

# Ethnicity and Psychiatric Comorbidity Among Alcohol-Dependent Persons Who Receive Inpatient Treatment: African Americans, Alaska Natives, Caucasians, and Hispanics

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This study examined ethnic and gender differences of psychiatric comorbidity among alcohol dependent men and women from four ethnic groups: Alaska Native, Caucasians, African Americans, and Hispanics. The data were obtained through individual standardized interview; DSM-III-R diagnoses were obtained via a computer algorithm. The subjects included 1177 Caucasians, 361 African Americans, 93 Hispanics and 486 Alaska Natives. Significant ethnic differences were found in relation to age of onset of alcohol and multiple substance dependence and psychiatric comorbidity. Ethnic differences were also noted with regard to the health care utilizations.

**Key Words:** Alcohol, Ethnicity, Co-occurring disorders.

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**R**ECENT epidemiological studies suggest that rates and patterns of alcohol use and alcohol-related problems differ among various ethnic groups in the US. Among studies of community samples, Caucasians are consistently found to have higher rates of alcohol use than African Americans. The 1999 National Household Survey found that the highest rate of alcohol use during the month before the survey was reported by Caucasians (51%). Alcohol use among African Americans, Hispanics, and American Indian/Alaska Natives is similar and lower than that of Caucasians (35.6, 39.94, and 34.8%, respectively; Department of Health and Human Services, Substance Abuse and Mental Health Service Administration, 2000).

Among clinical samples, a study of Veterans Administration patients also found ethnic and age variations with regard to how these patients came to treatment for their alcohol problems. Non-Caucasian alcoholics tended to be younger than Caucasian alcoholics, and Hispanic and African American men with alcohol problems were more

likely than Caucasian men to be hospitalized for a diagnosis other than alcoholism. Native Americans, however, were the most likely to complete alcoholism treatment. Further, Native Americans have high rates of alcohol-related social and health problems (Booth et al., 1992). However, most studies that sample American Indians often do not include Alaska Natives. This is unfortunate, because high quantities and frequencies of drinking that result in social and health problems have been reported among Alaska Natives (Hesselbrock et al., 2000; Hisnanick, 1992; Parks et al., 2001). Despite the seriousness of their alcohol-related problems, systematic studies of Alaska Natives receiving treatment for alcohol dependence are rare. Because there is a lack of comparative data with other ethnic groups, alcohol use patterns and the development of alcohol-related problems of Alaska Natives and non-Alaska natives cannot be compared. This study examined ethnic differences and similarities in terms of psychiatric comorbidity and multiple substance dependencies among clinical samples of four ethnic groups—Alaska Natives, Caucasians, African Americans, and Hispanics—receiving treatment for alcohol dependence.

## METHODS AND PROCEDURES

Subjects in this study came from two separate studies that used identical assessment methods. All data were collected between 1989 and 1995. The Caucasian, Hispanic, and African American subjects were participants in the Collaborative Study on the Genetics of Alcoholism (COGA). All potential alcoholic probands were recruited from consecutive admissions to both inpatient and outpatient alcohol-treatment facilities. The Alaska Native subjects were recruited from consecutive admissions to three public alcohol-treatment facilities that serve a substantial number of

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**Table 1.** Demography and Ethnicity (Treated Alcohol-Dependent Subjects)

Variable	Male				Female			
	Caucasian	African American	Hispanic	Alaska Native	Caucasian	African American	Hispanic	Alaska Native
No. of subjects	854	260	67	267	323	101	16	219
Education** (%)								
<10th grade	6.3	5.8	7.5**	5.2	8.7	10.9	25.0	16.0
10th to < high school	9.8	23.1	16.4	10.9	9.3	22.8	25.0	20.1
High school/GED	42.0	41.5	43.2	62.9	39.6	42.6	18.8	43.4
GED only	12.8	12.9	17.9	34.4	13.3	16.9	12.5	20.6
Some college/college	41.8	29.6	32.8	21.0	42.4	23.8	31.3	20.5
Marital status** (%)								
Married	30.9	24.6	23.9	13.9	37.8	15.8	31.3	17.7
Divorced/separated/widowed	37.2	38.1	37.3	22.8	39.3	36.6	43.8	41.8
Single	31.9	37.3	38.8	63.3	22.9	47.5	25.0	40.5
Employment** (%)								
Not employed	48.2	67.5	69.7	81.4	51.9	73.0	62.5	88.0
Employed part-time	6.6	3.6	1.5	6.6	13.7	4.0	12.5	4.6
Employed full-time	45.2	28.9	28.8	12.0	34.4	23.0	25.0	7.4
Income** (%)								
Less than \$10K	23.7	36.9	38.5	62.9	24.3	48.0	31.3	62.7
\$10 to < \$20K	20.3	26.3	3.1	15.0	18.6	24.0	50.0	20.9
\$20 to < \$30K	14.9	18.8	30.8	6.7	20.2	6.0	12.5	7.7
> \$30K	41.1	18.0	27.7	15.4	36.9	22.0	6.3	8.6
Mean age (years)*	39.7	39.0	36.7	33.8	36.5	38.0	38.0	33.5
Mean years of education	12.5	11.8	11.9	11.3	12.4	11.7	11.3	10.9
Age of onset of alcohol dependence*	21.9	21.9	19.5	18.7	23.4	25.0	23.3	20.2

GED, high school equivalent certificate.

Ethnic difference: \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

Alaska Natives in the greater Anchorage metropolitan area. All three facilities provide long-term inpatient treatment for alcoholism after detoxification. All subjects were provided with a brief description of the research project and details of their participation. Assurances of privacy and confidentiality concerning the data to be provided were given to each subject by the research staff.

A complete and detailed lifetime psychiatric history was obtained from each adult subject by using the Semi-Structured Assessment for the Genetics of Alcoholism (Bucholz et al., 1994; Hesselbrock et al., 1999). The Semi-Structured Assessment for the Genetics of Alcoholism interview schedule covers the major DSM-III-R and DSM-IV axis I psychiatric disorders, as well as antisocial personality disorder (ASPD). Psychiatric diagnoses were derived on the basis of computer algorithms for DSM-III-R diagnoses.

All subjects for this study met the DSM-III-R criteria for alcohol dependence and received inpatient treatment for alcoholism (APA, 1987, 1984). The study sample was composed of 854 Caucasian men and 323 Caucasian women, 260 African American men and 101 African American women, 67 Hispanic men and 16 Hispanic women, and 267 Alaska Native men and 219 Alaska Native women. Demographic features of the sample are reported in Table 1. Alaska Native men and women were the youngest, whereas the mean ages of African American men and Caucasian men were similar and the highest. The mean ages of Caucasian and African American women and Hispanic men and women fell in between. Between-group differences were found for ethnicity and gender with regard to educational achievement of the subjects. A higher proportion of men than women reported graduating from high school, receiving a high school equivalent certificate, or receiving higher education across all ethnic groups. Although fewer than 20% of Caucasians reported less than a high school education, one third of African Americans and one fourth of Hispanic and Alaska Native subjects did not graduate from high school. However, a high proportion of Alaska Native men and women earned a high school equivalent certificate compared with Hispanic men and African American women.

With regard to marital status, the highest rate of current marriage was reported by Caucasian women, followed by Hispanic women and Caucasian men. Less than 20% of Alaska Native men, African American women,

and Alaska Native women reported currently being married. Divorce or separation rates were similar across ethnic groups. Hispanic women and Alaska Native women reported the highest rates of divorce or separation, whereas Alaska Native men reported the lowest rates. A high proportion of Alaska Native men and women reported earning less than \$20,000/year, whereas few Caucasian men and women earned less than \$20,000/year. The low family incomes among Alaska Natives reflect their subsistence lifestyle. Among African American and Hispanic subjects, more women than men reported an annual income of less than \$20,000.

## RESULTS

### *Psychiatric Comorbidity*

The lifetime prevalence of comorbid psychopathology was also examined in this sample (see Table 2). The most common comorbid lifetime DSM-III-R axis I psychiatric disorder was major depressive disorder, with women reporting higher rates than men. The rates of lifetime major depressive disorder within (inclusive) and outside (exclusive) the context of drinking and drug use are presented separately. Most of the reported depressive symptoms occurred within the context of heavy drinking or after cessation of a period of heavy drinking. Alaska Native and Caucasian men reported higher rates of alcohol-related and non-alcohol-related major depressive disorder than African American and Hispanic men. Further, women reported higher lifetime rates of all other axis I disorders as compared with men. Although the rates were much lower, a similar pattern of differences was noted in terms of the rates of panic disorder and social phobia. The lifetime rates of mania, agoraphobia, and obsessive-compulsive disorder were low and similar among the different groups of men.

**Table 2.** Lifetime Comorbid Psychopathology by Ethnicity (%)

Variable	Male				Female			
	Caucasian	African American	Hispanic	Alaska Native	Caucasian	African American	Hispanic	Alaska Native
Anorexia nervosa	0.1	0	0	0	4.7	0	0	0.9
Bulimia	1.1	1.6	0	0	6.9	4.0	0	5.0
Major depressive disorder, inclusive**	52.0	43.8	34.4	54.7	69.9	52.0	62.5	64.1
Major depressive disorder, exclusive**	13.3	5.8	4.5	10.5	24.1	10.0	18.8	12.7
Mania, exclusive	2.1	2.3	1.5	0.4	4.7	1.0	12.5	0.5
Panic disorder*	4.4	0.8	1.5	3.0	14.1	4.0	12.5	5.0
Agoraphobia	2.0	1.6	4.5	3.0	3.4	2.0	0	2.7
Social phobia	3.4	3.1	1.5	7.5	6.3	5.0	6.3	5.9
Obsessive-compulsive disorder	2.9	3.9	0	3.4	6.9	1.0	6.3	2.3
Antisocial personality disorder**	25.1	25.9	36.4	38.6	11.0	8.0	31.3	20.5

Ethnic difference: \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

**Table 3.** Polysubstance Dependence and Ethnicity (%)

Variable	Male				Female			
	Caucasian	African American	Hispanic	Alaska Native	Caucasian	African American	Hispanic	Alaska Native
Opioid dependence	14.9	20.5	19.4	12.7	17.8	12.0	25.0	11.4
Sedative dependence**	17.5	10.4	14.9	9.4	23.1	4.0	31.3	11.8
Stimulant dependence**	24.1	13.9	25.4	15.7	26.5	3.0	43.8	11.4
Cocaine dependence**	39.4	61.0	52.2	40.4	41.1	68.0	50.0	51.4
Marijuana dependence**	43.8	44.8	46.3	66.7	39.3	29.0	31.3	47.7

Ethnic difference: \*\*  $p < 0.01$ .

Among women, Caucasians tended to report the highest lifetime rates of depressive disorder, eating disorders, and anxiety disorders, whereas Hispanic women reported the highest rate of mania. Hispanic women followed Caucasian women in relation to the lifetime prevalence of major depressive disorder, panic disorder, social phobia, and obsessive-compulsive disorder. African American and Alaska Native women reported similar and lower rates of DSM-III-R axis I disorders than Caucasian and Hispanic women. Eating disorders were reported only among women. Only Caucasian women reported anorexia nervosa, whereas Caucasian, African American, and Alaska Native women reported bulimia. Neither Hispanic men nor women reported a history of eating disorders.

ASPD, an axis II disorder, was more common among men than women across all ethnic groups. ASPD was more common among Alaska Native and Hispanic men than African American and Caucasian men. Among women, the rate of ASPD was highest among Hispanic women, followed by Alaska Native women. Lower and similar rates of ASPD were found among Caucasian and African American women.

### Polysubstance Dependence

The rates of other lifetime substance dependencies also varied among the four ethnic groups. Marijuana and cocaine dependence were the most frequent drug dependencies among men and women across all ethnic groups (see Table 3). Among men, the highest lifetime rate of cocaine dependence was found among African American men fol-

lowed by Hispanic men. Alaska Native and Caucasian men reported similar rates of cocaine dependence that were lower than those reported by the African American and Hispanic men. African American and Hispanic men also reported higher rates of opioid dependence than Caucasian and Alaska Native men. The highest rate of sedative dependence was reported by Caucasian men, followed by Hispanic men. The rates of stimulant dependence were similar among Caucasian and Hispanic men. The rates of sedative dependence and stimulant dependence were similar between African American and Alaska Native men and were lower than those found for Caucasian and Hispanic men.

The rates of polysubstance dependence among women were lower than those for men in the sample, except for cocaine dependence. All groups of women reported similar or higher rates of cocaine dependence as compared with men in the different ethnic groups. African American women reported the highest rate of cocaine dependence, whereas Caucasian women had the lowest rate of cocaine dependence. The highest rate of marijuana dependence was reported by Alaska Native women, followed by Caucasian women. Hispanic women reported the highest dependence rates on opiates, sedatives, and stimulants, whereas African American women reported the lowest rates of dependence on these substances.

### Age of Onset of Psychiatric Disorders

Ethnic differences were found with regard to the age of onset of depressive disorder and agoraphobia (see Table 4).

**Table 4.** Age of Onset of Psychiatric Disorders by Ethnicity (%)

Variable	Male				Female			
	Caucasian	African American	Hispanic	Alaska Native	Caucasian	African American	Hispanic	Alaska Native
Depressive disorder**	32.8	32.7	31.2	27.4	30.0	33.0	30.9	28.3
Suicide attempt*	26.1	27.0	25.5	21.8	22.9	20.9	24.7	20.5
Panic disorder*	24.6	23.5	24.3	19.2	22.0	31.8	23.0	24.6
Obsessive-compulsive disorder	19.6	22.4	17.5	19.2	18.6	15.8	27.0	23.1
Agoraphobia	20.9	19.4	24.7	13.0	19.9	15.4	23.0	16.2
Alcoholism	23.6	23.7	21.8	19.9	25.0	26.4	24.6	21.1

Ethnic difference: \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

**Table 5.** Age of Onset of Substance Dependence by Ethnicity (%)

Variable	Male				Female			
	Caucasian	African American	Hispanic	Alaska Native	Caucasian	African American	Hispanic	Alaska Native
Alcohol*	23.6	23.7	21.8	19.9	25.0	26.4	24.6	21.1
Marijuana	18.7	20.0	17.8	18.3	19.2	21.8	20.3	19.4
Cocaine	24.7	28.5	22.8	23.9	23.9	27.5	24.6	24.6
Stimulants	22.3	21.6	19.4	19.7	21.2	21.7	22.3	19.1
Sedatives	22.8	22.7	28.9	22.8	23.2	21.7	27.0	22.6
Opiates*	23.7	26.3	23.2	23.2	23.9	26.4	23.8	21.6

Ethnic difference, gender: \*  $p < 0.05$ .

**Table 6.** Professional's Consulted and Additional Treatment for Alcohol Problems (%)

Variable	Male				Female			
	Caucasian	African American	Hispanic	Alaska Native	Caucasian	African American	Hispanic	Alaska Native
Ever consulted (lifetime)								
Psychiatrist**	67.0	61.7	56.5	22.2	71.1	56.8	68.8	35.1
Other medical doctor**	61.8	67.9	58.1	37.4	62.2	68.4	31.3	45.0
Psychologist**	50.6	43.3	41.9	12.8	55.3	38.9	18.8	20.4
Other mental health professional	86.3	88.8	87.1	98.4	85.9	90.5	87.5	99.5
Clergy	30.4	33.8	25.8	28.8	26.0	27.4	37.5	21.8
Who consulted first**								
Psychiatrist	14.8	12.9	12.9	7.0	20.1	15.8	31.3	9.5
Other medical doctor	19.7	28.3	19.4	10.9	16.4	25.3	6.3	18.0
Psychologist	8.5	0.4	8.1	1.9	10.5	1.1	6.3	0.9
Other mental health professional	45.1	43.8	53.2	65.0	42.4	50.5	43.8	62.6
Clergy	6.9	11.3	4.8	13.2	4.6	6.3	12.5	7.6
Additional treatment								
Alcoholics Anonymous	90.3	85.0	86.6	76.3	92.0	88.1	87.5	72.9
Outpatient treatment (alcohol)	53.3	58.8	56.7	39.8	52.3	65.3	62.5	44.0
Outpatient treatment (non-alcohol)	7.4	8.1	9.0	9.8	10.2	15.8		14.2
Inpatient with medical complications	10.4	13.8	4.5	12.8	11.8	13.9	18.8	14.2

Ethnic difference, gender: \*\*  $p < 0.01$ .

Alaska Native men and women had earliest age of onset of depressive disorder and agoraphobia. African American women reported a later age of onset of depressive disorder than any other ethnic group. A significant ethnic difference was found in terms of age of onset of alcoholism and cocaine dependence (see Table 5). Alaska Native men reported the earliest age of onset, whereas Hispanic men reported cocaine dependence at the earliest age. Among women, Alaska Native women reported the earliest age of onset of alcohol dependence, whereas African American women reported the latest age of onset. Much older ages of onset for cocaine dependence were reported by African American men and women relative to the other groups. Marijuana dependence was the first substance dependence problem among all ethnic groups.

#### *Consultation With Professionals and Types of Alcohol Treatment Received*

The most widely consulted professionals for alcohol problems by all ethnic groups were mental health professionals (other than psychiatrists), other medical doctors, or psychiatrists (see Table 6). Almost all Alaska Native men and women ( $\geq 98\%$ ) and 86–90% of men and women in the other ethnic groups had consulted with a mental health professional other than a psychiatrist, another medical doctor, or a psychologist for their alcohol problems. More than half of Caucasian, African American, and Hispanic men said that they consulted with a psychiatrist or other medical doctor. Approximately 40–50% of men in these three ethnic groups consulted with a psychologist, whereas only a

small number of the Alaska Native men used these professionals. When medical professionals were consulted, alcohol-dependent Alaska Native men and women tended to see nonpsychiatry medical specialists. Alaska Native men and women rarely saw psychologists for their alcohol problems. Approximately one third of men in all four ethnic groups reported having consulted with clergy for their alcohol problems.

Among women, similar trends were found in terms of the utilization of professional services. However, Hispanic women tended to consult with psychiatrists more than other medical doctors, whereas Alaska Native women tended to consult with medical doctors other than psychiatrists. Psychologists were consulted by half of Caucasian women and slightly more than one third of African American women. Only approximately 20% of Alaska Native and Hispanic women consulted with psychologists. More than one third of Hispanic women tended to consult with clergy, whereas Alaska Native women had the lowest rate of consultation with clergy.

Although subjects in this study often consulted medical and psychology professionals for alcohol problems, the first professional contact tended to be with other mental health professionals for both men and women across all ethnic groups. Two thirds of the Alaska Native men and women and approximately half of Caucasian, African American, and Hispanic men and women said that their first treatment contact for alcohol problems was with a mental health professional other than a psychiatrist or a psychologist. Other mental health professionals were the initial contact for approximately two thirds of Alaskan Native men, whereas nearly half of Hispanic, Caucasian, and African American men contacted these professionals first. Other medical doctors were the second most frequent point of initial contact for alcohol problems by men in all four ethnic groups. The third highest initial contact by men was with psychiatrists, except for Alaska Native men, whose initial contact was with clergy. Psychologists were rarely the first consultation for either men or women in any ethnic group.

Similarly, two thirds of Alaska Native women consulted other mental health professionals first for their alcohol problems. Approximately half of Caucasian, African American, and Hispanic women also contacted other mental health professionals first for alcohol problems. However, Caucasian and Hispanic women also frequently contacted a psychiatrist. Alaska Native women and African American women and men contacted medical doctors more frequently than psychiatrists. Psychologists and clergy were rarely used as the first contact for alcohol problems by either men or women in this sample.

In addition to inpatient treatment, other services were previously used by men and women in the study. Alcoholics Anonymous attendance was reported by most subjects, with the highest utilization reported by Caucasians, followed by African American and Hispanic subjects. Alaska Native

men and women reported the lowest contact with Alcoholics Anonymous. Outpatient alcoholism treatment was used by two thirds of African American and Hispanic women. Approximately half of Caucasian men and women, African American men, and Hispanic men reported using outpatient alcoholism treatment. Alaska Native men and women reported the lowest rates of outpatient alcoholism treatment utilization. Although the rates were low, more than 10% of subjects (except for Hispanic men) reported receiving inpatient treatment because of associated medical complications.

## DISCUSSION

Similar to other studies of clinical samples, ethnic and gender differences were found in relation to age of onset of different drinking variables and treatment utilization. Men typically reported an earlier onset of regular and chronic drinking and more serious social, psychiatric, and physical consequences as compared with women. In relation to the developmental course of alcohol dependence, our findings correspond to general population studies of alcohol dependence among different ethnic groups. African American women consistently have a later onset of regular drinking, age of first intoxication, onset of a DSM-III-R diagnosis of alcohol dependence, and age of first treatment experience.

Among this inpatient clinical sample, alcohol use was found to begin later among African Americans than among Caucasians, but the onset of alcohol-related problems was earlier and associated symptoms were more frequent and severe among African American than Caucasian alcoholics. However, lifetime rates of affective disorder and anxiety disorders were higher among Caucasian patients than other ethnic groups, whereas alcohol-related depression was higher among Alaska Natives and Caucasians. Comorbid psychopathologies were consistently lower among African Americans than the other ethnic groups.

Ethnic differences were also found in terms of health care utilization for alcohol problems. Although all ethnic groups reported seeing mental health professionals as the first contact for alcohol problems, Caucasians tended to consult with a psychiatrist. Alaska Natives tended to use psychiatrists, medical doctors, or psychologists less than other ethnic groups, but this could be due to the lack of availability of these professionals in Alaska. Our findings suggest the need for training mental health professionals regarding ethnic and gender variations in the etiology, course, and treatment of alcohol dependence and abuse.

The findings of the study should be considered in light of several limitations associated with the data. There were differences in the proportion of the major ethnic groups across the six COGA sites. For example, the largest proportion of African Americans among the six original COGA sites was in New York, followed by Connecticut. There are fewer African Americans in other sites. Also not considered in this analysis are site differences in health care

utilization that may result from variations in health insurance coverage for alcoholism treatment and the availability of alcohol treatment services and providers. In addition, the non-COGA group in Alaska was recruited from three facilities that serve the entire state rather than a local catchment area. Many of the patients enrolled in the Alaska sample were sent to these facilities from distant rural areas because no inpatient facilities were available in their village. Finally, although Hispanics are included in the study findings for comparison purposes, the number of Hispanic men and women who received inpatient treatment was small and may not reflect the larger population of Hispanic persons who have been treated for alcoholism in the US. Although these limitations should be considered, our results could serve as the base for further study of alcohol dependence and ethnicity.

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