ATTRIBUTIONAL ANTECEDENTS OF ALCOHOL USE IN AMERICAN INDIAN AND EUROAMERICAN ADOLESCENTS

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Abstract: American Indian and Euroamerican adolescents were compared in regard to the events that they saw as responsible for their alcohol use. American Indian males believed that heredity played a more important role in their use of alcohol than Euroamerican males. American Indian males also believed that fate was a more important influence on their use of alcohol than American Indian females and Euroamerican females and that environmental events (e.g., problems at home) were a less important influence than the three other groups. Euroamerican females saw distressing events as more responsible for their alcohol use than the American Indian females and Euroamerican males. Euroamerican females also saw themselves as more responsible for their alcohol use than the American Indian females and males and Euroamerican males. The treatment implications of these attributional differences in reasons for alcohol use are discussed, especially in regard to American Indian adolescent males.

This article is based on a dissertation by Grace Powless Sage, which was supervised by G. Leonard Burns and submitted to the University of Montana in partial fulfillment of the requirements for the doctoral degree.

American Indian and Euroamerican Adolescents

Alcoholism and alcohol-related problems are major concerns for American Indians[1] (Hughes & Dodder, 1984; Lex, 1987; Welte & Barnes, 1987; Young, 1988; May, 1989). For example, the death rate from cirrhosis of the liver is the fourth leading cause of death among American Indians, while alcohol-related motor vehicle accidents are the leading cause of American

This article is based on a dissertation by Grace Powless Sage, which was supervised by G. Leonard Burns and submitted to the University of Montana in partial fulfillment of the requirements for the doctoral degree. American Indian deaths (Indian Health Service, 1982). As Young (1988, p. 127) thus noted, "The destructive use of alcohol and other drugs is generally considered the most serious health problem facing American Indians."

The magnitude of alcohol use among American Indian adolescents is particularly problematic (e.g., Cockerham, 1977; Oetting, Edwards, Goldstein, & Garcia-Mason, 1980; Welte & Barnes, 1987). In general, American Indian adolescents ranked highest in per capita alcohol consumption, percentage of heavy drinkers, number of times drunk, and number of alcohol-related problems when compared to other adolescent minority and nonminority groups (Welte & Barnes, 1987). This study also found that American Indian youth averaged about two drinks a day, with 19% classified as heavy drinkers (Welte & Barnes, 1987). Furthermore, for those American Indian adolescents who drink, there was an average of 8.5 incidents of intoxication per month and four other alcohol-related problems per month (Welte & Barnes, 1987). Additionally, American Indian adolescents, specifically those living on reservations, are shown to have higher rates of alcohol and drug use than their non-Indian counterparts (Beauvais, Oetting, Wolf, & Edwards, 1989). Alcohol abuse and alcohol-related problems are clearly major concerns for a significant percentage of American Indian adolescents (Young, 1988, pp. 128–129).

While such research has been conducted on alcoholism and alcohol-related problems in American Indians (e.g., Graves, 1967; Jessor, Graves, Hanson, & Jessor, 1969; Levy & Kunitz, 1974; Lex, 1987; Young, 1988), few studies have been conducted on the causal attributions of alcohol use in American Indians (Jones-Saumty, Dru, & Zeiner, 1984; Jones-Saumty, Thurman, Miles, Parsons, & Zeiner, 1985). Earlier research (Beckman, 1979, 1980; Vuchinith, Tucker, Bordini, & Sullwold, 1981) on attributions for alcohol use in Euroamericans found that alcoholic and nonalcoholic males attributed their alcohol use to external factors, while alcoholic and nonalcoholic females attributed alcohol use to the person doing the drinking. In the first study on attributions for alcohol use in American Indians, Jones-Saumty

et al. (1984) found that American Indian social drinkers viewed alcoholism as an illness significantly more often than Euroamerican social drinkers. Jones-Saumty et al. (1984) also found that both American Indian and Euroamerican social drinkers attributed primary responsibility for problem drinking to the individual, although both groups viewed external factors as concomitant influences on problem drinking. Locus-of-control studies have aided in the effort to advocate for prevention efforts and treatment plans to attend to this potent concept — internal versus external control of alcohol use (Thurman, Jones-Saumty, & Parsons, 1990). The evidence for this construct may begin early in adolescence and be reinforced on multiple dimensions (i.e., age, sex, income, education, culture, etc.). Locus of control can no longer be overlooked as an important construct in the complex and interrelated self-perceptions of reasons to drink (Mariano, Donovan, Walker, Mariano, & Walker, 1989).

The purpose of this study was to extend the research on attributions for alcohol use in Euroamerican and American Indian adults to Euroamerican and American Indian adolescents. The reasons that American Indian and Euroamerican adolescents give for their use of alcohol might provide helpful information for the development of alcoholism prevention, early intervention, and treatment programs for adolescents. This study, thus, sought to compare American Indian and Euroamerican adolescents in terms of their reasons for alcohol use.

Method

Beckman's (1979, 1980; Jones-Saumty et al., 1984) rating scale for antecedents of alcohol use was administered to 106 high school freshmen, 53 of whom were American Indian (25 females and 28 males) and 53 Euroamerican (25 females and 28 males), and to 106 high school juniors, 53 of whom were American Indian (19 females and 34 males) and 53 Euroamerican (28 females and 25 males). The administration of the rating scale occurred in three high schools located on the Salish/Kootenai Indian Reservation in northwestern Montana.

Sampling procedures followed similar methods and procedures as other researchers have noted when working in American Indian communities (Trimble, 1977). Since one of the purposes of sampling is to ensure that there is an accurate representation of the population group, it does not make sense to use random sampling techniques when working with small populations. When working on American Indian reservations, the population group is typically small, and the size of the group who become participants in the study represents the group as a whole. Typically, the range of values,

beliefs, behaviors, and socioeconomic status will be small in American Indian communities. Thus, all American Indian and Euroamerican students who attended the public schools on the reservation participated in the study.

The rating scale asks the students to indicate the degree to which each of seven types of events are responsible for their alcohol use. These factors are the following:

1. The *Person* (the person, herself or himself, is the one who is responsible for the drinking problem)
2. The *Environment* (a person's environment — home life, school, the crazy world we live in — is responsible for the drinking problem)
3. *Distressing Events* (some distressing event — death in the family, divorce, loss of a job — is responsible for a person's drinking problem)
4. *Other People* (other people — mother or father, brother or sister, aunt or uncle, friends — cause a person to have a drinking problem);
5. *Heredity* (i.e., a person has a drinking problem because they inherited the problem — it's in their blood);
6. *Disease* (i.e., a person has a drinking problem because of an illness); and
7. *Fate* (i.e., I don't know what causes a person to drink. It must be fate).

The subjects indicated the importance of each of these seven events in their use of alcohol on a 4-point scale (1 = not important, 4 = very important). The subjects also reported on a 6-point scale their current alcohol use (1 = never, 2 = one to four drinks in life, 3 = three to four drinks per year, 4 = one to two drinks per month, 5 = one to two drinks per week, 6 = daily use).

Results

A total of 4 American Indian adolescents (3 freshmen and 1 junior) and 10 Euroamerican adolescents (8 freshmen and 2 juniors) reported no alcohol use. These 14 students, thus, did not provide information on the importance of the seven events in their alcohol use. A four-way (2 by 2 by 2 by 7) ANOVA was used to analyze the responses of the remaining 198 students in regard to the importance of the seven types of events in their current use of alcohol. The between factors were Ethnicity (American Indian and Caucasian), Grade (9 and 11), and Sex (male and female), with the within measure being Type of Attributional Event (Person, Environment,

Other People, Distressing Events, Heredity, Disease, and Fate). The three-way interaction between Ethnicity, Sex, and Type of Attributional Event was significant, F (6, 1140) = 2.48, p = .02 (Greenhouse Geisser p = .03). Ethnicity by Type of Attributional Event and Sex by Type of Attributional Event as well as the main effect for Type of Attributional Event were also significant, F (6, 1140) = 2.19, p = .04, F (6, 1140) = 3.80, p = .001, and F (6, 1140) = 67.89, p = .001, respectively.

Table 1 shows the means and standard deviations for the three-way interaction between Ethnicity, Sex, and Type of Attributional Event. A Newman-Keuls test (p .05) was used to determine the significance of the difference between the Ethnicity-Sex means within each Type of Attributional Event.

Table 1

Means and Standard Deviations for Importance of Factors in Self-Use of Alcohol

	American Indians				Caucasians			
	Male[a]		Female[b]		Male[a]		Female[b]	
Factors	X	SD	X	SD	X	SD	X	SD
Person	2.88[a]	1.11	2.95	1.10	2.96[a]	1.12	3.35[b]	0.99
Environment	2.30[a]	1.05	3.10[b]	0.85	2.74[b]	0.94	2.96[b]	1.07
Other People	2.37[a]	1.07	2.64[a]	1.10	2.56[a]	1.13	2.59[a]	1.11
Distressing Event	2.28[a]	1.08	2.74[b]	1.06	2.36[a]	1.27	2.28[a]	1.05
Heredity	2.15[a]	1.13	1.98[ab]	1.07	1.70[b]	1.09	1.89[ab]	1.08
Disease	1.82[a]	1.02	1.79[a]	1.00	1.62	0.92	1.67[a]	0.94
Fate	1.97[a]	1.15	1.52[b]	0.83	1.68[ab]	1.08	1.48[b]	0.91

Means for each factor sharing the same subject do not differ significantly at $p < .05$ on the Newman-Keuls test. Higher scores indicate that the factor was considered more important (1 = not important, 4 = very important)

[a]n = 60. [b]n = 42. [c]n = 50. [d]n = 46.

The most consistent pattern of results occurred for American Indian males. The American Indian males saw the Environmental factor as significantly less important in their alcohol use than the three other groups of adolescents, who did not differ significantly on this factor. In contrast, the American Indian males saw Heredity as being significantly more important in their use of alcohol than Euroamerican males and also saw Fate as significantly more important in their alcohol use than American Indian females and Euroamerican females. Thus, American Indian males perceived the Environment as less responsible for their alcohol use than the other groups and perceived Heredity (e.g., "it's in their blood.") and factors beyond their control (fate) or knowledge as more important causes of their use of alcohol than the other groups.

American Indian females perceived Distressing Events as more important in their use of alcohol than the three other groups of adolescents, who did not differ from each other on this factor, while Euroamerican females saw the Person factor as more important in their use of alcohol than the three other groups of adolescents, who were more similar on this factor. The four groups did not differ on the Other People and Disease factors.

A three-way (Grade by Ethnicity by Sex) ANOVA was employed to analyze the adolescents' self-report of alcohol use. The main effect for Grade and the Grade by Ethnicity interaction were significant, $F(1, 202) = 13.36$, $p = .0003$, and $F(1,202) = 5.24$, $p = .02$, respectively. A Newman-Keuls test (p .05) was used to analyze the differences between the Grade by Ethnicity means. Whereas American Indian and Euroamerican 9th graders and Euroamerican 11th graders did not differ in their self-report of alcohol use, American Indian 11th graders, reported significantly more use of alcohol than the other three groups. Thus, while Euroamericans did not show a significant increase in alcohol use between the 9th and 11th grades, American Indians reported a significant increase. Table 2 shows the Ethnicity by Sex means for self-report of alcohol use.

In terms of percentages, a total of 43% of the American Indian juniors reported weekly use of alcohol and 10% reported daily use. This contrasts to a total of 30% of the Euroamerican juniors reporting weekly use of alcohol and 0% reporting daily use. For American Indian freshmen, 17% reported weekly use and 0% daily use, while for Euroamerican freshmen, the figures were 25% and 10%, respectively.

Table 2
Means and Standard Deviations for Self-Report of Alcohol Use

Grade	American Indians X	American Indians SD	Caucasians X	Caucasians SD
9	1.60	3.27a	1.22	3.44a
11	1.22	4.42b	1.01	3.66a

Means with the same subscript do not differ significantly at $p < .05$ on the Newman-Keuls test. Higher scores indicate increased self-report of alcohol use (1 = never, 6 = daily use)

Discussion

Significant differences were found between American Indian and Euroamerican adolescents in terms of their reasons for alcohol use. The results were most consistent for the American Indian adolescent males. American Indian adolescent males felt that heredity and fate played a greater role in their use of alcohol than the other groups of adolescents. American Indian males also rated environmental events as less important causes than the other groups. While differences were found within the factors for alcohol use, there was nonetheless a good deal of similarity in the rank ordering of the importance of the factors within each ethnic group–sex (see Table 1).

The other major finding from the study was the amount of alcohol use reported by the American Indian 11th graders. These adolescents reported significantly more alcohol use than the three other groups (American Indian 9th graders and Euroamerican 9th and 11th graders), with the three other groups not differing in their self-report of alcohol use. A total of 53% of the American Indian 11th graders reported weekly or daily use of alcohol. This figure was 30% for the Euroamerican 11th graders, 17% for the American Indian 9th graders, and 35% for Euroamerican 9th graders.

These findings have possible implications for alcohol prevention and early intervention programs for American Indians on the Salish/Kootenai Indian Reservation, especially the American Indian adolescent males. While causality cannot be inferred from our data, prevention and early intervention programs that include a component that attempts to modify

attributions regarding alcohol use to factors within the adolescent's control may increase the likelihood of positive outcomes in those programs. For example, often the individual is left feeling hopeless if the conclusion is that they are alone to fight the problem of alcohol misuse. Exploring the problem of alcohol misuse and abuse could be defined in the group context. In the identification of the harm that is created by alcohol misuse and abuse that plagues many tribal members, the individual then has an opportunity to explore both the group consequences and individual coping strategies. The force of such an intervention would assist in the adaptation of one's own reality to a less apparent group focus and, perhaps, a more potent reason for individual change. The data also suggest that such prevention and intervention strategies should begin at an earlier age given the amount of alcohol use we found among 9th graders on the Salish/Kootenai Indian Reservation.

Additional causal attribution research for alcohol use by American Indian adolescents on similar reservation sites would be an important contribution to this underinvestigated area. An increase in understanding can impact and expand the current prevention, early intervention, and treatment programs. Further, it expands our list of factors that may reinforce current and generational alcohol use, misuse, and abuse. If multiple attributions can be determined, it strengthens our conceptual models, especially our ability to generalize across American Indian reservation sites and urban-Indian settings and also widens the opportunity for the application of a variety of prevention and treatment efforts. Given the urgency of the problem of alcohol abuse and alcohol-related difficulties for American Indian adolescents (Welte & Barnes, 1987; Young, 1988; Beauvais et al., 1989), we must aggressively and positively address the issues from a variety of levels, such as individual, family, community, schools, and traditional and contemporary perspectives, as well as research investigations. In good conscience, one must tirelessly pursue a complete understanding and approach to these complex issues before we count another generation of American Indian casualties.

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Note

1. Throughout this article, the population groups discussed are described in broad ethnic terms. It was suggested, for publication, that a specific tribal designation be employed since the research took place "on/with a single reservation population" — the Confederated Salish/Kootenai Reservation, Montana. Even so, in an attempt to specify tribal affiliation — Salish Tribe or Kootenai Tribe — some individuals and tribal groups would be lost (i.e., Nez Perce, Yakima, Sioux, Blackfeet, to name a few). Thus, for this article, since the population group was multitribal, the term "American Indian" will be used to designate that population group. Also, the term "Euroamerican" will be used to describe the non-Native or non-Indian population. Using these terms continues to illustrate the difficulty inherent in "ethnic glosses," especially as we attempt to specify and validate research efforts across cultures (Trimble,

1991). Further, it forces researchers to be clear and responsible to the questions and dialogue concerning homogeneity and heterogeneity and the language used in describing populations. Future research efforts, statistical analyses, and methodological issues will be impacted by the review process we undertake in our individual and collective attempts to tackle this difficult but basic issue.