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Disparities in Alcohol Use: Does Race Matter as much as Place?

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Abstract

Objectives—National estimates of race differences in alcohol use suggest that whites are more likely to be current and binge users of alcohol. These findings fail to account for race differences in the social and environmental context where people live. This study aims to determine whether race disparities persist in alcohol use among individuals who share similar social and environmental conditions.

Methods—We compared race disparities between individuals living in a low-income racially integrated urban community without race differences in socioeconomic status (EHDIC-SWB) to individuals from the National Health Interview Survey (NHIS-2003) to determine if race disparities in alcohol use were attenuated in the integrated environment.

Results—In the NHIS-2003 sample, compared to whites, African Americans had lower odds of being a current drinker (OR=0.56, 95% CI=0.49–0.64) and binge drinker (OR=0.68, 95% CI=0.58–0.80) independent of covariates. However in the EHDIC-SWB sample, African Americans had similar odds of being a current drinker (OR=0.94, 95% CI=0.67–1.33) and binge drinker (OR=1.02, 95% CI=0.77–1.35) compared to whites.

Conclusions—Among individuals who share similar social and environmental risk exposures, race group differences in alcohol use patterns are similar.

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Background

Despite lower prevalence of alcohol use than whites, African Americans suffer a higher burden of alcohol-related problems compared to whites, including alcohol-related chronic diseases (Barr et al, 1993; Herd, 1998; Rice, 1995). Knowledge of the underlying factors in the relationship between alcohol use and race may provide valuable insight to the development of alcohol prevention strategies.

Previous studies offer possible explanations for patterns of disparities in alcohol use including social acceptability and accessibility (Holder, 1998); however, few studies examine the social context (Collins et al 1985). Many African Americans and whites in the United States live in very different social and environmental conditions (Iceland et al 2002), thus, they are typically exposed to divergent neighborhood situations, built environments and access to health and social resources (Herd, 1998). A number of studies have demonstrated that when racial groups are exposed to similar conditions, race differences in health were attenuated or eliminated (LaVeist et al, 2008; Thorpe et al, 2008; Bleich et al, 2010; Gaskin, 2009). Thus, it is plausible that alcohol use may be similar among people who are exposed to similar social conditions.

The objective of this study is to determine if racial differences persist in patterns of alcohol use between African American and white adults residing in the same social context.

Methods

Study Populations

EHDIC (Exploring Health Disparities in Integrated Communities) is an ongoing multi-site study of race disparities within communities where blacks and whites live together and where there are no race differences in socioeconomic status (SES), as measured by median income. The first EHDIC study site was in southwest Baltimore, Maryland (EHDIC-SWB), a low income urban area. Future EHDIC locations are planned in a high income area (Prince Georges County, Maryland) and a rural area (Edgecombe County, North Carolina).

EHDIC-SWB, is a cross-sectional face-to-face survey of the adult population (aged 18 and older) of two contiguous census tracts collected between June and September 2003. In addition to being economically homogenous, the study site was also racially balanced and well integrated, with almost equal proportions of black and white residents. In the two census tracts, the racial distribution was 51% black and 44% white, and the median income for the study area was \$24,002, with no race difference. The census tracts were block listed to identify every occupied dwelling in the study area. Because our survey had similar coverage across each census block group included the study area, the bias to geographic locale and its relationship with socioeconomic status should be minimal.

Comparisons to the 2000 Census for the study area indicated that the EHDIC-SWB sample included a higher proportion of blacks and women, but was otherwise similar with respect to other demographic and socioeconomic indicators. For instance; our sample was 59.3% black and 44.4% male, whereas the 2000 Census data showed the population was 51% black and 49.7% male. Age distributions in our sample and 2000 Census data were similar with the median age (35–44 years) for both samples. The lack of race difference in median income in the census, \$23,500 (black) vs. \$24,100 (white) was replicated in EHDIC \$23,400 (black) vs. \$24,900 (white). A detailed description of the EHDIC Study is described elsewhere (LaVeist et al, 2008).

The 2003 National Health Interview Survey (NHIS) is nationally representative household survey of non-institutionalized U.S. citizens conducted by the National Center for Health Statistics. Individuals participate in the one-hour survey administered by the U.S. Census Bureau (National Center for Health Statistics, 2009).

Measures

Items from NHIS 2003 were replicated in EHDIC-SWB study. Each measure included in these analyses was coded similarly for both datasets.

Alcohol use was assessed with three binary variables. Participants reporting ever having a drink and reported drinking now were considered to be current drinkers. Participants not drinking now and never having a drink were classified as never drinkers. Participants were binge drinkers if they were current drinkers that have consumed more than 5 drinks in one sitting in the past month. Never drinkers were the reference group for current drinkers. Binge drinkers were compared to current drinkers who do not binge drink.

Participants self-identified their race as African American or non-Hispanic white (here on referred to as white). Demographic and health-related variables are listed in Table 1.

Statistical Analysis

Multiple logistic regression models were specified to examine the association between race and each alcohol use variable for each dataset. Results from NHIS were compared to EHDIC-SWB to determine the extent to which findings from EHDIC-SWB account for the differences in the social and environmental conditions of African Americans and whites. The analyses involving NHIS 2003 have been adjusted by Taylor-linearization procedures to account for the multistage sampling design. Analyses were conducted using Stata Release 10 (Stata, 2007).

Results

Table 1 displays the distribution of demographic variables for the NHIS 2003 and EHDIC-SWB participants by race. In the NHIS 2003, African Americans were significantly younger and less likely to be male than whites. A larger proportion of African Americans had less than a high school education and low household incomes. African Americans were less likely to be married/living as married. African Americans and whites were similar with regard to current employment, current smoking and self-rated health. African Americans were less likely to be current or binge drinkers in NHIS 2003, and more likely to never have consumed alcohol.

In the EHDIC-SWB, African Americans were significantly younger compared with whites but were similar on most other demographic variables. The exceptions were that African Americans were less likely to have less than a high school education and more likely to be employed. There were significant differences in all categories of marital status between African Americans and whites. African Americans and whites significantly differed in their health characteristics, where African Americans were more likely to be current smokers and report having excellent or very good health. African Americans were less likely to be a current drinker compared to non-Hispanic whites in the sample.

In Table 2, we examined the relationship between race and each category of alcohol use in the NHIS and EHDIC-SWB samples. In the NHIS sample, African Americans had lower odds of being a current drinker (OR=0.56; 95% CI=0.49–0.64) or a binge drinker (OR=0.68; 95% CI=0.58–0.80), controlling for covariates. However, In the EHDIC-SWB sample, African Americans and whites had similar odds of being a current drinker (OR=0.94; 95%

CI=0.67–1.33) or a binge drinker (OR=0.90; 95% CI=0.60–1.37), after adjusting for covariates.

Discussion

In this sample of African Americans and whites exposed to similar social and environment conditions, African Americans and whites had similar patterns of current and binge alcohol use compared to a national sample where whites had higher current and binge alcohol use. Moreover, we suspect that when exposed to similar social factors, African Americans and whites would have more similar health behaviors than are detailed in national statistics that do not account for substantial differences in social and environmental factors.

Previous studies have documented similar findings to ours with the NHIS data. The 2000 National Household Survey on Drug Abuse showed that although there was an overall decline in alcohol consumption from previous years, whites consumed more alcohol than blacks (SAMHSA 2001). Caetano et al (1998) summarize other studies that show this similar pattern and highlight the need for alcohol research to account for the individual, environmental, historical and cultural characteristics that shape alcohol consumption patterns in racial minority groups.

Racially tailored approach to alcohol prevention policy or programs may be misclassifying the role of race in alcohol use/abuse policy. Race may not simply impact alcohol use patterns. Rather, race (and likely racism) affects exposure to risk. Moreover, a similar pattern was revealed by Lillie-Blanton and LaVeist (1996) whose study demonstrated that social context was a key intervening factor in explaining higher rates of crack-cocaine use among African Americans. After adjusting for availability of crack-cocaine within their neighborhood, there were no race differences in crack-cocaine use. These studies underscore the importance of social context as a key factor in understanding health disparities.

The strength of using data from the EHDIC-SWB study is that we can examine health disparities between African Americans and whites that reside in comparable conditions. However, there are limitations to the EHDIC design. EHDIC-SWB was conducted in a low-income urban community, making unknown if our results would differ in non-urban or higher socioeconomic environments. Also, the work environment can increase the risk of alcohol use and we are not able to account for environmental risks not emanating from residence (Rice, 1995). We lacked measures of other significant predictors of alcohol use the in-home environment and familial history of alcoholism (Barr et al, 1993). In spite of these limitations, the consistency of the pattern results in this analysis with other similar analysis of other health related outcomes gives us confidence that our findings are not anomalous.

We demonstrated that the social and environmental context is an important contributor to race disparities in alcohol use. The social context should be assessed when developing research, policies, and interventions that prevent and address alcohol use disparities.

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Table 1

Distribution of Socio-Demographic Characteristics of 2003 National Health Interview Survey (NHIS 2003) and the Exploring Health Disparities in Integrated Communities- Southwest Baltimore (EHDIC-SWB) Participants by Race

	NHIS 2003		EHDIC-SWB	
	African American (n=4,202)	Non-Hispanic White (n=25,170)	African American (n=835)	Non-Hispanic White (n=573)
Age, mean (SD)	44.8 (16.8)	47.3 (18.0) *	38.4 (13.3)	44.0 (16.2) *
Male Sex (%)	38.0	44.4 *	45.6	43.1
Education (%)				
Less than High School	22.9	19.2 *	35.4	47.5 *
GED	2.6	2.9	8.8	10.6
High School Graduate	28.2	26.1 *	36.4	23.6
Some College	31.0	28.2 *	13.3	8.6
College Graduate	15.4	23.6 *	6.1	9.8
Income (%)				
\$0-\$9,999	14.6	7.5 *	25.3	22.2
\$10,000-\$24,999	14.6	10.6 *	34.6	33.2
\$25,000-\$34,999	16.8	15.4 *	19.8	22.7
\$35,000-\$54,999	13.8	15.2 *	11.3	11.7
\$55,000+	40.2	51.4 *	9.1	10.3
Employed (%)	63.8	64.0	48.9	37.0 *
Marital Status (%)				
Married/ Living as Married	38.7	61.4 *	15.2	25.7 *
Widowed	7.2	2.7 *	4.8	10.8 *
Divorced/Separated	16.7	13.9 *	18.0	26.4 *
Never Married	37.5	22.0 *	62.0	37.1 *
Current Smoker (%)	21.7	22.8	58.8	53.7 *
Self Rated Health (%)				
Excellent	26.9	27.9	17.0	10.1 *
Very Good	31.6	32.0	23.5	17.6 *
Good	26.5	26.4	31.2	34.9
Fair	10.9	10.2	23.6	28.8 *
Poor	4.1	3.5	4.6	8.6 *
Alcohol Use				
Current	48.7	61.8 *	42.9	48.4 *
Binge	26.3	32.3 *	25.4	26.1
Never	34.5	23.6 *	16.6	20.5

Notes:

* Indicates a significant difference between African Americans and non-Hispanic whites at the $p < 0.05$ level.

Table 2

Adjusted prevalence and odds ratios for the association between race and alcohol use in the 2003 National Health Interview Survey (NHIS 2003) and the Exploring Health Disparities in Integrated Communities- Southwest Baltimore (EHDIC-SWB)^a

Alcohol Use Outcome	NHIS 2003			EHDIC-SWB		
	African American (n=4,202)	Non-Hispanic White (n=25,170)	Odds Ratio (95% CI)	African American (n=835)	Non-Hispanic White (n=573)	Odds Ratio (95% CI)
Never Drinker	32.7%	20.1%	--	18.5%	14.4%	--
Current Drinker ^b	59.3%	75.8%	0.56 (0.49–0.64)	72.3%	74.0%	0.94 (0.67–1.33)
Binge Drinker ^c	21.6%	29.3%	0.68 (0.58–0.80)	54.8%	57.3%	0.90 (0.60–1.37)

Notes:

95% CI= 95% Confidence Interval

One model for each alcohol use outcome was conducted adjusting for age, sex, education, income, employment status, current smoking status, marital status and self-rated health.

^aNon-Hispanic whites were the reference group.

^bCurrent drinkers were compared to never drinkers.

^cBinge drinkers were compared current drinkers who do not binge drink.