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Differences in Drinking Behavior and Access to Alcohol between Native American and White Adolescents

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Abstract

We investigated differences in drinking behaviors and sources of alcohol among Native American (n=361) and White adolescents (n=1,735), ages 11 to 19. Native American youth were more likely to have consumed alcohol in their lifetime and been intoxicated in the last 30 days than Whites. Native American drinkers were almost twice as likely to have gotten alcohol from an adult and twice as likely to have obtained alcohol from someone under 21. White drinkers were four times as likely to have obtained alcohol from their parents. Youth did not differ in access to alcohol from other social sources. Because youth access alcohol from different social sources, strategies to limit access must consider these differences. This study underscores the importance of examining ethnic-specific alcohol access patterns.

Introduction

Heavy drinking has long been a public health concern for Native Americans. Even though considerable heterogeneity of drinking patterns among Native Americans has been reported (Caetano et al. 1998; Beauvais 1998), Native American youth are typically found to start using alcohol at younger ages than other youth and to drink more and more frequently (Bachman et al. 1991; Spear et al. 2005; Beauvais 1996). As a result, the Native American population experiences greater negative health consequences because of alcohol use and abuse, including chronic liver disease, alcohol-related automobile crashes, suicide, homicide and fetal alcohol syndrome (Beauvais 1998). Given these statistics, it is important to better understand the risk factors related to drinking among Native American youth in order to develop more effective prevention interventions. The purpose of this current study is to examine whether Native American and White youth differ in their drinking behaviors, where they access alcohol, and the perceived ease with which they can access alcohol.

Availability of alcohol has been identified as a key environmental risk factor associated with youth drinking and drinking-related problems (Dent et al. 2005; NRC/IOM 2004; Paschall et al. 2007). Thus, drinking and drinking problems have been found to be higher in communities where availability is higher and enforcement of minor in possession laws is less strict (Dent et al. 2005; Paschall et al. 2007; Treno et al. 2003). Although youth use multiple sources to obtain alcohol, social sources appear to be particularly important (Dent et al. 2005; Harrison et al. 2000; Hearst et al. 2007; Waagenar et al. 1996). However, few, if any, studies have specifically examined where Native American youth obtain alcohol. More generally, studies that have examined racial and ethnic differences in how youth access alcohol are rare and inconsistent in their findings. One study found that African-American, Hispanic/Latino, Asian and American Indian youth were less likely to obtain alcohol from social sources than their White

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counterparts (Harrison et al. 2000). On the other hand, another study found that no differences when comparing white and minority youth access to alcohol, except that minority users who reported consistent use over time were more likely to take alcohol from home (Hearst et al. 2007).

The present study fills a critical gap in our knowledge by investigating differences in alcohol-related behaviors between Native American and White youth using a large survey sample of Midwestern adolescents. Going beyond previous research, the present study considers not only differences in drinking patterns, but also differences in how young people in the Native American and White communities access alcohol. Such information is critical to designing effective policies and environmental interventions to reduce alcohol access and ultimately drinking and drinking problems that are specifically targeted to the Native American community.

Method

Data presented here were collected as part of the baseline for an evaluation of the Center for Substance Abuse Prevention (CSAP) funded Wisconsin State Incentive Grant (SIG). The goal of the evaluation was to measure Wisconsin's progress in reducing ATOD abuse among youth. The method of recruitment of students into prevention programs (i.e. All Stars, Project Northland, Project Venture, and Strengthening Families) was left up to individual community coalitions, though universal recruitment was most commonly used. A total of 2,618 students were surveyed in Wisconsin between 2003 and 2004. Of these, 2,015 students were White and 480 were Native American. The remaining 123 respondents were of other or unknown ethnicity. The sample consisted of slightly more females (52.1% for Native Americans, 52.8% for Whites) than males (47.9% for Native Americans, 47.2% for Whites) although this did not differ between the two groups, χ^2 (1) = .08, $p < .77$. Nonetheless, given the possibility of differences in alcohol use and access by gender, we controlled for this variable in the primary analyses. Youth were not asked about tribal affiliations, and due to IRB restrictions tribes located in the target area cannot be identified. Nonetheless, almost 90 percent of the Native American youth attended tribal schools on reservation land. A total of 2,096 White and Native American youth had complete data and comprised the analytic sample.

Procedures

Data were obtained using anonymous self-administered surveys given by trained survey monitors who were either classroom teachers or local evaluators at the program locations, such as schools, and community centers, with the vast majority of surveys (94%) having been completed in a school setting. Survey administration protocols were the same across different settings, and no data collection problems occurred. All youth who participated in any of the prevention programs were invited to complete a questionnaire. Participation in the data collection was voluntary and no compensation was offered. Data collection protocol and the survey had received Institutional Review Board approval, and were reviewed on a yearly basis. Passive parental consent and youth consent procedures were followed in accordance with human subjects' protection requirements. Completed questionnaires were collected in envelopes which were sealed and sent to the research office. The questionnaire took approximately 20 minutes to complete.

The data collection timeframe concerning this study spanned from 2003 to 2005. Overall, 16,305 completed surveys were collected, but this study focuses on the questionnaire version that was used between 2003 and 2004 and included 2,618 completed questionnaires by White and Native American youth. The rate of participation in data collection compared to rate of participation in the prevention programs is unknown as program sites did not consistently report program participation.

The items in the questionnaire were largely based on measures recommended by the CSAP Core Measure Initiative (CSAP 2003). They included questions about alcohol use, age at first use, ease of access to alcohol, and sources of alcohol that were based on questions from large-scale surveys such as Monitoring The Future and the National Household Survey of Drug Use. These questions have been used with different populations and different age groups, starting as young as 6th graders (CSAP 2003).

Measures

Background variables—Background variables included gender, age, and race. Only Native American and White youth were included in this analysis. Youth who reported two or more races were excluded. A total of 73 youth reported being Native American and at least one other race.

Drinking—Alcohol consumption was measured by three items. Lifetime consumption was ascertained by asking respondents on how many occasions (if any) they had ever had more than just a few sips of any alcoholic beverages (never, 1–2, 3–5, 6–9, 10–19, 20–39, and 40 or more). Drinking in the previous month was measured by asking on how many occasions during the last 30 days they had more than a few sips of any alcoholic beverages (0, 1–2, 3–5, 6–9, 10–19, 20–39, and 40 or more). Finally, frequency of intoxication was measured by asking on how many occasions during the last 30 days they had been drunk or very high from drinking alcoholic beverages (0, 1–2, 3–5, 6–9, 10–19, 20–39 and 40 or more). Respondents were also asked to report how old they were the first time they drank an alcoholic beverage.

Sources of alcohol—In order to obtain information about sources of alcohol, the respondents were asked where they obtained alcohol the last time they drank ("If you have ever had an alcoholic beverage, think back to the last time you drank. How did you get the alcohol on that occasion?"). This question required youth to select one response from a list of sources (parents, friend's parents, another adult over 21, someone under 21, home or a friend's home, grocery store or convenience store, liquor store or bar/restaurant).

Access to alcohol—Ease of access to alcohol was measured by asking respondents how easy it would be to get alcohol from a store, older sibling, another adult, from a bar, from their home or a friend's home, their parents, or at a party ("Please tell us how hard or difficult it is for people your age to get alcohol from…?"). They were also asked a general question about ease of access to alcohol: "If you wanted to get some beer, wine, or hard liquor, how easy would it be for you to get some?" (very hard, sort of hard, sort of easy, very easy).

Analyses

Differences between Native American and White youth were initially examined through bivariate comparisons using analyses of variance and χ^2 tests. Logistic regression analyses were then used to examine rates of lifetime use, intoxication in the past 30 days, and use of specific sources of alcohol to control for age and gender differences. Similarly, OLS regression was used to examine whether Native American and White youth differed in 30-day frequency of alcohol use, age of first use, and perceived ease of access to alcohol after controlling for age and gender.

Results

Sample characteristics

Of the 2,618 youth who participated in the survey, 2,096 had complete data on the variables of interest and reported being either White or Native American, and thus comprised the analytic sample. Of the 2,096 respondents, 17.2% (N = 361) were Native American and 82.8% (N =

1,735) were White. The mean age was 13.9 (*SD* = 2.04) for Native American youth and 13.0 (*SD* = 1.92) for White youth, t(2,094)=−8.16, p<.001. The sample consisted of slightly more females (52.1% for Native Americans, 52.8% for Whites) than males (47.9% for Native Americans, 47.2% for Whites).

Bivariate analyses of drinking behavior

Native American were significantly more likely to have consumed alcohol in their life than White youth (72.1% vs. 48.9%), $\chi^2(1, n = 1{,}627) = 52.05$, $p < .001$. Among lifetime drinkers, Native American and White youth did not differ in whether they consumed alcohol over the last 30 days (59.6% vs. 68.3%), $\chi^2(1, n = 583) = 3.66$, $p < .07$. However, Native American youth were more likely to have been intoxicated at least once in the past 30 days (37.3% vs. 27.0%), $\chi^2(1, n = 864) = 8.11$, $p < .003$. Native American and White youth did not differ in their mean age at first alcohol consumption, $F(1, 760) = 1.97$, p <.16, and had their first drink around 12 years of age (*M*=12.1, *SD*=2.2 for Native Americans, and *M*=11.8, *SD*=2.6 for Whites).

Multivariate analyses of drinking behavior

When controlling for gender and age, Native American youth remained more than twice as likely as White youth to have consumed alcohol in their lifetime (Table 1). Lifetime use was also higher for older youth. Gender, however, was not a significant predictor of lifetime drinking. Native Americans and Whites did not differ (β=−.02, $p < .47$) in 30 day alcohol use (Table 2). Age was a significant predictor of alcohol use in the last 30 days (β=.29, $p <.001$), as was gender (β= .07, $p < .04$), with males being more likely to have consumed alcohol in the last 30 days. Native Americans were more likely to have been intoxicated in the last 30 days even after controlling for age and gender (β= .40, $p < .02$). Age was a predictor of intoxication (β= .32, $p < .001$), but gender was not (β= .15, $p < .33$). Age at first alcohol use did not differ by race after controlling for gender and age (β = .04, $p < .24$). Gender and age, however, were significant with males beginning drinking at a younger age than females (β= −.12, $p < .001$) and older drinkers reporting beginning drinking at an older age (β=.58, $p < .001$). This latter finding, of course, is not substantively meaningful since age of initiation is confounded with current age.

Bivariate analyses of perceived ease of access to alcohol

The means for perceived ease of access to alcohol from each of the sources were initially compared using analysis of variance. These analyses showed that Native American and White youth differed significantly on use of all sources, except for parents and home (Table 3). Specifically, Native Americans reported easier access to alcohol in general, from a store, sibling, older person, bar and party.

Multivariate analyses of perceived ease of access to alcohol

Regressions controlling for age and gender indicated that Native American youth perceived it to be easier to get alcohol from stores and bars than White youth, but more difficult from parents and from home (Table 4). The ease of getting alcohol at a party, from an older person or siblings, and in general did not differ for Native Americans and Whites once age and gender were controlled. Males found it more difficult than females to obtain alcohol at parties, from older persons, and from family-related sources. Gender was not a factor in the perceived ease of obtaining alcohol from a store, bar, or in general. Not surprisingly, age was inversely related to perceived difficulty of obtaining alcohol from all sources.

Bivariate analyses of sources for alcohol

Native American youth who drank were less likely than comparable White youth to have obtained alcohol from their own parents, but more likely to have obtained it from someone under 21 or from another adult over 21 (Table 5). Native American and White youth did not differ in their access to alcohol through friend's parents, own home, or friend's home. The number of youth who obtained alcohol directly from commercial sources (bar, restaurant, grocery or liquor store) was very small (3.0% Native American, 1.5% White), and did not permit additional analyses of differences between the two groups in regards to these sources of alcohol.

Multivariate analyses of sources for alcohol

Logistic regressions controlling for age and gender indicated that Native American youth were more likely to have obtained alcohol from adults over 21 or someone under 21 (Table 6). Specifically, Native American drinkers were almost twice as likely to have gotten alcohol from an adult and more than twice as likely as White drinkers to have obtained alcohol from someone under 21. However, White youth were four times as likely as Native American youth to have obtained alcohol from their parents. Youth did not differ in their likelihood of obtaining alcohol from a friend's parents, their own home or a friend's home. Males and females' access to alcohol differed on none of the sources. Age was a significant factor for most sources. Older drinkers were more likely to report they obtained alcohol from friend's parents, someone over 21, or someone under 21. Younger drinkers were more likely to report getting alcohol from their own parents. The primary drinking context for younger youth, however, may be within the family or family celebrations and involve only small amounts of alcohol.

Discussion

This study is consistent with other studies in finding that Native American youth were more likely to have consumed alcohol in their lifetime and more likely to have gotten intoxicated than White youth. Native American and White youth did not differ in their age of first alcohol use and 30 day use. Native American youth reported easier access to alcohol in general, as well as from parties, siblings, older persons, bars and stores. White youth did not report easier access than Native American youth for any sources. After controlling for gender and age, however, Native American youth perceived it to be easier to get alcohol from stores and bars than White youth, but more difficult to get it from parents and from home.

Native American and White youth also differed in where they actually accessed alcohol. Native American drinkers were almost twice as likely to have gotten alcohol from an adult and more than twice as likely as White drinkers to have obtained alcohol from someone under 21. On the other hand, White drinkers were four times as likely to have obtained alcohol from their parents. Youth access to alcohol from a friend's parents, or own or friend's home did not differ between Whites and Native Americans. Overall, youth in this study did not rely on commercial sources directly for alcohol, but were being provided with alcohol by friends, family members and other adults.

It has been hypothesized (Beauvais et al. 2002) that Native American parents may support their youth drinking, and use alcohol as a way to maintain family bonds. Our data do not support this among the Native Americans included in this study. Rather, they suggest that the Native American youth in our sample do not have the same access to alcohol at home as do White youth, either due to a lack of alcohol in the home, or restricted access. However, the Native American youth are still more likely to report drinking and intoxication. Findings from this study indicate that other adults should be targeted for prevention efforts for Native American youth as they are the primary providers of alcohol to them. Educating parents and other adults

about the risks and legal liability of providing adolescents with alcohol, and law enforcement strategies such as shoulder tap operations and teen party ordinances may be a useful starting point. The focus should be on parents for White youth, and other adults for Native Americans. In summary, the evidence presented here indicates that strategies that aim to limit access to alcohol through commercial sources may not be enough to reduce youth alcohol use, and that considerations of racial differences in access to alcohol are an important consideration when selecting interventions as they may need to intervene in different places for different populations.

One of the limitations of data used for this and the majority of other studies that include Native Americans is that typically only a small number of tribes are represented. This is an important consideration because alcohol use may vary in social acceptability among tribes and access to alcohol may be influenced by tribal norms and availability of alcohol for specific reservations and in specific communities. Further research should address how underage drinking norms and access to alcohol may differ among different Native American communities. In addition, this study's cross-sectional design does not provide insight into the causal relationships of the variables involved. We do not know the extent to which the source of alcohol is related to drinking, and whether drinking is influenced by the source of alcohol or the source of alcohol influences drinking behavior. Longitudinal research is needed to better ascertain the directionality of these relationships.

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Table 1

Summary of Logistic Regressions Predicting Lifetime Drinking and Intoxication

	b	SE_b	Wald	*p*	OR
Lifetime drinking					
Native American	.78	.15	25.94	< .001	2.17
Male	.12	.11	1.24	.27	1.13
Age	.53	.04	232.85	< .001	1.71
Intoxicated in last 30 days					
Native American	.40	.18	5.17	< .02	1.49
Male	.15	.16	.94	.33	1.17
Age	.37	.04	71.65	< .001	1.45

Table 2

Summary of Regression Analyses Predicting Drinking and Age of Initiation

	β	b	SE_b	*t*	*p*
30 day alcohol use					
Native American	−.02	−.07	.09	−.73	.47
Male	.07	.15	.08	2.02	< .04
Age	.29	.18	.02	8.87	< .001
Age at first alcohol use					
Native American	.04	.20	.17	1.18	.24
Male	−.12	−.63	.15	−4.22	< .001
Age	.57	.79	.04	19.52	< .001

Table 3

Mean Perceived Ease of Obtaining Alcohol[a]

Source of alcohol	Native American	White	*F*	*p*
Overall	2.39 (1.15)	2.10 (1.14)	15.04	<.001
Social Sources				
Parents	1.65 (.88)	1.70 (.91)	1.07	.30
Home	2.41 (1.02)	2.41 (1.12)	.005	.94
Sibling	2.48 (1.11)	2.30 (1.09)	8.63	< .003
Older person	2.44 (1.06)	2.18 (1.09)	16.67	<.001
Party	3.04 (1.05)	2.80 (1.15)	13.33	<.001
Commercial Sources				
Bar	1.65 (.86)	1.42 (.72)	26.86	<.001
Store	1.99 (1.03)	1.55 (.81)	79.75	<.001

Note: Standard deviations are in parentheses.

[a]Responses are on 4-point scales: 1 (very hard) to 4 (very easy)

Table 4

Summary of Regression Analyses Predicting Perceived Ease of Obtaining Alcohol

	β	b	SE_b	*t*	*p*
Easy to get alcohol					
Native American	.02	.07	.07	1.03	.30
Male	.03	.06	.05	1.18	.24
Age	.50	.31	.01	23.06	< .001
Social Sources					
Parents					
Native American	−.10	−.24	.05	−4.87	< .001
Male	−.05	−.09	.04	−2.54	< .011
Age	.45	.21	.01	22.01	< .001
Home					
Native American	−.06	−.17	.06	−2.70	< .007
Male	−.06	−.13	.05	−2.85	< .004
Age	.35	.19	.01	16.27	< .001
Sibling					
Native American	−.01	−.02	.06	−.35	.73
Male	−.09	−.19	.04	−4.33	< .001
Age	.44	.25	.01	21.75	.000
Older Person					
Native American	.01	.02	.06	.43	.67
Male	−.08	−.17	.04	−4.03	< .001
Age	.51	.28	.01	25.99	< .001
Party					
Native American	.02	.07	0.63	1.12	.26
Male	−.11	−.25	0.48	−5.22	< .001
Age	.34	.20	.012	16.11	< .001
Commercial Sources Bar					
Native American	.06	.11	.04	2.66	< .008
Male	−.01	−.01	.03	−.41	.68
Age	.34	.13	.01	16.03	< .001

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	β	b	SE_b	*t*	*p*
Store					
Native American	.13	.29	.05	6.27	< .001
Male	−.02	−.03	.04	−.74	.46
Age	.40	.18	.01	19.79	< .001

Table 5

Sources of Alcohol at Last Drinking Occasion

	% Native American	% White	χ^2	df	*p*
Own parents	9.4	30.6	37.60	1	< .001
Another adult	36.3	23.7	12.78	1	< .001
Someone under 21	27.8	15.5	15.74	1	< .001
Friend's parents	8.5	9.8	.31	1	.68
Own home or friend's home	5.2	6.0	3.08	1	.11

Table 6

Summary of Logistic Regressions Predicting Sources of Alcohol

	b	SE_b	Wald	*p*	OR
Own parents					
Native American	1.41	.25	31.20	< .000	.24
Male	−.01	.17	.01	.96	.99
Age	−.21	.05	20.56	< .000	.81
Friend's parents					
Native American	−.18	.28	.39	.53	.84
Male	−.40	.24	2.69	.10	.67
Age	.17	.06	6.74	< .009	1.18
Adult over 21					
Native American	.57	.18	10.41	< .000	1.76
Male	.05	.16	.09	.76	1.05
Age	.25	.04	31.47	< .000	1.28
Someone under 21					
Native American	.73	.19	14.70	< .000	2.08
Male	−.22	.18	1.41	.24	.81
Age	.14	.05	8.06	< .005	1.15
Own home or friend's home					
Native American	−.59	.34	3.03	.08	.55
Male	.37	.26	2.10	.15	1.45
Age	−.02	.07	.09	.77	.98

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