

# **Exploring Factors Influencing the Decision to Drink among Native Americans**

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## **Abstract**

Although Native Americans are frequently the subject of studies involving alcohol, current research rarely relies on quantitative analyses from large, nationally representative data and often focuses on alcohol misuse rather than factors influencing drinking decisions. Using Wave 2 of the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC), I examine the current drinking status (lifetime abstainer, former drinker, or current drinker) of 513 Native American respondents. After establishing that Native Americans are significantly more likely to report instances of adverse childhood experiences and dysfunction in their childhood homes than other ethnic groups, I treat these variables as risk factors for current drinking, with enculturative factors and close social ties as protective factors. Results indicate that current drinkers are more likely to have suffered through adverse childhood experiences than lifetime abstainers, while preferences for a native language and Native American peers increase the likelihood of being a lifetime abstainer.

## **Background**

A recent literature review has examined risk and protective factors for the Native American community for a variety of substance abuse outcomes (Whitesell et al. 2012). These factors included biological processes, psychiatric risk, demographic factors, trauma experience, cognitive behavioral processes, and cultural identity on the individual level, with interest in

social networks, community context, and service systems on a contextual level. In this analysis, I operationalize many of these concepts, test for significant differences between Native Americans and other ethnic groups, and then use them as predictors for drinking status. Establishing the influence of both protective and risk factors on drinking status may aid in prevention or intervention efforts. This analysis will contribute to the literature using nationally representative data to establish significant differences in risk and protective factors for alcohol use.

Contemporary Native Americans are still thought to be plagued by historical trauma, the “legacy of colonization and federal assimilation policies” (Whitesell et al. 2012: 379). While there are no direct measures of this concept, I examine adverse childhood experiences and family dysfunction. Adverse childhood experiences have been linked to a multitude of negative outcomes for adolescents and adults including alcohol use, substance use and internalizing mood disorders such as anxiety and depression (Rosenberg 2011; Rice et al. 2011; Fetzner 2011; Shilling et al. 2007). Commonly studied adverse childhood experiences include physical neglect, emotional neglect, verbal abuse, physical abuse, sexual abuse, and witnessing aggression toward mother. Often, adverse experiences do not occur in isolation and are experienced in combination with other adverse experiences. Felitti et al. report that experiencing four or more categories of adverse childhood experiences “had a 4-to 12-fold increased health risks for alcoholism, drug use, depression and suicide attempt” (1998:245). Similarly, multiple adverse childhood experiences have been linked with both the likelihood of ever drinking and earlier age of first drink in adolescence (Dube et al. 2006).

Aspects of a dysfunctional home as a child may also impact adult drinking decisions. A parent with a drug or alcohol problem may set an example for children. Dube et al. (2001) find

that parents' alcohol misuse is strongly correlated with adverse childhood experiences, suggesting that children of alcoholic parents are at higher risk for experiencing maltreatment. Although parent alcohol abuse may have a genetic component, it may also be indicative of negative childhood experiences. For adolescents, maltreatment is a robust risk factor for binge drinking, even when parental alcohol abuse is controlled (Shin, Edwards and Hereen 2009). Adolescents who have experienced maltreatment are also more likely to initiate alcohol use in their preteen years (Hamburger et al. 2008). A study interested in the impact on African American children with incarcerated fathers found that the fathers suffer poor economic outcomes and are less involved with their children (Perry and Bright 2012). Parent incarceration has also been linked to child behavioral problems and depression (Wilbur et al. 2007). Other factors such as households in which a parent suffers from a mental illness, attempts suicide, or commits suicide could also impact a child emotionally and economically.

Enculturation, or the practice of one's own culture, may impact drinking tendencies. This concept can be thought of as the opposite of acculturation, in which an individual assimilates into a new host country's culture. One aspect of enculturation is the preference to spend time with members of one's own race. As Wimmer and Lewis (2011) point out, studies of racial homophily have ranged from social networks through adolescence and adulthood, friendship, and marriage. These authors argue that racial homophily is a product of 1) ethnic-homophily and aggregation of sub-ethnic groups, 2) increased by friendship reciprocity and meeting same-race friends through other same-race friends and 3) socioeconomic, regional and cultural tastes. As an example, they find a direct relationship between racial backgrounds and racial homophily in networks on Facebook, particularly for African American college students. Similarly, in a "newcomer" setting of first year MBA students, Mollica, Gray and Trevino (2003) find that race

homophily is more salient for African American students than Hispanics and whites. Although these studies do not focus on Native Americans, the basic concepts could be applied. These preferences for members of the same race may impact substance use outcomes by either protecting from outside group influences or encouraging behavior.

Beauvais (1998) suggests that an established link between ethnic or cultural identification and substance use remains “elusive.” Broad ethnic categories contribute to this problem. He determines that “despite the paucity of findings, most investigators are unwilling to concede that a higher level of identification with culture is not, in some way, ‘protective’ against substance use,” instead concluding that these effects are subtle and often influenced by other factors (1331). Researchers may be hesitant to accept negative findings between the relationship between ethnic and cultural identification for American Indians in particular given their history of oppression (Cheadle and Whitbeck 2011; Frank et al. 2000; Prussing 2007; Collins and McNair 2002). Grouping together all American Indian tribes is also problematic (Gomberg 2003) due to the heterogeneity of tribes, but is often necessary for quantitative analysis. James et al. (2000) find that ethnic minorities with high levels of cultural identity was actually associated with heavy drug use. Similarly, Marsiglia et al. (2001) finds that while ethnic pride does not influence alcohol or drug use, identifying with ethnic behavior, speech, or appearance significantly increases the number of drugs an individual is offered and significantly decreases the age when they first used drugs. Another study by Marsiglia et al. (2004) of preadolescents finds that a positive racial identity, measured by strong ethnic affiliation, pride and attachment, was associated with “less substance use and stronger antidrug norms in the sample overall, though this relationship was stronger for non-Hispanic Whites than Mexican American or American Indian students.

Other protective factors may be language preference and a supportive social network. Social networks have also been included as protective factors against substance abuse among Native American populations (Whitesell et al. 2012), and health in general. Although different tribes across geographical reasons speak different languages, a preference for that language may be a universal indicator of enculturation.

## **Data and Measures**

Wave 2 of the NESARC was collected between 2004 and 2005, with a total of 34,457 respondents. Its sample includes citizens and noncitizens who are noninstitutionalized, age 18 or older at the time of Wave 2. In each household, one person was randomly selected, with an oversampling of respondents aged eighteen to twenty-five at a rate of 2.25 times other household members. Non-Hispanic Blacks were also oversampled increasing the sample from about 12.3 percent to 19.1 percent and Hispanic households from 12.5 percent to 19.3 percent. This analysis is limited to respondents who selected “American Indian/Alaska Native, non-Hispanic” as their racial/ethnic background. This group may also contain individuals of mixed heritage.

Key risk factor measures in this analysis include *family dysfunction* (saying “yes” to living in a household before the age of eighteen in which an adult in the household had a problem with alcohol, a problem with drugs, went to jail or prison, was treated or hospitalized for a mental illness, attempted suicide, or committed suicide), and summed measures of recalled *adverse childhood experiences* (physical neglect, physical abuse, verbal abuse, and sexual abuse) based on recoded responses. The presence of sexual abuse was based on questions about how often the respondent reported the unwanted sexual intercourse, attempted sexual intercourse, touching or fondling by an adult, being forced to touch or fondle an adult, before the age of eighteen. Missing cases were removed, and any response other than “never” was collapsed into

“yes.” This same method for coding the sexual abuse variable was used for verbal abuse (how often parent or caregiver swore, insulted or said hurtful things to the respondent, hit or threw things at the respondent, or instilled fear that the respondent would be physically hurt or injured), physical abuse (how often adult or caregiver pushed, grabbed, shoved, slapped, or hit respondent, and how often parent or caregiver hit the respondent so hard that it left marks, bruises, or injury). Measures of physical neglect include performing chores that are too difficult or dangerous, being left unsupervised before the age of ten, went without because parents spent money on themselves, went hungry or without regular meals, or failed to get treatment when sick. These measures together make a scale that ranges from zero to four.

*Level of enculturation* is measured with three indicators: *Language preference* for using non-English languages; *social preference* for same- or intra-ethnic social ties and interactions; and, *racial identity*. Based on the same reasoning as the “health immigrant effect,” racial minorities who are more enculturated rather than assimilated may suffer fewer alcohol misuse issues. Data for the enculturation measures are included only in the second wave of the NESARC. The measures are based on comparable questions asked of respondents from multiple racial/ethnic groups, though the language preference questions were not asked of respondents that speak only English. The *language preference* measure is based on seven questions regarding which language a respondent uses in five different situations (e.g., reading, speaking, speaking with a child, when thinking, or listening to the radio). Possible responses were: (1) only native language, (2) more native language than English, (3) both languages equally, (4) more English than native language, (5) and only English. After reverse coding and summing across the questions, the final language preference measure had a range of seven to thirty-five

with higher values indicating a greater preference for using the native language over English. English-only respondents were given a value of seven on the scale.

The *social preference* measure is based on respondents' expressed racial/ethnic preference for (1) close friends, (2) people at the social gatherings and parties they prefer to attend, (3) people they visit with, and (4) their children's friends if they could choose. Possible responses are: All from my racial/ethnic group; more from my racial/ethnic group than other groups; about half and half; more from other groups; and, all from other groups. I reverse coded and summed the responses to construct a summary measure of social preference (range of four to twenty) with higher values indicating a greater preference for one's own group.

The strength of *racial identity* is based on a six questions on racial/ethnic orientation. Respondents were asked how strongly they agree or disagree (five-point scale) that: (1) they have a strong sense of self as a member of their racial/ethnic group; (2) they identify with other people from their racial/ethnic group; (3) most of their close friends are from their racial/ethnic group; (4) racial/ethnic heritage is important in their life; (5) their racial/ethnic background plays a big part in how they interact with others; and, (6) their values, attitudes and behaviors are shared by most members of their racial/ethnic group. After reverse coding as needed and summing the responses, the racial identity measure had a range of eight to forty-eight with higher values indicating a stronger identification with one's racial or ethnic group.

## **Methods**

First, I ran cross tabulations of ethnicity and the predictor variables of interest. To test for significant differences between Native Americans and other racial groups, I performed logistical regressions of the predictor variables (i.e. sexual abuse) with only the race variable in the model, using Native Americans as a reference group. Next, I conducted multinomial logistic

regressions with each control variable to determine which best fit the model. Any variables that significantly influenced drinking status in the past twelve months without including other variables were kept in the model. Next, adverse childhood experiences were added independently to test for significance. Again, only significant variables were kept. I followed the example of Felitti and colleagues (1998) and summed adverse childhood experiences to capture the effect of cumulative forms of abuse. This process continued for family dysfunction, receipt of welfare as a child, and protective factors. Model 1 includes the effect of control variables on drinking status, while model 2 adds adverse childhood experiences, and model 3 adds enculturative variable and close social ties.

## **Results**

Table 1 suggests that Native Americans are more likely than other racial/ethnic groups to report recalled experience childhood abuses and households where adults suffered from dysfunction. Establishing that these experiences occur more frequently to Native Americans may explain a propensity toward alcohol use as a coping mechanism. A noteworthy finding in this analysis is that Native Americans are significantly more likely than any other racial group to report living in a household where an adult or caregiver had a problem with alcohol. Although a biological predisposition for alcohol misuse may exist for Native Americans, treatment of this variable as an adverse childhood experience is also appropriate for looking at drinking status. Native American respondents are more significantly more likely to report an adult or caregiver attempting suicide than other racial/ethnic groups, but are only more likely than Hispanics to have an adult successfully commit suicide. With the exception of physical neglect of Hispanics, Native Americans are significantly more likely than all other racial/ethnic groups to suffer from each type of abuse.



The racial/ethnic differences in protective factors are more mixed. Native Americans are only significantly more likely to report higher numbers of close social ties than other groups. Other minority groups actually reported higher levels of ethnic identification than Native Americans. Ethnic identification is often tested as a protective factor for Native Americans for a variety of alcohol and substance use outcomes (Beauvis 1998).

Table 1. Racial/Ethnic Differences in Risk and Protective Factors

	White	Black	Asian	Hispanic
<b>Recalled Childhood Experiences</b>				
Adult Problem w/ Alcohol	-.452***	-.607***	-1.706***	-.517***
Adult Problem w/Drugs	-.395**	-.203	-.643**	-.303†
Adult Incarceration	-.518***	-.106	-.888***	-.245†
Adult Mental Illness	-.114	-.414*	-.624**	-.543***
Adult Attempted Suicide	-.470**	-1.046***	-.779***	-.697***
Adult Committed Suicide	.003	-.441	-.102	-.561*
Childhood Welfare	-.777***	.351***	-1.326***	-.322***
Childhood Physical Neglect	-.449***	-.415***	-.272**	-.124
Childhood Verbal Abuse	-.397***	-.297***	-.734***	-.555***
Childhood Physical Abuse	-.302***	-.256***	-.734***	-.447***
Childhood Sexual Abuse	-.691***	-.471***	-1.458***	-.690***
<b>Protective Factors</b>				
Preference for Native Language	-.447**	-.318*	8.956***	11.262***
Preference for Native Peers	.436***	.303*	-1.033***	.203
Strong Ethnic Identity	.129	3.137***	1.1145***	2.931***
Close Social Ties	-1.195***	-1.035**	-1.893***	-1.455***

Compared to Native Americans. Reference for each recalled childhood experience is not experiencing the given scenario. Adults in the household are parents or other caregivers. p<.001\*\*\*; p<.01\*\*; p<.05\*; p<.10†.

After establishing the differences between Native Americans and other racial/ethnic groups in both protective and risk factors, I incorporate these variables into a multinomial logistic regression of drinking status within the past twelve months. Table 2 represents the final (third) model for lifetime abstainers and former drinkers compared to current drinkers. Although not shown, the differences between lifetime abstainers and former drinkers will also be discussed.

Results are discussed in terms of relative risk ratios, so values greater than 1 indicate higher risk, while values less than 1 indicate lowered risk compared to the reference group.

Table 2. Final Multinomial Logistic Regression of Lifetime Abstainers and Former Drinkers Versus Current Drinkers

	Compared to Current Drinkers			
	Lifetime Abstainers		Former Drinkers	
	RRR	95% CI	RRR	95% CI
<b>Age (Ref : 20-30)</b>				
<b>31-45</b>	.709	.270-1.859	1.537	.632-3.737
<b>46-60</b>	2.334	.847-6.423	5.219***	2.127-12.804
<b>60 +</b>	3.935*	1.281-12.082	8.082***	3.026-21.585
<b>Male (Ref: Female)</b>	.228***	.115-.454	.571*	.354-.919
<b>Children Present in the Home (Ref: No)</b>	1.935	.861-4.344	1.430	.777-2.634
<b>Paid Work Past 12 Months (Ref: No)</b>	.913	.455-1.829	1.036	.604-1.777
<b>Education (Ref: &lt; Hs)</b>				
<b>High School</b>	.730	.314-1.700	.658	.326-1.330
<b>Some College</b>	.348*	.144-.841	.598	.302-1.185
<b>College Degree</b>	.368†	.123-1.098	.530	.231-1.212
<b>Income (Ref: Low-&lt;25,000k)</b>				
<b>Mid (27,500k-55,000k)</b>	.726	.361-1.462	.460**	.266-.794
<b>High (55,001k +)</b>	.342*	.132-.884	.244***	.119-.502
<b>Adverse Childhood Experiences (0- 4)</b>	.699**	.557-.879	.953	.805-1.129
<b>Preference for Native Language (7-35)</b>	1.077*	1.006-1.153	.983	.911-1.061
<b>Preference for Native Peers (4-20)</b>	1.181***	1.076-1.270	1.076†	1.000-1.159
<b>Strong Ethnic Identification (12-48)</b>	1.002	.954-1.053	1.012	.976-1.049
<b>Close Social Ties (0-90)</b>	1.021†	.998-1.044	1.010	.989-1.030
<b>Constant</b>	.043**	.005-.378	.116*	.019-.709

p<.001\*\*\*; p<.01\*\*; p<.05\*; p<.10†. Log likelihood = -387.47438. N=513.

Compared to the youngest age category that includes twenty to thirty year olds, individuals over the age of sixty are more likely to be lifetime abstainers and former drinkers, while the next oldest category from forty-six to sixty are more likely to be former drinkers than current drinkers. Other significant relationships that remain intact across models indicating a decreased relative risk of being a lifetime abstainer compared to a current drinker are being male

(compared to being female), having at least some college or a college degree (compared to having no high school degree), and having a high income (compared to low income).

Recalling adverse childhood experiences decrease the relative risk ratio for being a lifetime abstainer rather than a current drinker, though individuals reported adverse childhood experiences are more likely to be former drinkers rather than lifetime abstainers. These relationships held their significance even after enculturation measures were added, with the relative risk ratio rising slightly. Measures of dysfunction were neither significant independently nor as a summed measure, so they were excluded from analysis.

Compared to current drinkers, lifetime abstainers are more likely to report a preference for both a native language and Native American peers. There was only a marginally significant difference between former drinkers and current drinkers in preference for same-raced peers, with higher preference leading to individuals being more likely to be former drinkers than current drinkers. Lifetime abstainers are also significantly more likely to prefer Native American peers than former drinkers. Ethnic identification was not a significant predictor of drinking status of any category. The number of close social ties made individuals marginally more likely to be lifetime abstainers than current drinkers.

## **Discussion and Conclusion**

Although Native American respondents are more at risk for many measures of adverse childhood experiences and household dysfunction than other racial groups, only adverse childhood experiences impacted drinking status in the past twelve months. These findings suggest that recalled adverse childhood experiences make respondents more likely to be current drinkers than lifetime abstainers but not former drinkers, though more likely to be a former

drinker than a lifetime abstainer. The highest income tertile is significantly more likely than the lowest tertile to be a current drinker compared to former drinkers and lifetime abstainers, possibly indicating better access to alcohol. Future studies will examine the factors described in this study on specific alcoholic beverage consumption.

Although measures of family dysfunction in the childhood home were expected to influence current drinking status, they had no effect as either individual measures or a summed measure. These factors may be more significant when predicting alcohol misuse. Another explanation may be that the effects of family dysfunction may not linger into adulthood as much as the trauma of abuse as a child.

The largest differences appear to be between lifetime abstainers and current drinkers. The risk and protective factors examined here may have more influence on an individual's specific types of alcoholic beverages consumption, the quantity consumed, and misuse outcomes such as binge drinking, drunk driving, or alcohol abuse and dependence. Moving forward with these analyses, I have already established that Native Americans with as strong preference for a native language and other Native American peers have been selected out of misuse models. The number of close ties could also be a key for preventing alcohol initiation, especially for Native American youth. Adverse childhood experiences and family dysfunction may also play out differently in looking at misuse outcomes.

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