Asians, and 1.4% were classified as "Other." A response rate of 76% was obtained. The focus of analysis was on the 1,176 Jamaican Blacks.

Measures

Socio-demographic variables—Predictors included age (18–29, 30–44, 45–59, 60 and over), gender (male, female), relationship status (married, partnered, separated/divorced/widowed, never married), household income (bottom quintile, second quintile, middle quintile, fourth quintile, highest quintile), employment status (employed, unemployed, not in labor force), and education (primary/some high school, high school graduate, college-vocation-technical).

Nativity—Nativity status is a binary variable that assessed whether participants had been born within or outside the United States. This question was relevant only to the US-based respondents (those in the NSAL study).

Length of time in the United States—Length of time in the United States is a categorical variable (< 6 years, 6–10years, 11–20 years, >20 years, and US born) that

measured whether participants were born in the United States and the number of years they lived within the United States. Again, only NSAL participants were administered this question. This variable was not included in multivariate analysis because of potential collinearity concerns.

Mental health—Lifetime mental disorders including substance abuse and major depression episode (MDE) were assessed using a slightly modified version of the World Health Organization's World Mental Health Composite International Diagnostic Interview (WMH CIDI). The phrase "substance abuse" refers to the presence of either alcohol or drug abuse, or both. In addition to alcohol, the substances asked about included: cocaine (in any form), tranquilizers, stimulants, pain killers, other prescription drugs taken without the recommendation of a health professional, or for any reason other than a health professional said you should use them; or any number of other drugs listed in the respondent booklet, such as heroin, opium, glue, LSD, peyote, or any other drug. The criteria for substance abuse- includes DSM-IV Criterion A (a maladaptive pattern of use leading to clinically significant impairment or distress, such as a time when drinking or being hung over frequently interfered with work or responsibilities at school, on a job, or at home; caused arguments or other serious or repeated problems; put you in situations where you could get hurt; or more than once led to you being arrested or stopped by the police), and Criterion B (the symptoms have never met the criteria for dependence for that substance). Unlike the criteria for substance dependence, the criteria for substance abuse do not include the drug related consequences of tolerance, withdrawal or a pattern of compulsive use, and instead includes only the harmful consequences of repeated use. A diagnosis of substance abuse is preempted by the diagnosis of substance dependence for a particular substance (American Psychiatric Association, 1994, p.182).

To qualify for a MDE, the individual must have met Criterion A: reporting at least 5 depressive symptoms, representing a change in functioning, during the same 2 weeks period, with at least one of the symptoms being depressed mood or loss of interest or pleasure; and Criterion C, the symptoms cause clinically significant distress or cause impairment in functioning; and Criterion D, the symptoms are not due to the physiological effects of a substance or general medical condition. Criterion B, "the symptoms do not meet criteria for a Mixed Episode" was not considered. Episodes due to bereavement (Criterion E) were not excluded.

Analysis

Chi-square tests of significance were used to examine prevalence rates and relationships of potential correlates of substance abuse. Hierarchical logistic regression was employed to examine the contributions of potential explanatory factors (e.g., age, income, etc.) at each stage to substance abuse. These procedures were conducted across samples. The final block of the multivariate analyses are presented in the tables and discussed. Weights, adjusted for sample design and missing data, were applied to all NSAL samples for bivariate and multivariate procedures. In the FCGN datasets from Jamaica and Guyana, post-stratification weights based upon census estimates of age and gender were also applied. All significance levels were set at $p = .05$.

Results

Table 1 shows that participants' average age varied slightly across groups. African-Americans on average were older ($M = 42.3$, $SD = 0.5$) as compared to other groups. Females were over-represented, with the exception of US Caribbean Blacks where males made up a slightly larger (50.9%) portion of the sample. African Americans (32.9%) and US Caribbean Blacks (37.6%) reported higher rates of marriage than Guyanese and Jamaican Blacks. In fact, Guyanese (38.5%) and Jamaican (56.5%) Black participants were the only respondents for whom most of the groups reported never being married.

US Black participants (e.g., both African Americans and Caribbean Americans) had larger proportions in the highest household income quintile category (20.4% vs. 31.6%). US Caribbean Blacks, however, fared better among all groups. The educational attainment level was also higher for US Blacks compared to individuals residing in the Caribbean. Among the groups, US Caribbean Blacks attained the highest levels of education. A relatively large percentage of these participants had some form of training or education beyond the high school level (49.1%). In contrast, a majority of Guyanese Blacks (44.0%) had a primary or some high school level of education, while the Jamaican Blacks (49.8%) sampled consisted mostly of high school graduates. Across all groups, most individuals were employed.

Finally, a significant proportion of US Caribbean Black participants were born within the United States (35.8%), compared to a relatively large percent who migrated 11 to 20 years ago (28.2%), between 6 to 10 years ago (19.9%) and more than 20 years ago (8.3%), respectively.

Bivariate findings

Table 2 presents prevalence rates of substance abuse by socio-demographic factors, nativity and length of stay. Overall, rates of substance abuse were highest within the United States among African Americans and US Caribbean Blacks (11.5% vs. 9.6%, ns), with considerably lower prevalence rates among Black respondents in Guyana (2.7%) and Jamaica (2.6%). Differences were also found in substance abuse on the basis of age. African Americans between the ages of 45 and 59 had higher prevalence rates of substance abuse (15%, $p < .01$). In the Caribbean, particularly among Guyanese Blacks, rates of substance abuse were highest among individuals between the ages of 30 and 44 (4.6%, $p < .05$), while rates were higher among older participants (over age 59) in Jamaica (6.8%, $p < .01$). Across all samples, males had higher rates of substance abuse than females ($p < .01$). Moreover, substance abuse was higher among African Americans (14.1%, $p < .05$) and Jamaican Blacks, (6.7%, $p < .01$) who were separated, divorced or widowed, compared to those who were married.

Differences were found for the relationship of household income to substance abuse for African Americans. Specifically, there was generally an inverse relationship between income and substance abuse among this group; as income increased, prevalence of substance abuse decreased. For example, African Americans within the lowest household quintile income category were among those who had higher rates of substance abuse (15.3%, $p < .001$). No

association was found between income and substance abuse among Caribbean descendant respondents.

Substance abuse differences were also found by educational attainment and employment among the groups. Educational attainment was significantly associated with substance abuse for African Americans (18.0%, $p < .001$) and Jamaican Blacks (4.8%, $p < .05$), with higher rates among individuals with the lowest level of educational attainment. Employment status was associated with substance abuse for Guyanese Blacks, but not for other groups. Unemployed Guyanese Blacks tended to have the highest rates of substance abuse disorder (5.1%, $p < .05$).

There were noticeably higher rates of substance abuse for US born Caribbean Blacks than for US born African Americans (19.5% vs. 11.6%). An association was also found between length of time in the United States and substance abuse. Specifically, individuals of Caribbean descent born in the US had the highest levels of substance abuse (19.5%, $p < .01$), followed by those who had been in the country from 6 to 10 years (11.1%). The lowest rates of substance abuse were found for those who had been in the US for more than 20 years (5.9%), those who had been in the country for fewer than six years (0.5%), and those who had been in the country for 11 to 20 years (1.0%).

Multivariate findings

Table 3 presents the odds ratios of lifetime substance abuse across samples. The most consistent predictor of substance abuse was gender, with women having significantly ($p < .001$) lower odds than men, net of all control factors. However, there was important variation in the predictors of substance abuse across all groups. For instance, the odds of abusing substances significantly increased among African Americans between the ages of 30 and 44 (AOR = 1.69, 95% CI = 1.02, 2.80; $p = .042$) and Guyanese Blacks (AOR=7.63, 95% CI=2.01, 28.98; $p=.003$). This increase was also found for African Americans between the ages of 45 and 59 (AOR = 2.05, 95% CI = 1.17, 3.60; $p = .014$) relative to those aged 18 to 29 years old. By contrast, there were reduced odds for substance abuse among US born Caribbean Blacks within the 45 to 59 years age range (AOR=0.06, 95% CI=0.04, 0.79; $p = .035$).

Relationship status predicted substance abuse among African Americans, US born Caribbean Blacks, foreign-born Caribbean Blacks, Guyanese Blacks and Jamaican Blacks. US foreign-born Caribbean Blacks who were separated, divorced, or widowed had more than four times the odds of lifetime substance abuse than those who were married (AOR = 4.53, 95% CI = 1.07, 19.25; $p = .041$). Similarly, African Americans who were separated, divorced or widowed also had higher odds (AOR = 1.37, 95% CI = 1.06, 1.78; $p = .017$) of substance abuse than those who were married. In addition, there was a significant increase in substance abuse among partnered US foreign-born Caribbean Blacks (AOR = 26.17, 95% CI = 5.41, 126.79; $p = .000$) and Jamaican Black participants (AOR=4.53, 95% CI=1.00, 20.55; $p = .050$). The odds for substance abuse further increased among never married Guyanese Blacks (AOR = 5.16, 95% CI = 1.39, 19.24). By contrast, the odds for substance abuse were reduced among never married US born Caribbean Blacks (AOR=0.09, 95% CI=0.11, 0.64; $p = .019$).

The analysis further revealed lower odds for substance abuse among higher household income African Americans. There were reduced odds for substance abuse among the fourth (AOR = 0.43, 95% CI = 0.24, 0.76; $p = .005$) and highest quintile (AOR = 0.30, 95% CI = 0.19, 0.48; $p = .001$) participants, relative to the lowest quintile group. Higher income (e.g., fourth quintile) US born Caribbean Blacks were also at reduced odds (AOR = 0.16, 95% CI = 0.04, 0.73; $p = .020$) for substance abuse. Among US foreign-born Caribbean Blacks, effects were detected for two household income categories. Specifically, the odds for substance abuse were significantly reduced among participants within the second (AOR = 0.18, 95% CI = 0.03, 0.91; $p = .039$) and highest (AOR = 0.23, 95% CI = 0.06, 0.95; $p = .042$) quintile household income groups. No effects were detected in models for participants residing in the Caribbean.

Participants' education level and employment status were also predictive of substance abuse among African Americans, US Caribbean Blacks, and Guyanese Blacks. The odds for substance abuse were 52% lower for African Americans (AOR = 0.48, 95% CI = 0.34, 0.67; $p = .000$) and 85% lower for US-born Caribbean Blacks (AOR = 0.15, 95% CI = 0.43, 0.52; $p = .004$) who were high school graduates, relative to those who received less than a high school education. College educated African Americans (AOR = 0.59, 95% CI = 0.41, 0.83; $p = .003$) were also at reduced odds for substance abuse. Although employment status was not associated with substance abuse for the other groups, US foreign-born Caribbean Blacks not in the labor force had roughly three times the odds of lifetime substance abuse than those who were currently employed, though only marginally significant (AOR = 3.09, 95% CI = 0.98, 9.79; $p = .054$). Similar increases in substance abuse were also found for unemployed Guyanese Blacks (AOR = 3.69, 95% CI = 1.16, 11.76, $p = .027$).

With the exception of US foreign-born Caribbeans, Guyanese and Jamaican Black participants, the analyses revealed that African Americans (AOR = 3.84, 95% CI = 2.82, 5.21; $p = .000$) with MDE had more than three times the odds of lifetime substance abuse than their counterparts without MDE, when other relevant factors were controlled. This association was even stronger among US Born Caribbean Blacks (AOR = 11.85, 95% CI = 4.45, 31.60; $p = .000$).

Discussion

This study explored the effects of contextual influences, nativity, and geographic location on substance abuse using representative samples from the United States, Guyana, and Jamaica. Our findings revealed that, in general, the prevalence of substance abuse was higher among Blacks within the United States than among those in the Caribbean region, but were highest among African Americans residing in the United States. Self-conceptualizations related to ethnic identity, may account for these differences in rates of substance abuse between Black Caribbean immigrants and native-born Caribbean Blacks. Nonetheless, these differences in prevalence rates may be reflective of regional and cultural interpretation of what is considered a drug. For example, within some Caribbean countries (e.g., Jamaica) substances such as marijuana are often used for medicinal and religious purposes among individuals and certain groups (e.g., Rastafarians) who may not view it as harmful or even a drug for that matter. Therefore, this might cause rates to be underestimated within these contexts. It is

also important to note that cultural sentiments attendant to the use of ‘hard drugs’ among Caribbeans, particularly within some Caribbean countries, are less accepting of such behavior, and may be viewed as a sign of weakness and a last resort for coping with personal and external circumstances; this might contribute to explaining these differences in prevalence across contexts (Lacey et al., 2015).

Nativity and length of time in the United States were also associated with substance abuse disorder. Rates of substance abuse were particularly high for those who were born in the United States, while foreign-born participants were less likely to abuse drugs. These results suggest that acculturative stress combined with greater exposure to social and structural conditions (e.g. underemployment, poverty, discrimination) may provide added explanation for the increasing rate of substance abuse among US born and foreign born Caribbean Black immigrants who may use substances to cope with stressful circumstances or experiences compared to those within the Caribbean region (e.g. Guyana, Jamaica).

In addition, our findings are congruent with previous research on immigrant acculturation and health outcomes that suggests longer residency in host countries is associated with negative health (Carlisle & Stone, 2015). Similar to other immigrant groups, second generation, US born Caribbean Blacks are more likely to have poorer health outcomes than foreign-born co-ethnics (Read & Emerson, 2006), including substance abuse (Lacey et al., 2015). This study also supports the suggestions that foreign-born nativity may offer some protection against substance use disorders (Broman et al., 2008; Williams et al., 2007).

Comorbid MDE and substance abuse were observed among US born participants, including African American and US born Caribbean Blacks (e.g., McDowell & Clodfelter, 2001). This finding suggests two possibilities: that individuals are likely to cope with depressive symptoms through the use of substances, or that those who abuse substances may be vulnerable to developing depressive symptoms. Given that this occurs among participants who are born in and may have longer exposure to the US context, there is a need for additional studies that address the roles of other social and environmental factors in comorbid substance and major depressive disorders.

Other contributing factors to substance abuse were gender, age, household income, educational attainment, and relationship status; however, these relationships differed across groups. Consistent with other studies, we found that women were far less likely than men to meet criteria for lifetime substance abuse across samples (Broman, Neighbors, Delva, Torres & Jackson, 2008; Lacey et al., 2015). This finding may signify less permissive cultural norms for women to engage in the use of substances (Lacey et al., 2015), contributing to a lower propensity for women to participate in this risky health behavior.

With few exceptions, it was also found that African Americans and U.S.-born Caribbean Blacks with higher household income, higher education, and those who were married were less likely to abuse drugs than their more disadvantaged and unmarried counterparts.

There are several limitations to these analyses. The study did not include all possible drugs, and we believe that religious and cultural choices may have affected their use across countries. Therefore, it is possible that rates of substance abuse may be underestimated

among individuals of Caribbean descent. Moreover, due to low sample sizes some of the associations found in this article should be interpreted cautiously. Also, while the US and Guyanese samples included participants from different regions in the country, the Jamaican sample was limited to the urban area of Kingston, though a larger portion of the total Jamaican population resided in this region at the time of data collection. In addition, other countries in the Caribbean may differ from the two countries included in this study. Jamaica and Guyana were selected because of their relatively high rates of migration to the United States. The results may have been different had other Caribbean countries been included. This limitation underscores the need for larger and more comprehensive studies across different Caribbean countries across the African diaspora.

This study nonetheless makes a significant contribution to the literature as one of very few empirical analyses to test models on substance abuse across national samples of culturally and ethnically different Black population groups within the United States. It is also one of the first known studies to make comparisons between Caribbean Blacks living in their homeland (despite being limited to Jamaica and Guyana) and those residing in the United States, making it possible to examine cross cultural, contextual, migratory, and geographical differences in substance abuse patterns. The study further highlights the fact that substance abuse is a complex set of behaviors influenced by race and ethnic background, nativity, and timing of migration; thus, recognizing the need for more comparative studies on the migration destinations of peoples from the Caribbean and across locations of the African Diaspora. Finally, more studies are needed to examine the potential effects of discrimination and acculturative stress on the physical and mental health of Black migrants in different geographical and cultural national contexts.

Acknowledgments

Funding

Funding sources for the NSAL and FCGN included the National Institute of Mental Health [Grant no. U01-MH57716], National Institute on Aging and the National Institute on Drug Abuse.

Biographies

Krim K. Lacey, PhD, earned his degree in sociology from Wayne State University. He currently has research affiliation with the University of Michigan's Institute for Social Research, Program for Research on Black Americans. His primary research interest is on intimate partner violence, particularly focusing on minority and immigrant populations. He has also been engaged in research that addresses the influence of social context and cultural

factors on the physical and mental well-being of Caribbeans residing in the United States, Canada and England, and within the Caribbean region.

Dawne M. Mouzon, PhD, MPH, MA is a sociologist and an Assistant Professor at the Edward J. Bloustein School of Planning and Public Policy, where she teaches courses in public health and public policy. Dr. Mouzon's research includes investigations of racial discrimination and health, the Black-White mental health paradox, and structural inequalities affecting Black family formation and success.

Ishtar O. Govia, MA, MTS, PhD, is a faculty member at the Tropical Medicine Research Institute, University of the West Indies, Jamaica. Her interests include social inequalities and population mental health and cognitive impairment among the aging, effective treatments for common mental disorders and dementia, particularly simple interventions that use nonmedical workers and strong community support. She is especially interested in projects that integrate mental health and dementia problems in the care of other chronic non-communicable diseases in the Caribbean and other resource-constrained contexts.

Niki Matusko, BS, is a research area specialist for the Program for Research on Black Americans at the University of Michigan Institute for Social Research. She is well versed in advanced statistical procedures such as structural equation modeling, hierarchical linear modeling, time series, and autoregressive integrated moving average (ARIMA) forecasting. In addition, she has extensive experience in compiling and presenting secondary research such as market share quantification, in-migration and out-migration patterns, and various strategic intelligence analyses. Her roles have included client research analyst, health

information specialist, and strategic market analyst. She has a bachelor of science degree in mathematics from the University of Michigan.

Ivy Forsythe-Brown, PhD, is an Assistant Professor of sociology in the Department of Behavioral Sciences at the University of Michigan-Dearborn. Her research focuses on the impact of societal incorporation on family contextual processes and health status for Caribbean and other immigrant groups in the United States, Britain, and Canada. Specifically, Dr. Forsythe-Brown's work examine issues of social support, transnational kinship relations, identity, and mental and physical health outcomes among immigrant groups. Her works have examined the connection between the health status of Black Caribbean immigrants and Caribbean residents, and the impact of social and kin support among Caribbean immigrant families in the U.S. Her current projects include an examination of kin support among Jamaicans, the socioeconomic and religious status of second generation South Asian Muslims, and the educational experiences of second generation, Arab American college women.

Jamie M. Abelson, MSW, has been a member of the research staff of the University of Michigan, Institute for Social Research, Program for Research on Black Americans since 1998. She manages the data collection for various PRBA research studies, and provides expertise regarding the assessment of mental health disorders, and the analysis of mental health data, in both quantitative and qualitative studies of health and mental health in the black population.

James S. Jackson, PhD, is the Daniel Katz distinguished university professor of psychology, professor of Afro-American and African Studies, and former director of the Institute for Social Research, all at the University of Michigan. His research focuses on issues of racial and ethnic influences on life course development, attitude change, reciprocity, social support, and coping and health among Blacks in the Diaspora. He is currently directing the most extensive social, political behavior, and mental and physical health surveys on the African American and Black Caribbean populations ever conducted. He is a member of the National Academy of Medicine and the National Science Board.

Glossary

DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
NSAL	National Survey of American Life
FCGN	Family Connections Across Generations and Nations
MDE	Major Depressive Episodes
CIDI	Composite International Diagnostic Interview

References

- Alegria M, Torres T, Chen C, Men X. Prevalence of mental illness in immigrant and non-immigrant U.S. Latino groups. *American Journal of Psychiatry*. 2008; 165:359–369. [PubMed: 18245178]
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 4. Washington, DC: Author; 1994.
- Bhugra D. Migration and mental health. *Acta Psychiatr Scand*. 2004; 109:243–258. [PubMed: 15008797]
- Bhugra D, Jones P. Migration and mental illness. *Advances in Psychiatric Treatment*. 2001; 7:216–222.
- Blake SM. Recency of immigration, substance use, and sexual behavior among Massachusetts adolescents. *American Journal of Public Health*. 2001; 91(5):794–798. [PubMed: 11344890]
- Boardman JD, Finch BK, Ellison CG, Williams DR, Jackson JS. Neighborhood disadvantage, stress, and drug use among adults. *Journal of Health and Social Behavior*. 2001; 42(2):151–165. [PubMed: 11467250]
- Brady KT, Back SE, Coffey SF. Substance abuse and posttraumatic stress disorder. *Current Directions in Psychological Science*. 2004; 13(5):206–209.
- Breslau J, Aguilar-Gaxiola S, Borges G, Kendler KS, Su M, Kessler RC. Risk for psychiatric disorder among immigrants and their US-born descendants: Evidence from the National Comorbidity Survey-Replication. *The Journal of Nervous and Mental Disease*. 2007; 195:189–195. DOI: 10.1097/01.nmd.0000243779.35541.c6 [PubMed: 17468677]
- Breslau J, Borges G, Hagar Y, Tancredi D, Gilman S. Immigration to the USA and risk for mood and anxiety disorders: Variation by origin and age at immigration. *Psychological Medicine*. 2009; 39:1117–1127. [PubMed: 19000338]
- Breslau J, Chang D. Psychiatric disorders among foreign-born and US-born Asian-Americans in a US national survey. *Social Psychiatry and Psychiatric Epidemiology*. 2006; 41(12):943–950. DOI: 10.1007/s00127-006-0119-2 [PubMed: 16988789]
- Broman C, Neighbors H, Delva J, Torres M, Jackson JS. Prevalence of substance use disorders among African Americans and Caribbean Blacks in the national survey of American life. *American Journal of Public Health*. 2008; 98(6):1107–1114. [PubMed: 17971551]
- Bui HN. Racial and ethnic differences in the immigrant paradox in substance use. *Journal of Immigrant and Minority Health*. 2013; 15:866–881. [PubMed: 22773072]

- Bynoe, C.; Choy, T.; Seligson, MA. The political culture of democracy in Guyana. 2006. Retrieved from <http://www.vanderbilt.edu/lapop/guyana/2006-politicalculture.pdf>
- Carlisle SK, Stone AL. Effects of perceived discrimination and length of residency on the health of foreign-born populations. *Racial and Ethnic Health Disparities*. 2015; 2(4):434–444.
- Diez-Roux AV, Mair C. Neighborhoods and health. *Annals of the New York Academy of Sciences*. 2010; 1186:125–145. [PubMed: 20201871]
- Galea S, Nandi A, Vlahov D. The social epidemiology of substance use. *Epidemiologic Reviews*. 2004; 26:26–36. DOI: 10.1093/epirev/mxh007
- Gfroerer J, Tan LL. Substance use among foreign youths in the United States: Does the length of residence matter. *American Journal of Public Health*. 2003; 98(11):1892–1895. [PubMed: 14600061]
- Gibbs TA, Okuda M, Oquendo MA, Lawson WB, Wang S, Thomas YF, Blacnco C. 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*. 2013; 103(2):330–338. [PubMed: 23237171]
- Jackson JS, Torres M, Caldwell CH, Neighbors HW, Nesse RM, Taylor RJ, ... Williams DR. The national survey of American life: A study of racial, ethnic, and cultural influences on mental disorders and mental health. *International Journal of Methods in Psychiatric Research*. 2004; 13:196–207. [PubMed: 15719528]
- Johnson TP, VanGeest JB, Cho YI. Migration and substance use: Evidence from the U.S. national health survey interview. *Substance Use & Misuse*. 2002; 37(8–10):941–972. DOI: 10.1081/JA-120004160 [PubMed: 12180572]
- Kandel D, Chen K, Warner LA, Kessler RC, Grant B. Prevalence and demographic correlates of symptoms of last year dependence of alcohol, nicotine, marijuana and cocaine in the U.S. population. *Drug and Alcohol Dependence*. 1997; 44:11–29. [PubMed: 9031816]
- Keane F, Tappen RM, Williams CL, Rosselli M. Comparison of African-American and Afro-Caribbean older adults' self-reported health status, function, and substance use. *Journal of Black Psychology*. 2008; 35(1):44–62.
- Kent MM. Immigration and America's Black population. *Population Bulletin*. 2007; 62:1–20. Retrieved from <http://www.prb.org/pdf07/62.4immigration.pdf>.
- Kimbro RT. Acculturation in context: Gender, age at migration, neighborhood ethnicity, and health behaviors. *Social Science Quarterly*. 2009; 90(5):1145–1166.
- Kramer MR, Hogue CR. Is segregation bad for your health? *Epidemiologic Reviews*. 2009; 31(1):178–194. [PubMed: 19465747]
- Lacey KK, Powell Sears K, Govia IO, Forsythe-Brown I, Matusko N, Jackson JS. The substance use and mental disorders and physical health of Caribbean Americans at-home compared to those residing in the United States. *International Journal of Environmental Research and Public Health*. 2015; 12:710–734. [PubMed: 25590147]
- Landrine H, Corral I. Separate and unequal: residential segregation and Black health disparities. *Ethnicity & Disease*. 2009; 19:179–184. [PubMed: 19537230]
- Latkin CA, Curry AD. Stressful neighborhoods and depression: A prospective study of the impact of neighborhood disorder. *Journal of Health and Social Behavior*. 2003; 44(1):34–44. [PubMed: 12751309]
- Lo CC, Howell RJ, Cheng TC. Problem drinking by race and nativity: What is learned from social structural and mental health-related data of U.S.-born and immigrant respondents? *The American Journal on Addictions*. 2012; 21:S77–S87. [PubMed: 23786515]
- Massey, D.; Denton, NA. *American apartheid: Segregation and the making of an underclass*. Cambridge, MA: Harvard University Press; 1998.
- McDowell DM, Clodfelter RC. Depression and substance: Considerations of etiology, comorbidity, evaluation, and treatment. *Psychiatric Annals*. 2001; 31(4):244–251.
- Mericle AA, Ta Park VM, Holck P, Arria AM. Prevalence, patterns, and correlates of co-occurring substance use and mental disorders in the United States: Variations by race/ethnicity. *Comprehensive Psychiatry*. 2012; 53:657–665. [PubMed: 22152496]

- Merline AC, O'Malley PM, Schulenberg JE, Bachman JG, Johnston LD. Substance use among adults 35 years of age: Prevalence, adulthood predictors, and impact of adolescent substance use. *American Journal of Public Health*. 2004; 94(1):96–102. [PubMed: 14713705]
- Nazroo, JY. Ethnicity, class and health. London, UK: Policy Studies Institute, Westminster University; 2001.
- Ojeda VD, Patterson TL, Strathdee SA. The influence of perceived risk to health and immigration-related characteristics on substance use among Latino and other immigrants. *American Journal of Public Health*. 2008; 98(5):862–868. [PubMed: 18382009]
- Pacek LR, Malcolm RJ, Martins SS. Race/ethnicity differences between alcohol, marijuana, and co-occurring alcohol and marijuana use disorders and their association with public health and social problems using a national sample. *The American Journal on Addictions*. 2012; 21:435–444. [PubMed: 22882394]
- Portes, A.; Rumbaut, RJ. *Immigrant America: A portrait*. Berkeley: University of California Press; 2006.
- Read JG, Emerson MO. Racial and context, black immigration and the US black/white health disparity. *Social Forces*. 2006; 84:181–199.
- Thomas, KJA. A demographic profile of Black Caribbean immigrants in the United States. Washington, DC: Migration Policy Institute; 2012.
- U.S. Bureau of Labor Statistics. Labor for characteristics by race and ethnicity. 2013. Retrieved from http://www.bls.gov/opub/reports/race-and-ethnicity/archive/race_ethnicity_2013.pdf
- Vega WA, Rumbaut RG. Ethnic minorities and mental health. *Annual Reviews of Sociology*. 1991; 17:351–83.
- Williams DR. Miles to go before we sleep: Racial inequities in health. *Journal of Health and Social Behavior*. 2012; 53:279–295. [PubMed: 22940811]
- Williams DR, Haile R, Gonzalez HM, Neighbors H, Baser R, Jackson JS. The mental health of Black Caribbean immigrants: Results from the National Survey of American Life. *American Journal of Public Health*. 2007; 97(1):52–59. [PubMed: 17138909]
- Williams DR, Mohammed SA. Discrimination and racial disparities in health: evidence and needed research. *Journal of Behavioral Medicine*. 2009; 32:20–47. [PubMed: 19030981]
- Williams DR, Mohammed SA. Racism and health I: Pathways and scientific evidence. *American Behavioral Scientist*. 2013; 57:1152–1173.
- Williams, DR.; Sternthal, M. *Understanding racial-ethnic differences in health: Sociological contributions*. 2010.

Table 1

Characteristics of samples.

Percentage (except for age) Characteristics	NSAL		Caribbean samples	
	African American (2003)	U.S. Caribbean Blacks (2003)	Guyanese Blacks (2005)	Jamaican Blacks (2005)
Mean age	42.3	40.3	40.7	38.8
Gender				
Male	44.0	50.9	48.5	30.9
Female	56.0	49.1	51.5	69.1
Relationship status				
Married	32.9	37.6	28.4	20.2
Partnered	8.7	12.6	16.8	13.2
Sep-div-widow	26.7	18.9	16.3	10.1
Never married	31.6	30.9	38.5	56.5
Equalized income				
Bottom quintile	21.7	14.0	15.9	21.1
Second quintile	18.2	14.6	22.7	24.2
Middle quintile	21.1	20.8	25.7	1.6
Fourth quintile	18.7	19.1	24.2	42.6
Highest quintile	20.4	31.6	11.5	10.5
Education level				
Primary/some high school	24.2	21.2	44.0	28.3
High school graduate	37.9	29.7	34.8	49.8
College-vocation-technical	38.0	49.1	21.1	21.9
Employment status				
Employed	66.8	75.2	58.5	44.2
Unemployed	10.1	8.8	11.3	28.2
Not in the labor force	23.1	16.0	30.2	27.6
Length of time in the U.S.				
US born	—	35.8	—	—
< 6yrs	—	7.9	—	—
6–10yrs	—	19.9	—	—

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Percentage (except for age) Characteristics	NSAL		Caribbean samples	
	African American (2003)	U.S. Caribbean Blacks (2003)	Guyanese Blacks (2005)	Jamaican Blacks (2005)
11–20 yrs	—	28.2	—	—
>20 yrs	—	8.3	—	—
[N]	3570	1621	1142	1176

Note. Statistics are unweighted.

¹Represented Caribbean countries of origin among U.S. Caribbean participants include: Anguilla, Antigua, Aruba, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Island, Dominica, French Guiana, Grenada (Grenadines), Guadeloupe, Guyana, Haiti, Jamaica, Martinique, Montserrat, St. Eustatius, St. Maarten, St. Kitts-Nevis, St. Lucia, St. Vincent, Bequia, and Grenadines, Suriname, Trinidad and Tobago, Tortola, Turks and Caicos, U.S. Virgin Islands, St. Croix, St. Thomas, West Indies (N.E.C), Puerto Rico, Dominican Republic, Cuba, Panama, Costa Rica, Nicaragua, Honduras (Garifano).

Table 2

Prevalence of substance abuse disorder by socio-demographic factors, nativity, and immigration status.

	African American (2003)	U.S. Caribbean Blacks (2003)	Guyanese Blacks (2005)	Jamaican Blacks (2005)
Lifetime substance abuse	11.5	9.6	2.7	2.6
Age				
18–29	8.4	15.2	1.2	1.8
30–44	12.6	8.0	4.6	2.0
45–59	15.0	3.6	2.6	2.5
>59	8.5	9.8	0.8	6.8
χ^2	25.68	34.86	8.02	12.06
P value	.008	.180	.046	.007
Gender				
Male	18.1	16.4	4.5	6.1
Female	6.3	2.8	1.1	1.1
χ^2	120.63	90.46	9.25	23.99
P value	.000	.000	.002	.000
Relationship status				
Married	9.6	8.2	1.2	1.3
Partnered	13.4	17.0	4.1	4.5
Sep-div-widow	14.1	5.6	0.7	6.7
Never married	10.8	10.8	3.9	2.1
χ^2	12.12	22.20	2.25	11.91
P value	.021	.577	.064	.008
Equivalized income				
Bottom quintile	15.3	13.2	2.2	5.2
Second quintile	11.5	4.6	1.5	25
Middle quintile	14.7	9.1	2.7	0.0
Fourth quintile	8.6	11.8	4.7	1.8
Highest quintile	6.9	9.5	3.0	1.6
χ^2	40.24	12.71	4.24	8.96
P value	.000	.662	.374	.062
Education level				
Primary/some high school	18.0	15.2	2.4	4.8
High school graduate	9.6	4.5	2.6	2.1
College-vocation-technical	9.2	10.3	3.3	1.2
χ^2	48.03	28.71	.408	9.08
P value	.000	.337	.816	.011
Employment status				
Employed	11.1	9.1	3.1	2.5
Unemployed	14.8	9.2	5.1	3.0
Not in the labor force	11.2	12.4	0.8	2.5

	African American (2003)	U.S. Caribbean Blacks (2003)	Guyanese Blacks (2005)	Jamaican Blacks (2005)
χ^2	4.43	2.66	6.39	.258
<i>P</i> value	.149	.687	.041	.879
Nativity				
U.S. born	11.6	19.5	—	—
Foreign	1.9	4.2	—	—
χ^2	7.84	105.31		
<i>P</i> value	.004	.002		
Length of stay				
U.S. born	—	19.5	—	—
<6 yrs	—	0.5	—	—
6–10 yrs	—	11.1	—	—
11–20 yrs	—	1.0	—	—
20 yrs	—	5.9	—	—
χ^2	—	107.99	—	—
<i>P</i> value	—	.002	—	—

Note.

*
 $p < .05$

**
 $p < .01$

 $p < .001$

Table 3

The relationship of socio-demographic factors, nativity, and major depressive disorder to rates of substance abuse.

	African American	U.S. Born Caribbean Blacks	U.S. foreign born Caribbean Blacks	Guyanese Blacks	Jamaican Blacks
Age					
18–29	1	1	1	1	1
30–44	1.69 [*]	0.42	3.08	7.63 ^{**}	1.07
45–59	2.05 [*]	0.06 [*]	1.08	4.31	1.58
>59	0.97	0.30	3.63	2.01	3.96
Gender					
Male	1	1	1	1	1
Female	0.21 ^{***}	0.05 ^{***}	0.09 ^{***}	0.25 ^{***}	0.13 ^{***}
Relationship status					
Married	1	1	1	1	1
Partnered	1.34	0.13	26.17 ^{***}	3.73	4.53 [*]
Sep-div-wid	1.37 [*]	0.33	4.53 [*]	1.46	2.13
Never married	1.07	0.09 [*]	3.18	5.16 [*]	1.18
Equivalized income					
Bottom quintile	1	1	1	1	1
Second quintile	0.78	0.73	0.18 [*]	0.81	0.53
Middle quintile	0.82	0.45	0.19	1.38	n.a
Fourth quintile	0.43 ^{**}	0.16 [*]	2.27	3.04	1.25
Highest quintile	0.30 ^{***}	0.23	0.23 [*]	1.72	0.67
Education level					
Primary/some high school	1	1	1	1	1
High school graduate	0.48 ^{***}	0.15 ^{**}	1.46	0.94	0.51
College-vocation-technical	0.59 ^{**}	0.78	0.67	0.21	0.10
Employment status					
Employed	1	1	1	1	1
Unemployed	1.08	1.73	0.37	3.69 [*]	1.93

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

	African American	U.S. Born Caribbean Blacks	U.S. foreign born Caribbean Blacks	Guyanese Blacks	Jamaican Blacks
Not in labor force	0.83	2.47	3.09 *	0.83	0.42
MDE (Yes)	3.84 ***	11.85 ***	1.65	2.64	2.56

Note.
* $p < .05$
** $p < .01$
*** $p < .001$