Perceived Discrimination and DSM-IV-Based Alcohol and Illicit Drug Use Disorders

Haslyn E. R. Hunte, PhD, MPH, MPIA, and Adam E. Barry, PhD

Alcohol and drug abuse and dependence are risky health behaviors not only to the individuals who engage in these behaviors and their loved ones but also to society. Estimates from the 2000 National Survey on Drug Use and Health suggest that of persons aged 18 years or older, approximately 12.7 million (6.3%) were either dependent on or abused both alcohol and illicit drugs, 3.3 million (1.6%) were dependent on or abused illicit drugs but not alcohol, and 10.9 million (5.5%) were dependent on or abused alcohol but not illicit drugs. It is estimated that the overall economic cost of substance abuse in 1992 was $246 billion and in 2001 $414 billion. Psychoanalytically informed hypotheses, like the self-medication hypothesis, suggest that substance use and abuse are self-soothing behaviors among some individuals who are psychologically distressed. Individuals may use or abuse substances such as alcohol, cigarettes, and illicit and licit drugs to manage emotional pain and anxiety to achieve emotional stability.

On the basis of these stress-coping frameworks, a small number of studies suggests that perceived experiences of interpersonal discrimination, a psychosocial stressor, are associated with various risky health behaviors. Specifically, previous studies posit that in response to perceived experiences of interpersonal discrimination (“discrimination”), some individuals may engage in risky coping behaviors such as alcohol, tobacco, and prescribed and illicit drug use. Yen et al., for example, showed that Whites who experienced racial/ethnic discrimination (e.g., at school, getting a job) in 5 or more domains consumed more alcoholic drinks than did peers who had not experienced discrimination. Using the CAGE questionnaire, Martin et al. showed that African American adults who experienced racial/ethnic discrimination were twice as likely to have a problematic drinking behavior as were African Americans who reported no discrimination. Similarly, using a standardized survey for mental illness diagnosis derived from the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R) criteria, Gee et al. reported that Filipino Americans who experienced chronic discrimination were more likely to be dependent on alcohol. With regard to tobacco use, similar to other studies, Landrine and Klonoff reported that African Americans who experienced racial/ethnic discrimination and appraised their experiences as more stressful were more likely to smoke cigarettes than were African Americans who did not report discrimination. Beyond alcohol and tobacco use, recent investigations have reported positive associations between discrimination and illicit (e.g., medically prescribed medication) and illicit (e.g., marijuana) drug abuse. Specifically, Borrell et al. reported that racial discrimination was associated with increased lifetime use of marijuana and cocaine among African Americans but not among Whites. Gee et al. reported that discrimination was positively associated with the usage of illicit drugs among Filipino American adults. Although these studies are not directly comparable, taken together they suggest a relationship between experiences of discrimination and substance use.

Despite a growing literature base in this area, our understanding of the relationship between discrimination and clinically diagnosed alcohol and drug use disorders is limited. Although most will agree that alcohol use and illicit drug use (regardless of frequency and quantity) are potential health risk behaviors, infrequent usage patterns, such as those currently studied in most of the published literature, may not indicate the damaging behavior patterns that are associated with a clinical diagnosis of abusing or being dependent on alcohol or drugs, such as recurrently driving an automobile when impaired or continued drinking despite knowledge of a serious physical or psychological problem.

Using the 2001 National Study of American Life (NSAL), we aimed to extend previous research in 2 important ways. The first concerns the generalizability of the current findings in this area. We are aware of only 1 study that has examined problematic usage patterns of alcohol use and none examining problematic drug usage among African Americans. In

Objectives. We examined the relationship between everyday and major discrimination and alcohol and drug use disorders in a nationally representative sample of African Americans and Black Caribbeans.

Methods. With data from the National Survey of American Life Study, we employed multivariable logistic regression analyses—while controlling for potential confounders—to examine the relationship between everyday and major discrimination and substance use disorders on the basis of Diagnostic and Statistical Manual of Mental Disorders criteria.

Results. Every 1 unit increase in the everyday discrimination scale positively predicted alcohol (odds ratio [OR] = 1.02; P < .01) and drug use (OR = 1.02; P < .05) disorders. Similarly, each additional major discrimination event positively predicted alcohol (OR = 1.10; P < .05) and drug use (OR = 1.15; P < .01) disorders.

Conclusions. To our knowledge, this study is the first to examine problematic usage patterns rather than infrequent use of alcohol and drugs in a national sample of African American and Black Caribbean adults and the first to examine this particular relationship in a national sample of Black Caribbeans.
a sample of employed African Americans, Martin et al.\(^\text{30}\) showed that discrimination was positively associated with problematic drinking behavior; however, the sample was not representative of the general population of African Americans in the United States. To date, we are unaware of any studies that have examined the relationship between discrimination and substance use disorders among Black Caribbeans, the second largest subgroup of Blacks living in the United States. To fill these gaps, we examined the relationship between discrimination and alcohol and illicit drug use disorders in a nationally representative sample of African Americans and Black Caribbeans, 2 groups that traditionally report relatively high levels of discrimination.\(^\text{23-25}\) We subsequently examined whether interpersonal discrimination was related to the co-occurrence of alcohol and drug use disorders, given that alcohol and drug use disorders often co-occur.\(^\text{26-29}\)

**METHODS**

The NSAL is a household probability sample of 3570 non-Hispanic African Americans (“African Americans”), 1438 non-Hispanic Black Caribbeans (“Black Caribbeans”), 891 non-Hispanic Whites (“Whites”), and 183 Hispanics aged 18 years and older who live in the United States.\(^\text{31}\) The African American subsample is a nationally representative sample of African Americans with no ancestral ties in the Caribbean. The Black Caribbean subsample self-identified as Black and answered affirmatively to questions about being of West Indian or Caribbean descent either by birth or by parents’ or grandparents’ birth. The White sample was a stratified, disproportionate sample of White adults residing in households located in the census 2000 tracts and blocks that had a 10% or greater African American population.\(^\text{31}\) The NSAL employed a mixed-mode approach, incorporating both face-to-face (86%) and telephone (14%) interviews. The overall response rates were 70.7% among African Americans, 72.3% among Whites, and 77.7% among Black Caribbeans. Because of time and cost limitations,\(^\text{30,32}\) the White subsample (n = 891) did not receive the alcohol and drug use disorders questions in the survey. Consequently, we excluded Whites from this study. We also excluded Hispanics (n = 183) because of small sample size. Additional information about the NSAL study can be obtained elsewhere.\(^\text{30,32}\)

**Dependent Variables**

The dependent variables for this study were DSM-IV lifetime alcohol use disorder (a combination of alcohol abuse and dependence) and DSM-IV illicit drug use disorder (a combination of drug abuse and dependence), which the NSAL study investigators created using the prescribed algorithm.\(^\text{33,34}\) Both the alcohol and drug use disorder variables were derived using a modified version of the World Mental Health Composite International Diagnostic Interview, a fully structured diagnostic interview originally designed to assess prevalence, severity, and burden of mental disorders.

We collapsed the abuse and dependence categories because relatively few individuals met the dependence and abuse criterion (data not shown). Because we were interested in the general relationship between discrimination and problematic usage patterns of drugs and alcohol as a coping mechanism, we created a separate indicator variable— substance use disorder—by collapsing the alcohol and illicit drug use disorder variables into 1 variable (alcohol or drug dependence or abuse vs no alcohol or drug dependence or abuse).\(^\text{35}\)

**Independent Variables**

We used separate measures of everyday and major discrimination. The everyday discrimination measure ascertains respondents’ experiences with routine and relatively minor day-to-day interpersonal experiences of unfair treatment.\(^\text{36}\) The measure used in the NSAL is a 10-item version modified from the original scale Williams et al. proposed.\(^\text{36}\) The everyday discrimination scale questions ask about the lifetime occurrence and frequency of experiencing unfair treatment such as

1. being treated with less courtesy than others,
2. being treated with less respect than others,
3. receiving poorer service than others,
4. being treated as if they are not smart by others,
5. others being afraid of them,
6. being perceived as dishonest by others,
7. people acting like they were better than them,
8. being called names or insulted by others,
9. feeling threatened or harassed, or
10. being followed in stores more than others.

The response set for each question ranged from 1 to 6, with 1 indicating “almost every day” and 6 indicating “never.” We created the everyday discrimination scale, with a range of 0 to 50, by reverse-coding (response option 6 = 0; 5 = 1; 4 = 2; 3 = 3; 2 = 4; 1 = 5) and summing across the 10 items. Higher scores on the scale indicated higher frequencies of everyday discrimination. Both the full sample and the analytic sample have a Cronbach α of 0.89 for all 10 items.

Nine questions were used in NSAL to capture major discrimination. Respondents were asked if they received unfair treatment in the following 6 domains:

1. in the labor market (e.g., being fired from a job, not hired for a job, or being denied a promotion);
2. in interactions with law enforcement (e.g., being unfairly stopped, searched, questioned, physically threatened, or abused by the police);
3. in educational settings (e.g., being unfairly discouraged by a teacher or advisor from continuing education);
4. in the housing market (e.g., being unfairly prevented from moving into a neighborhood because the landlord or a realtor refused to sell or rent them a house or apartment, neighbors made life difficult for them or their family);
5. in the financial lending market (e.g., being unfairly denied a bank loan); or
6. in the customer service industry (e.g., receiving poorer service from someone, such as a plumber or car mechanic).

Affirmative responses to these 9 items were summed, creating a range from 0 to 9. Higher scores indicated more experiences of major discrimination.

**Covariates**

Informed by previous investigations,\(^\text{7,13,14,19,37,38}\) we made an a priori decision to control for several characteristics that would potentially have conflated the relationship between discrimination and alcohol or drug use disorders.

Covariates included in the multivariable models were race/ethnicity, continuous age
and continuous age-squared, gender, current marital status (married vs not married), continuous lifetime educational attainment, continuous annual household income, current employment status (employed vs not employed), US nativity status (yes vs no), a count variable for gender-specific health conditions (ranging 0–17 for men and 0–19 for women), and a count variable of stressful major life events.

**Missing Variables**

After we removed the White and Hispanic subsamples (n = 1074), of the remaining 5008 respondents, 367 (7.3%) were missing on 1 or more of the variables. Before analyzing data, however, we evaluated participant nonresponse. Overall, there were no more than 3.0% missing data for any 1 item. In addition to exhibiting few missing data for any particular variable, the pattern of missing data suggests the data may be “missing at random.”39,40 Specifically, compared with those with complete nonmissing data (n = 4641), 1-way analysis of variance and the χ² test confirmed that respondents with missing data (n = 367) did not significantly differ on most of the variables. Respondents with 1 or more missing variables tended to be older, to report less everyday discrimination, to engage in less exercise, and to experience fewer stressful life events and less chronic illness than did the respondents with no missing data.

Although we suspected that the data may have been missing at random, we chose to impute data for missing cases using an iterative imputation method that imputed multiple variables by using chained equations, a sequence of univariate imputation methods with fully conditional specification of prediction equations.41 The final sample post-imputation for this investigation consisted of 5008 respondents.

**Analysis**

We assessed bivariate associations between the alcohol and drug use disorder variables and

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**TABLE 1—Weighted Sample Characteristics by DSM-IV® Alcohol and Drug Use Disorder: NSAL, 2001–2003**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Full Sample, No. (%) or Mean ±SE</th>
<th>Alcohol Use Disorder</th>
<th>Drug Use Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. No. (%) or Mean ±SE</td>
<td>Yes, No. (%) or Mean ±SE</td>
<td>P</td>
</tr>
<tr>
<td>All</td>
<td>5008 (100.00)</td>
<td>4617 (90.30)</td>
<td>391 (7.70)</td>
</tr>
<tr>
<td>Discrimination</td>
<td>12.5 ±0.30</td>
<td>12.1 ±0.30</td>
<td>16.3 ±0.70</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>1438 (6.10)</td>
<td>1372 (91.40)</td>
<td>66 (6.60)</td>
</tr>
<tr>
<td>Black Caribbeans</td>
<td>3570 (93.90)</td>
<td>3238 (90.20)</td>
<td>332 (9.80)</td>
</tr>
<tr>
<td>African Americans</td>
<td>12.2 ±0.04</td>
<td>2.2 ±0.04</td>
<td>2.9 ±0.16</td>
</tr>
<tr>
<td>Chronic illness</td>
<td>1.7 ±0.04</td>
<td>1.6 ±0.04</td>
<td>2.4 ±0.12</td>
</tr>
<tr>
<td>Major life events</td>
<td>42.2 ±0.50</td>
<td>42.1 ±0.10</td>
<td>43.9 ±1.10</td>
</tr>
<tr>
<td>Income, $</td>
<td>36737 ±1248</td>
<td>37296 ±134</td>
<td>31522 ±1900</td>
</tr>
<tr>
<td>Employment status</td>
<td>1602 (32.30)</td>
<td>1449 (89.10)</td>
<td>153 (10.90)</td>
</tr>
<tr>
<td>Not employed</td>
<td>3406 (67.70)</td>
<td>3161 (90.90)</td>
<td>245 (9.10)</td>
</tr>
<tr>
<td>Gender</td>
<td>31755 (56.00)</td>
<td>3029 (95.00)</td>
<td>146 (5.00)</td>
</tr>
<tr>
<td>Women</td>
<td>1833 (44.40)</td>
<td>1581 (84.40)</td>
<td>252 (15.60)</td>
</tr>
<tr>
<td>Marital status</td>
<td>3171 (57.80)</td>
<td>2918 (90.00)</td>
<td>253 (10.00)</td>
</tr>
<tr>
<td>Not married</td>
<td>1837 (42.20)</td>
<td>1692 (90.70)</td>
<td>145 (9.30)</td>
</tr>
<tr>
<td>Married</td>
<td>1091 (5.20)</td>
<td>1066 (96.80)</td>
<td>25 (3.20)</td>
</tr>
<tr>
<td>US nativity status</td>
<td>3917 (94.70)</td>
<td>3544 (89.90)</td>
<td>373 (10.10)</td>
</tr>
</tbody>
</table>

Note. DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; NSAL = National Survey of American Life. We excluded NSAL data on Hispanics and non-Hispanic Whites. Percentage sums do not add to 100 because of rounding.

aCombines both DSM-based alcohol abuse and dependence diagnoses.

bCombines both DSM-based drug abuse and dependence diagnoses.

cP values were determined by the χ² test (categorical variables) and analysis of variance (continuous) comparing the alcohol and drug use disorder categories by each variable of interest.
the independent variables using the $\chi^2$ test for categorical variables and analysis of variance for continuous variables (Table 1). Additional bivariate associations between the substance use disorder variable (alcohol or drug dependence or abuse vs no alcohol or drug dependence or abuse) and the discrimination variables are presented in Table 2.

We used multivariable logistic regression analyses to examine the relationships between discrimination and alcohol use disorder (model 1), drug use disorder (model 2), and substance use disorder (model 3), while controlling for the characteristics presented in Table 1. Informed by previous investigations, we included multiplicative interaction terms between the discrimination variables and race/ethnicity, US nativity status, income, and education in the multivariable analyses.\textsuperscript{4,42,43} We weighted all analyses using the prescribed probability weights and complex survey design variables available in the publicly available data set. The NSAL analysis weights were designed to provide population representation for non-Hispanics in the sample in the 48 conterminous states. We performed all analyses using the complex survey feature of Stata version 10.0 (StataCorp LP, College Station, TX).\textsuperscript{44}

### RESULTS

The weighted summary statistics of the characteristics of interest of the analytic sample are presented in Tables 1 and 2. When considered alone, approximately 9.7% of individuals in the NSAL sample had an alcohol use disorder and 6.3% had a drug use disorder. However, when considered together, approximately 11.2% of the sample had a substance use disorder. The weighted sample consisted of approximately 94% African Americans and 6% Black Caribbeans. A significant percentage of the sample can be characterized as disadvantaged on the basis of annual household income when compared with the 2001 national average ($36,737 vs $58,208). Overall, the composition of the use disorders groups differed across the various characteristics of interest, except for marital and employment status for alcohol and drug use disorders, age for alcohol use disorders, and chronic illness for drug use disorders.

As we expected, experiences of everyday discrimination were more prevalent than were experiences of major discrimination in the entire sample. Approximately 90% of the full sample reported everyday discrimination, whereas 62% reported major discrimination (data not shown). Respondents with an alcohol or drug use disorder experienced more everyday discrimination and more major discrimination than did respondents who did not have an alcohol or drug use disorder, respectively (Table 1; $P<.01$). Similarly, on average, respondents with a substance use disorder experienced more everyday discrimination (16.40 vs 12.00) and major discrimination (2.33 vs 1.43) than did respondents who did not have a substance use disorder ($P<.01$).

Table 3 displays the results of the multivariable logistic regression analyses. For each of the models reported, the reference category is respondents without a “use disorder” (i.e., those who did not meet the DSM-IV criteria for alcohol abuse or dependence, drug abuse or dependence, or both). Model 1 assessed the association between everyday and major discrimination and alcohol use disorder, controlling for the covariates. Experiences of everyday discrimination (odds ratio [OR] = 1.02; 95% confidence interval [CI] = 1.01, 1.04) and major discrimination (OR = 1.10; CI = 1.01, 1.21)

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### Table 2—Weighted Sample Characteristics by DSM-IV Substance Use Disorder: NSAL, 2001–2003

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Full Sample, No. (%)</th>
<th>No Substance Use Disorder$^a$ (n = 4480), No. (%)</th>
<th>Substance Use Disorder$^a$ (n = 450), No. (%)</th>
<th>$P^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>5008 (100.00)</td>
<td>4383 (88.80)</td>
<td>445 (11.20)</td>
<td>...</td>
</tr>
<tr>
<td>Discrimination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyday</td>
<td>12.5 ± 0.30</td>
<td>12.0 ± 0.3</td>
<td>16.4 ± 0.6</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Major</td>
<td>1.5 ± 0.05</td>
<td>1.4 ± 0.05</td>
<td>2.2 ± 0.13</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Caribbeans</td>
<td>1438 (6.10)</td>
<td>1362 (91.20)</td>
<td>76 (8.80)</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>African Americans</td>
<td>3570 (93.90)</td>
<td>3188 (88.60)</td>
<td>382 (11.40)</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Chronic illness</td>
<td>2.2 ± 0.04</td>
<td>2.2 ± 0.04</td>
<td>2.8 ± 0.13</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Major life events</td>
<td>1.7 ± 0.04</td>
<td>1.6 ± 0.04</td>
<td>2.4 ± 0.12</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Age, y</td>
<td>42.2 ± 0.50</td>
<td>42.2 ± 0.50</td>
<td>42.7 ± 1.00</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Education, y</td>
<td>12.5 ± 0.10</td>
<td>12.5 ± 0.10</td>
<td>12.0 ± 0.10</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Income, $</td>
<td>36,737 ± 1246</td>
<td>37,496 ± 1305</td>
<td>30,720 ± 1756</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Employment status</td>
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<td></td>
</tr>
<tr>
<td>Not employed</td>
<td>1602 (32.60)</td>
<td>1426 (87.80)</td>
<td>174 (12.20)</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Employed</td>
<td>3406 (67.40)</td>
<td>3124 (89.00)</td>
<td>284 (11.00)</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>3175 (55.60)</td>
<td>2893 (93.90)</td>
<td>171 (6.10)</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Men</td>
<td>1833 (44.40)</td>
<td>1490 (82.00)</td>
<td>274 (18.00)</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not married</td>
<td>3171 (57.80)</td>
<td>2755 (88.00)</td>
<td>293 (12.00)</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Married</td>
<td>1837 (42.20)</td>
<td>1628 (90.00)</td>
<td>152 (10.00)</td>
<td>&gt; .05</td>
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<tr>
<td>US nativity status</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign-born</td>
<td>1091 (5.30)</td>
<td>1062 (96.60)</td>
<td>29 (3.40)</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>US-born</td>
<td>3917 (94.70)</td>
<td>3478 (88.10)</td>
<td>439 (11.90)</td>
<td>&lt; .01</td>
</tr>
</tbody>
</table>

Note. DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; NSAL = National Survey of American Life. We excluded NSAL data on Hispanics and non-Hispanic Whites.

$^a$Combines both DSM-based alcohol abuse or dependence and drug abuse or dependence diagnoses into 1 variable indicating the presence of no alcohol or drug use disorder or presence of 1 or both disorders.

$^b$P values were determined by the $\chi^2$ test (categorical variables) and analysis of variance (continuous) comparing the substance use disorder categories by each variable of interest.
predicted drug use disorder (Model 2). Model 3 shows that both everyday (OR = 1.02; CI = 1.01, 1.04) and major (OR = 1.11; CI = 1.03, 1.19) discrimination predicted substance use disorders of alcohol or drug use.

The results from multinomial logistic regression analyses examining the relationship between only alcohol use disorder (n = 209), only drug use disorder (n = 70), and alcohol and drug use disorder (n = 189) with no substance use disorder (n = 4540) as the referent group are also presented in Table 3. The results from these analyses were somewhat consistent with the results from the multivariable logistic regression analyses; however, there were some interesting differences. Experiencing both major (OR = 1.03; CI = 1.01, 1.04) and everyday (OR = 1.21; CI = 1.08, 1.33) discrimination positively predicted having an alcohol and a drug use disorder simultaneously. However major discrimination was not statistically significant for alcohol or drug use disorders when considered exclusively of each other. On the other hand, although everyday (OR = 1.21; CI = 1.08, 1.33) and major discrimination (OR = 1.11; CI = 1.03, 1.19) discrimination predicted substance use disorders, it did not predict alcohol use disorder exclusively. As such, more attention to the potentially harmful effects of discrimination may be warranted, given that approximately 6% of adult Americans either abuse or are dependent on alcohol or illicit drugs. The results also suggest that additional research should be conducted on African Americans either abuse or are dependent on alcohol or illicit drugs. The results also suggest that additional research should be conducted on African Americans either abuse or are dependent on alcohol or illicit drugs.

Collectively, these results may have several implications for behavioral health clinicians, public health practitioners, and researchers. First, similar to more traditional stressors, such as stressful major life events (the death of a loved one, unplanned unemployment, financial stress, etc.), experiences of discrimination, a suggested psychological stressor, may warrant attention in the substance use treatment process. Additionally, discrimination may be a risk factor for alcohol or drug use disorders.1-3

Similar to other studies, results from this study showed that higher levels of discrimination were associated with the clinical diagnosis of substance abuse or dependence, at least under certain conditions. Although reasons underlying the relationship between discrimination (and other stressors) and clinical levels of substance abuse and dependence remain conjecture, some have suggested that individuals who experience emotional pain or are overly anxious may engage in risky health behaviors to self-medicate to achieve emotional stability.45-47 Aharonovich et al., for example, confirmed previous findings that substance abusers experience higher levels of psychological distress.47 To our knowledge, this study is the first to report that discrimination may be associated with drug and alcohol use disorders among a representative, national sample of African Americans and Black Caribbeans.

**Limitations**

Although this is not the first study to show a statistically significant relationship between discrimination and alcohol abuse, the sample used in this study was of a nationally representative study of African Americans and Black Caribbeans, unlike the only other study, which consisted of only employed Africans Americans. This relationship is of particular concern because African Americans generally report higher levels of discrimination,3,42 tend to live in communities with higher levels of outdoor advertising for alcoholic beverages,48-50 and are less likely to access substance use treatment services.51

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Collectively, these results may have several implications for behavioral health clinicians, public health practitioners, and researchers. First, similar to more traditional stressors, such as stressful major life events (the death of a loved one, unplanned unemployment, financial stress, etc.), experiences of discrimination, a suggested psychological stressor, may warrant attention in the substance use treatment process. Additionally, discrimination may be a risk factor for alcohol or drug use disorders. As such, more attention to the potentially harmful effects of discrimination may be warranted, given that approximately 6% of adult Americans either abuse or are dependent on alcohol or illicit drugs. The results also suggest that additional research should be conducted on African Americans either abuse or are dependent on alcohol or illicit drugs. The results also suggest that additional research should be conducted on African Americans either abuse or are dependent on alcohol or illicit drugs.

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Similar to other studies, results from this study showed that higher levels of discrimination were associated with the clinical diagnosis of substance abuse or dependence, at least under certain conditions. Although reasons underlying the relationship between discrimination (and other stressors) and clinical levels of substance abuse and dependence remain conjecture, some have suggested that individuals who experience emotional pain or are overly anxious may engage in risky health behaviors to self-medicate to achieve emotional stability.45-47 Aharonovich et al., for example, confirmed previous findings that substance abusers experience higher levels of psychological distress.47 To our knowledge, this study is the first to report that discrimination may be associated with drug and alcohol use disorders among a representative, national sample of African Americans and Black Caribbeans.

Although this is not the first study to show a statistically significant relationship between discrimination and alcohol abuse, the sample used in this study was of a nationally representative study of African Americans and Black Caribbeans, unlike the only other study, which consisted of only employed Africans Americans. This relationship is of particular concern because African Americans generally report higher levels of discrimination,3,42 tend to live in communities with higher levels of outdoor advertising for alcoholic beverages,48-50 and are less likely to access substance use treatment services.51

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A second limitation concerns the causality. Although we believe the likelihood that having a substance use disorder will lead to higher reports of discrimination is very small, we could not parse out this possibility in this data set. It is more feasible that a reciprocal relationship may exist between substance use disorders and additional stressors (e.g., financial strain from lost wages, alienation by family members). Our results, however, did control for stressful major life events that may be associated with increased alcohol or drug use.

A third, and somewhat related, limitation of the study was our inability to determine whether discrimination is related to the adoption, relapse, or continued use of alcohol and drugs. Because of the cross-sectional nature of the data, we could not discern these types of relationships. However, the fact that discrimination was related to problematic use patterns and not simply to occasional usage is a strength of this study. As other longitudinal studies of discrimination and health23,52,53 are beginning to generally examine the causality issue, the issue of discrimination and the adoption of, relapse to, and continuation of substance abuse will hopefully be addressed in a more systematic manner.

An additional noteworthy limitation of this study was our inability to include measures of the respondents’ typical coping strategies.21 Although we relied on the self-medication hypothesis, which suggests that substance use and abuse may be a coping behavior among psychologically distressed individuals, no measures of coping styles were available in the NSAL data set.

The final limitation concerns the relationship between discrimination and personality characteristics such as neuroticism and hostility. Some studies suggest that neuroticism may confound the association between discrimination and certain health outcomes, such as depression.54,55 Unfortunately, no measures of neuroticism were included in the NSAL data set. To advance this particular area of interest, future studies must include measures such as risky coping styles and neuroticism.

**Conclusions**

Despite these limitations, the results of this study are noteworthy for several reasons. First, this study is the first, to our knowledge, to examine problematic usage patterns rather than episodic use of alcohol and drugs in a national sample of African American and Black Caribbean adults. Additionally, to the best of our knowledge this is the first study to examine the relationship between discrimination and substance use disorder in a national sample of Black Caribbeans, the largest Black ethnic subgroup in the United States.26

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**Human Participant Protection**

The analyses conducted for this article involved only secondary data. The data collection process was approved by the institutional review board for human subject protection at the University of Michigan. Use of the data set was also approved by the institutional review board at Purdue University.

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