EXAMINING CULTURAL IDENTIFICATION AND ALCOHOL USE AMONG AMERICAN INDIAN AND CAUCASIAN COLLEGE STUDENTS

Lynn Martell, MA, Justin Douglas McDonald, PhD, Brenda Barragan, BS, Stephanie Ziegler, BS, and Victoria Williams, MA

Abstract: Previous research consistently concludes American Indians (AI) demonstrate higher levels of alcohol use than Caucasians (CA); however, recent research suggests AIs may be drinking at similar or lower rates than CAs. Little research has examined cultural identification as a contributing factor to alcohol use. This study sought to examine cultural identification and its relationship to alcohol use between AI and CA college students. Participants consisted of 56 AI and 87 CA college students who self-reported on past 6-month alcohol consumption and how they culturally identified per the Orthogonal Theory of Biculturalism. CAs reported a significantly higher average daily alcohol consumption than AIs who identified as Marginal, Traditional, and Assimilated. This research represents a compelling anecdotal and empirical socio-cultural paradigm shift from the "AIs drink more" mindset among college students. Further, understanding the relationship between cultural identification and alcohol use enhances assessment, diagnostic, and intervention efforts for both AIs and CAs.

INTRODUCTION

Previous research (Skewes & Blume, 2014; Johnston, O' Malley, & Bachman, 2000; Presley, Meilman, & Leichliter, 2002; Turrisi, Mallett, & Mastroleo, 2006) demonstrated college students experience higher levels of alcohol consumption and alcohol-related consequences; however, most of these findings have been restricted to predominantly Caucasian (CA) college student samples. Thus, there is insufficient research dedicated to American Indian (AI) college student alcohol consumption and alcohol related consequences (Hagler, Pearson, Venner, & Greenfield, 2017). Previous findings on alcohol use among CA college students cannot be generalized to the AI college students due to cultural variation (McDonald & Chaney, 2003). It is possible cultural identification among AIs may contribute to the level of alcohol use or may serve

as a protective factor. This study was a preliminary exploration of the differences between alcohol use and cultural identity among AI and CA college students.

Alcohol Use among College Students

The consumption of alcohol among college students continues to be a significant problem, and the prevalence rate has been stable over the past twenty years (Substance Abuse and Mental Health Services Administration, 2013; Johnston et al.,2000). Problematic alcohol use for college students is often used as a maladaptive coping response to external stressors such as academic responsibilities or time management (Metzger et al., 2016). Past research suggests approximately 58% of full-time college students drink alcohol, 40% of college students engaged in binge drinking, and alcohol use is higher among college students than non-attending peers (NIAAA, 2019; Johnston et al., 2000; Presley et al., 2000). In addition, peer alcohol consumption tends to be the most robust predictor of alcohol misuse among college students (Perkins, 2002). Specifically, studies have found peer alcohol consumption to be associated with higher levels of one's own use and individuals tend to overestimate the extent to which their peers consume alcohol (Borsari & Carey, 2001; Perkins, 2002). Furthermore, past studies have indicated higher parental income among CAs to be associated with increased rates of alcohol consumption, whereas lower parental income has been associated with lower levels of alcohol use (Humensky, 2010; Martin et al., 2009).

Alcohol consumption among college students has been associated with problems such as the following: involvement with police, property damage, physical injuries, date rape, fatal car accidents, and engaging in unprotected sex (Metzger et al., 2016; Kuo, Wechsler, Greenberg, & Lee, 2003; Carmack & Lewis, 2016). Research suggests that about 1 in 4 college students report academic consequences from drinking such as missing class, doing poorly on exams, and receiving lower grades. These academic consequences are five times more likely to occur for college students that binge drink (NIAAA, 2019). However, protective factors (i.e., variables that protect against the occurrence of an undesirable outcome and enables occurrence of a positive outcome) may help to buffer against alcohol consumption rates and alcohol-related problems, specifically among AI college students (Henson, Sabo, Trujillo, & Teufel-Shone, 2017).

Cultural Identification among American Indians

Cultural identification may be a protective factor through personal/social strength, positive personal adjustment, and well-being (Oetting & Beauvais, 1990, McDonald & Gonzalez, 2006;

McDonald & Chaney, 2003; McDonald, Morton, & Stewart, 1992). Cultural identification or orientation is defined as the degree to which an individual associates with and represents themselves as a member of a specific cultural group (Oetting & Beauvais, 1990). In addition, cultural identification is influenced by an individual's interactions within the environment and individual experiences.

Colonization of AI populations has influenced cultural changes and disruption within AI culture (Pichette, Garrett, Kosciulek, & Rosenthal, 1999). Specifically, research has found the following to have lasting intergenerational and psychological effects on AI populations: forced removal from tribal lands, placement of AI children in boarding schools, broken treaties, pandemics, and genocidal policies (Brave Heart, 1998; Brown, Dickerson, & Amico, 2016; Duran & Duran, 1995; Evans-Campbell, 2008; McDonald & Chaney, 2003). Daily reminders of historical trauma (i.e., emotional and psychological wounding over generations emanating from group experience) among AIs include loss of traditional beliefs and practices, lack of cultural awareness, loss of language, and loss of family systems (Brave Heart, 2003; Evans-Campbell, 2008). Historical trauma may have resulted in alienation among AIs from their usual forms of coping and is associated with PTSD symptoms, anxiety, depression, cultural identity issues, and substance use (Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013; Oetting & Beauvais, 1990; Whitbeck, Adams, Hoyt, & Chen, 2004).

Cultural Identification and Alcohol Use among American Indians

The research on cultural identification and alcohol use are inconsistent. While some studies suggest higher AI traditional identification to be related to lower likelihood of problematic alcohol consumption and higher likelihood of alcohol cessation (Herman-Stahl, Spencer, & Duncan, 2003; May, 1982), other research has not supported these results (Bates, Beauvais, & Trimble, 1997). Furthermore, studies have found higher levels of alcohol use among individuals who closely identify with non-AI values; whereas, individuals who identify equally with both AI and non-AI values had the lowest rates of alcohol use (May, 1982). In contrast, research suggests bicultural individuals that live on the reservation are more likely to exhibit high alcohol consumption due to increased stressors (Herman-Stahl et al., 2003). However, higher identification with AI culture was found to relate to decreased substance use through increased family communication and parental monitoring, resulting in prevention of alcohol use (Urbaeva, Booth, & Wei, 2017). Furthermore, Matamonasa-Bennett (2017) found on the Great Lake reservation that reconnecting

with traditional AI cultural values influenced abstinence and sobriety. AIs who engage in culture events or traditional practices (e.g. powwows, beading, prayer/sage ceremonies) experience health enhancing effects, which decrease alcohol use (Brown et al., 2016).

Despite the inconclusiveness within the research, intervention programs tend to rely on the assumption that higher traditional identification will protect against higher alcohol rates and negative consequences (McDonald & Gonzalez, 2006; McDonald & Chaney, 2003; McDonald et al., 1992; Oetting & Beauvais, 1990; Timble, 2007). The theoretical model used to explain the relationship between cultural identification and alcohol use focuses on acculturation stress, whereby the process of behavioral and psychological change as a result of adapting from a minority culture to dominant culture is assumed to be extremely hard, which prompts alcohol consumption or other negative coping mechanisms (Beauvais, 1992; Clark 2006). Overall, the existing research done on cultural identification and alcohol use among AIs is lacking, and there is a need for further research in this area to clarify the relationship.

Therefore, the current study examined the relationship between alcohol use and cultural identity among AI and CA college students. It was hypothesized that AI college students who identify as traditional AI would have lower levels of alcohol use, and those who identify as assimilated or marginal would have higher levels of alcohol use. In addition, those who identify as bicultural would have lower levels of alcohol use. It was hypothesized that CA college students would have higher alcohol levels compared to AIs.

METHODS

Participants

Participants were college students enrolled at a Midwestern university. Inclusion criteria consisted of participants who identified their primary ethnicity as either AI or CA, were at least 18 years of age, enrolled in college, and who had consumed alcohol in the past 6 months. Students choosing to participate in research were recruited by means of a research participation sign-up board that lists ongoing research. Participants were compensated either with course credit/extra credit or a nominal monetary incentive. Initially, 148 college students chose to participate, but a subset of initial respondents ($n = 5$) did not meet criteria and reduced the final sample to $N = 143$. Fifty-six AI students and 87 CA students participated in this study. Slightly over half of the sample was female (56.1%) and a dichotomous variable was constructed for ages 18-25 or age 26 and

above. Participants were freshman (27.27%), sophomores (21.68%), juniors (11.19%), seniors (18.88%), and graduate students (20.98%).

Measures

Demographics

Participants provided data on their age, gender, education, and the race with which they primarily identified.

Alcohol Use

Alcohol consumption among participants was measured via the Daily Drinking Questionnaire (DDQ), which assessed quantity and frequency of alcohol consumption over the prior 6 months (Collins, Parks, & Marlatt, 1985). Participants were asked to recall the past 6 months and indicate, for each day of the week, how many standard drinks they consumed in their typical week. The typical number of drinks per week was divided to obtain an average number of drinks per day. Prior research supports the validity and one-week test-retest reliability ($r = 0.93$) of the DDQ and alcohol use (Miller et al., 1998).

Cultural Identification

The Northern Plains Biculturalism Inventory (NPBI) assesses cultural competence along two distinct cultural dimensions; however, a disadvantage of the NPBI is the lack of standardized standard error, means, and standard deviations, which inhibits the ability to make comparisons of findings across multiple studies (Allen & French, 1994; McDonald et al., 1998). The American Indian Biculturalism Inventory-Northern Plains Version (AIBI-NP) was developed based on the NPBI, but was derived to have a more psychometrically sound scoring procedure, which increases the utility of the inventory (McDonald, 1998), and, thus, was chosen for use in this study.

Participants completed the AIBI-NP questionnaire, a 26-item self-report measure assessing cultural orientation on four levels: traditional, assimilated, bicultural, and marginalized. Participants endorsed the extent to which they agreed or disagreed on a 4-point Likert scale (ranging from 1 = No comfort to 4 = Complete comfort). The AIBI-NP has two subscales: American Indian cultural identification (AICI) and European American cultural identification (EACI). Sample American Indian cultural identification items are, "How strongly do you identify with American Indian culture"

and "How comfortable are you in encouraging your (or related) children to learn and practice American Indian ways?" Sample European American cultural identification items are, "How often do you attend White celebrations (i.e. White ethnic festivals, parades, etc.)" and "In general, how much do you believe 'Success' best means when an individual wins or achieves something?"

Individuals who identify as "traditional" have a high level of AICI and low level of EACI. Those who identify as "assimilated" have a low level of AICI and high level of EACI. "Bicultural" individuals have a high level of both AICI and EACI. "Marginalized" individuals have a low level of both AICI and EACI. Prior research supports convergent validity with the NPBI ($p > .05$) along with internal consistency ($r = .89$) for AIBI-NP subscales, and alternate-forms reliability with the NPBI ($p < .01$; McDonald et al., 2015).

Procedure

All study materials and procedures were approved by the university Institutional Review Board. Before survey administration, participants were informed that their participation was voluntary and that they could discontinue taking the survey at any time or could leave any item blank that they did not want to answer. All surveys were conducted anonymously and were completed online using Qualtrics software.

Data Analysis

The SPSS statistical analytical software program was utilized for the data analysis. A one-way analyses of variance (ANOVA) was conducted assessing the four categories of the AIBI-NP (i.e., traditional, marginal, assimilated, and bicultural) as independent variables and alcohol use as the dependent variable. In addition, an ANOVA was conducted to determine if there was a relationship between alcohol use and age group. For the variables indicating significance, a follow-up Tukey post-hoc test was conducted.

RESULTS

An ANOVA was computed for alcohol use with the standardized alcoholic drinks per day as the dependent variable and cultural identification group as the independent variable. Results indicated significant differences in daily alcohol consumption between groups $F(4, 127) = 6.86$, $p < .05$ (see Table 1). Post hoc analyses using Tukey indicated CA participants ($n = 80$) had a

significantly higher average daily alcohol consumption ($M = 1.26$, $SD = 1.14$) than those who identified as marginal ($n = 25$, $M = 0.49$, $SD = 0.49$), traditional ($n = 13$, $M = 0.37$, $SD = 0.41$), and assimilated ($n = 11$, $M = 0.27$, $SD = 0.29$). An analysis of covariance using gender and age as covariates revealed the same pattern of significant results. It is important to note the bicultural group has the lowest rate of alcohol use but due to its very low number ($n = 3$), valid comparisons with CAs were not possible.

Table 1
ANOVA Comparisons of Alcohol Consumption* by Cultural Identification

Group	n	Mean	SD	Post Hoc
Marginal (1)	25	0.491	0.495	5>1
Bicultural (2)	3	0.191	0.329	
Traditional (3)	13	0.374	0.414	5>3
Assimilated (4)	11	0.272	0.295	5>4
Caucasian (5)	80	1.269	1.148	5>1,3,4

Note. The numbers in parentheses in group names refer to the numbers used in illustrating statistically significant differences at $p < .05$ in post hoc.
*Alcohol Consumption = average amount of standard drinks consumed daily.

A series of 2 (age group) X 2 (ethnicity) analyses of variance (ANOVA) were computed on the DDQ, using the standardized alcoholic drinks per day as the dependent variable and age group and ethnicity as the independent variable (see Table 2). Results showed a significant main effect of age group in daily alcohol consumption $F(1, 132) = 8.85$, $p < .05$, with 18- to 25-year-olds having a higher daily average alcohol consumption ($M = 1.39$, $SD = 1.15$) than 26-year-olds and older ($M = 0.46$, $SD = 0.59$). Results indicated a significant main effect of ethnicity in daily alcohol consumption ($F_{(1, 132)} = 7.95$, $p < .05$); CAs having a higher average daily alcohol consumption than those who identified as AI.

Table 2
Means and Standard Deviations for Alcohol Use as a Function of Age Group and Ethnicity

Age Groups	n	Mean	SD
American Indians			
18-25	35	0.49	0.48
26+	19	0.27	0.32
Caucasians			
18-25	71	1.39	1.15
26+	11	0.46	0.59

Note. Alcohol use = average amount of standard drinks consumed daily. Age was coded as "18-25 = 1, 26+ = 2"

An ANOVA was computed on the parent's total estimated household income as the dependent variable and cultural identification group as the independent variable. Results indicated a significant difference in parent's total estimated household income $F(4,134)=6.08$, $p < .05$ between cultural identification groups (see Table 3). Those who identified as marginal reported significantly lower parental total estimated household income ($M = 2.52$, $SD = 1.08$) than those who identified as CA ($M = 3.46$, $SD = 0.76$).

Table 3
ANOVA Comparisons of Parent's Total Estimated Household Income by Cultural Identification

Group	n	Mean	SD	Post Hoc
Marginal (1)	27	2.52	1.08	5>1
Bicultural (2)	3	3.33	1.15	
Traditional (3)	13	3.08	0.95	
Assimilated (4)	11	3.27	0.90	
Caucasian (5)	85	3.46	0.76	5>1

Note. The numbers in parentheses in group names refer to the numbers used in illustrating statistically significant differences in post hoc.

DISCUSSION

The current study revealed significant differences in alcohol use between CA and AI college students. Early research suggests AIs had higher alcohol consumption rates and frequency of use compared to other ethnicities (Beauvais, 1998). However, this study is consistent with other recent literature suggesting AIs have similar or lower alcohol use rates than CAs (Cunningham, Solomon, & Muramoto, 2015, Looby, Luger, & Guartos, 2017; Sargent, 2017). Instead, the current study suggests AIs may be experiencing alcohol use differently depending on how they culturally identify. The current study's findings demonstrated CA college students having a higher average daily alcohol consumption than AIs who identified as marginal, traditional, or assimilated. Little research has examined alcohol use and cultural identification among AI college students. Overall, these findings are consistent with previous research that show CA college students report higher alcohol consumption (Looby et al., 2017; Sargent, 2017).

Demographic differences were observed. For example, AIs who identified as marginal reported significantly lower total parental estimated household income than those who identified as CA. This may have resulted in CAs having higher average daily alcohol consumption due to having more disposable income to buy alcohol with than AIs who identified as marginal. Previous research suggested AIs who worked full-time and were married had higher rates of alcohol

consumption and binge drinking due to increased disposable income (Greene, Eitle, & Eitle, 2014). Thus, an increase in disposable income for AIs who identify as marginal may influence their average alcohol consumption per day.

Limitations

Multiple study limitations are acknowledged. Students who did not drink in the past 6 months could not participate in the study, and alcohol use over the last 6 months was assessed retrospectively, which is subject to recall error. Self-selection into the study was also a weakness as those students who may drink larger quantities may have chosen not to participate. Next, the study assessed average drinking in general over the entire week, as opposed to binge drinking, which is known to occur more frequently among college students (Champion, Lewis, & Meyers, 2015). Additionally, if the study could have included non-drinkers, then there may have been significant differences with alcohol use among the CA and AI students. Furthermore, most AI participants reported residing in the Northern Plains geographic region of the country; therefore, results may not generalize to other parts of the country or other AI tribes. Lastly, the analyses were conducted on a small sample, particularly of AIs, which may have limited the power to detect significant results. A larger sample size may be needed to fully examine the role of cultural identification and alcohol use.

Future Research

Future research should examine differences in cultural identification and alcohol use among tribal college students who are on the reservation. This would allow for participants to be of similar socioeconomic status and would aid in understanding alcohol use and cultural identification differences among AIs. It may prove useful to examine differences in non-college samples of CAs and AIs (or other ethnic minorities) among those residing on or near the reservations to more completely understand differences in alcohol use between the groups. Lastly, future studies should also measure different types of drinking behaviors such as abstainers, low, moderate, heavy, and binge drinking among AI and CA college students. The optimal conditions for future studies should include balanced age, gender, sample size, and education level in order to make comparisons across groups. Research into these topics may highlight specific targets of intervention approaches to decrease problematic alcohol use among AIs.

CONCLUSION

This study supports current research (Looby et al., 2017; Sargent, 2017) demonstrating AI college students are not drinking at higher rates than CA peers. Therefore, reinforcing the notion to separate AIs from stereotypes, such as the "drunken Indian." In addition, the study helps advance the understanding of the link between cultural identification and alcohol use among AIs, particularly those who identify as marginal, traditional, or assimilated. Furthermore, cultural identification was found to impact daily alcohol consumption rates between CAs and AIs. These findings suggest culturally targeted interventions to decrease students drinking may be beneficial, specifically for AI college students. Particularly, intervention strategies that seek to strengthen individuals' identification with their culture may be effective in preventing alcohol consumption.

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AUTHOR INFORMATION

Lynn Martell, MA, is a candidate in the Clinical Psychology Doctoral Training Program at the University of North Dakota in Grand Forks, North Dakota. Dr. Justin Douglas McDonald is a professor in the Department of Psychology at the University of North Dakota in Grand Forks, North Dakota. Brenda Barragan, BS, is a candidate in the Counseling Psychology Doctoral Training Program at the University of North Dakota in Grand Forks, North Dakota. Stephanie Ziegler, BS, is a recent graduate from the University of North Dakota in Grand Forks, North Dakota. Victoria Williams, MA, is a candidate in the Clinical Psychology Doctoral Training Program at the University of North Dakota in Grand Forks, North Dakota.