

Racial Disparities in Alcohol Use: Comparison of 2 American Indian Reservation Populations With National Data

Janette Beals, PhD, Paul Spicer, PhD, Christina M. Mitchell, PhD, Douglas K. Novins, MD, Spero M. Manson, PhD, and the AI-SUPERPPF Team (Cecelia K. Big Crow, Dedra Buchwald, Buck Chambers, Michelle L. Christensen, Denise A. Dillard, Karen DuBray, Paula A. Espinoza, Candace M. Fleming, Ann Wilson Frederick, Diana Gurley, Lori L. Jervis, Shirlene M. Jim, Carol E. Kaufman, Ellen M. Keane, Suzell A. Klein, Denise Lee, Monica C. McNulty, Denise L. Middlebrook, Laurie A. Moore, Tilda D. Nez, Ilena M. Norton, Heather D. Orton, Carlette J. Randall, Angela Sam, James H. Shore, Sylvia G. Simpson, and L. L. Yazzie.)

American Indian alcohol use has received scrutiny in recent decades,¹ but data derived from samples that permit direct comparisons to other US epidemiological studies have been less commonly reported.^{2–4} This brief places rates of the quantity and frequency of alcohol use in 2 tribally defined reservation samples in such a comparative epidemiological context.

METHODS

The American Indian Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project (AI-SUPERPPF) methods are described in greater detail elsewhere⁵ as well as on our Web site (<http://www.uchsc.edu/ai/nciaianmhr/presentresearch/superprj.htm>). The 2 populations of inference were legally enrolled members of the Northern Plains or Southwest tribes who were aged 15 to 54 when the sample frame was developed (1997) and who lived on or within 20 miles of their reservations. (Maintenance of American Indian community confidentiality is as important as that of individual confidentiality; therefore, general cultural descriptors are used.⁶) Data were collected between 1997

and 1999. Once located and determined eligible, 76.8% of the Northern Plains group and 73.7% of the Southwest group agreed to participate.

Two published reports provide points of comparison. One, the National Longitudinal Alcohol Epidemiologic Study,^{4,7} interviewed a total of 42 682 adults aged 18 years and older in 1992; 92% of the households and 97% of the selected individuals within those households agreed to participate. Dawson and colleagues⁴ developed a 3-level drinking status variable. *Current drinkers* were those respondents who had consumed at least 12 drinks in the preceding year. *Former drinkers* had consumed at least 12 drinks in some 1-year period of their lives but drank fewer than 12 drinks in the past year. *Lifetime abstainers* were respondents who had never consumed more than 12 drinks in any year. AI-SUPERPPF was able to replicate this drinking status variable almost exactly; however, *former drinkers* were restricted to those reporting no drinks in the past year. The National Longitudinal Alcohol Epidemiologic Study data were reported for the US population, men and women aged 18 years and older, as well as for the following age groups: 18–29, 30–44, 45–64, and 65 years or older. The AI-SUPERPPF was able to replicate the 18–29 and 30–44 age groups but also included respondents aged 45–57 as a third group.

A second published report that provided us with information for comparison is the Collaborative Alcohol-Related Longitudinal Project,^{8,9} which provided meta-analytic estimates of quantity (typical number of drinks per occasion) and frequency (number of days alcohol was used per month).⁹ AI-SUPERPPF was able to replicate these variables identically. The data reported here reflect the following published age groupings: 15–19, 20–24, 25–29, 30–34, 35–39, 40–49, and 50–59 years. AI-SUPERPPF comparisons of quantity and frequency data are presented with the same age groupings (except for the last one, which was restricted to 50–57 years).

Variable construction was completed with standard statistical packages: SAS¹⁰ and SPSS.¹¹ All inferential analyses were conducted in Stata¹² using sample and nonre-

sponse weights.¹³ Standard errors and confidence intervals are reported for each estimated parameter.

RESULTS

Table 1 compares the National Longitudinal Alcohol Epidemiologic Study data with those derived from AI-SUPERPPF. The percentage of *lifetime abstainers* ranged from less than 20% (Northern Plains men aged 45–57 years, US men aged 30–44 years and 45–64 years) to well over 50% (Southwest women aged 45–57 years). The Southwest population was more likely to have lifetime abstainers than was either the US or the Northern Plains population for most age and gender groups. The rates of abstention for Northern Plains men were generally similar to those for the US men. The percentages of these populations who were *former drinkers* ranged from less than 10% (Southwest and Northern Plains men aged 18–29 years) to a high of 36% (Northern Plains women aged 45–57 years). Fewer significant differences were found among former drinkers than among lifetime abstainers. The rates of *current drinkers* ranged from 12% (Southwest women aged 45–57 years) to more than 60% (Northern Plains and US men aged 18–29 years and 30–44 years). Most Southwest samples were less likely to be current drinkers than were either the US or the Northern Plains samples.

The Collaborative Alcohol-Related Longitudinal Project's^{8,9} estimates of frequency and quantity for current drinkers are compared with those of AI-SUPERPPF in Table 2. *Frequency* ranged from less than 2 times per month (US men aged 15–19 years) to more than 17 times per month (US men aged 40–49 and 50–59 years). Frequency estimates for US men were generally higher than for American Indian men. Fewer differences were found among women. *Quantity* patterns were reversed: the American Indian samples typically reported greater quantities than did the US samples.

DISCUSSION

These findings support and extend the current literature. Previous investigations

TABLE 1—Drinking Status Comparisons of AI-SUPERPPF Populations to US General Population, by Age and Gender: National Longitudinal Alcohol Epidemiologic Study⁴

	Southwest Indians			Northern Plains Indians			US Population		
	%	SE	Significant difference ^a	%	SE	Significant difference ^a	%	SE	Significant difference ^a
Lifetime abstainers									
Males 18-29	41.6	3.8%	N,U	26.1	2.8%	S	24.3	0.8%	S
Males 30-44	28.0	3.0%	U	27.5	2.8%	U	17.2	0.6%	S,N
Males 45-57 ^b	26.3	3.5%		16.1	3.1%		19.7	0.8%	
Females 18-29	61.1	3.1%	N,U	39.6	2.8%	S	39.7	0.9%	S
Females 30-44	58.6	2.9%	N,U	28.6	2.8%	S,U	36.1	0.7%	S,N
Females 45-57 ^b	68.6	3.3%	N,U	30.4	3.5%	S,U	47.2	0.9%	S,N
Former drinkers									
Males 18-29	7.2	2.0%		7.3	1.8%		11.5	0.5%	
Males 30-44	24.8	2.9%	N	11.4	2.0%	S,U	22.1	0.6%	N
Males 45-57 ^b	31.9	3.8%		31.1	3.7%		29.3	0.8%	
Females 18-29	10.5	2.0%	U	11.1	1.9%	U	17.7	0.6%	S,N
Females 30-44	21.7	2.4%		18.4	2.5%		24.1	0.6%	
Females 45-57 ^b	19.9	2.8%	N	36.4	3.7%	S,U	22.0	0.7%	N
Current drinkers									
Males 18-29	51.2	3.9%	N,U	66.6	3.1%	S	64.2	0.9%	S
Males 30-44	47.2	3.4%	N,U	61.1	3.0%	S	60.7	0.8%	S
Males 45-57 ^b	41.8	3.9%		52.7	3.9%		51.0	1.0%	
Females 18-29	28.4	2.8%	N,U	49.3	3.0%	S	42.6	0.9%	S
Females 30-44	19.7	2.3%	N,U	53.0	3.1%	S,U	39.8	0.7%	S,N
Females 45-57 ^b	11.5	2.4%	N,U	33.2	3.6%	S	30.7	0.8%	S

Note. AI-SUPERPPF = American Indian Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project.

^aSignificant differences from other groups ($P < .05$) are indicated by 1-letter abbreviations for those groups: S = Southwest Indians; N = Northern Plains Indians; U = US population.

^bAge range in the National Longitudinal Alcohol Epidemiologic Study was 45-64 years.

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Human Participant Protection

The study was reviewed and approved by the Colorado Multiple Institutional Review Board. Tribal approvals were obtained, as was informed consent from all respondents.

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with American Indian adolescents and adults have shown that alcohol use varies by gender, age, and tribe.¹⁴⁻²⁰ Here, direct comparisons to published data from other US populations indicate that American Indians in these community samples may be less likely to use alcohol than are others in the United States. Among American Indian drinkers, however, more alcohol was consumed per drinking occasion. ■

About the Authors

The authors are with the American Indian and Alaska Native Programs, University of Colorado Health Sciences Center, Aurora.

Requests for reprints should be sent to Janette Beals, PhD, AIANP, Nighthorse Campbell Native Health Building, F800, PO Box 6508, Aurora, CO 80045-0508 (e-mail: jan.beals@uchsc.edu).

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Contributors

J. Beals conceptualized, designed, and implemented the AI-SUPERPPF; analyzed the data; and drafted the brief. P. Spicer conceptualized, designed, and implemented the AI-SUPERPPF and helped draft the brief. C.M. Mitchell conceptualized, designed, and implemented the AI-SUPERPPF; provided statistical expertise; and edited the brief. D.K. Novins conceptualized, designed, and implemented the AI-SUPERPPF and edited the brief. S.M. Manson conceptualized, designed, and implemented the AI-SUPERPPF; acquired funding; and edited the brief. The AI-SUPERPPF team members listed as authors oversaw the conceptualization, design, and implementation of the study.

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TABLE 2—Past-Month Frequency and Quantity Comparisons of AI-SUPERPPF Populations to US Samples, by Age and Gender: Collaborative Alcohol-Related Longitudinal Project^a

	Southwest Indians			Northern Plains Indians			US Population		
	Amount	SE	Significant difference ^a	Amount	SE	Significant difference ^a	Amount	SE	Significant difference ^a
Frequency, drinking days in past mo									
Males 15-19	3.5	1.3		4.7	1.1	U	1.4	0.1	N
Males 20-24	6.1	1.2	U	4.0	0.4	U	9.6	0.1	S,N
Males 25-29	3.6	0.6	U	4.5	0.5	U	10.2	0.5	S,N
Males 30-34	4.2	0.9	U	5.9	1.0		7.3	0.6	S
Males 35-39	4.5	0.9	U	6.5	0.8	U	13.7	0.9	S,N
Males 40-49	4.5	0.8	N,U	8.6	1.0	S,U	17.6	0.7	S,N
Males 50-57 ^b	5.3	1.4	U	8.8	1.7	U	18.3	0.9	S,N
Females 15-19	3.9	1.3		3.5	0.9		4.6	0.2	
Females 20-24	2.4	0.7	U	3.2	0.4	U	5.9	0.1	S,N
Females 25-29	3.3	0.6		4.2	0.8		4.2	0.4	
Females 30-34	2.6	0.6		4.6	0.8		2.8	0.4	
Females 35-39	2.4	0.9		4.7	0.8		4.2	0.8	
Females 40-49	4.2	1.1		4.0	0.5	U	7.9	0.8	N
Females 50-57 ^b	2.0	0.5	U	4.3	0.9		7.0	0.9	S
Quantity, no. of drinks per drinking day in past mo									
Males 15-19	6.4	1.2	U	9.9	1.0	U	2.8	0.1	S,N
Males 20-24	9.9	1.2	U	10.8	0.9	U	3.0	0.1	S,N
Males 25-29	5.5	0.5	N,U	10.4	0.9	S,U	3.3	0.1	S,N
Males 30-34	6.9	1.0	U	8.7	0.8	U	3.9	0.2	S,N
Males 35-39	10.0	1.4	U	10.3	0.9	U	3.6	0.1	S,N
Males 40-49	6.6	1.0	U	10.4	0.9	U	3.5	0.1	S,N
Males 50-57 ^b	4.9	0.6	N	10.0	1.0	S,U	3.4	0.1	N
Females 15-19	5.6	1.8		7.4	0.9	U	2.1	0.1	N
Females 20-24	5.5	1.4	U	8.4	0.9	U	2.0	0.0	S,N
Females 25-29	6.4	1.5	U	10.1	1.3	U	2.2	0.1	S,N
Females 30-34	7.7	1.4	U	8.2	0.8	U	3.1	0.3	S,N
Females 35-39	4.7	0.8	N,U	9.8	0.9	S,U	2.7	0.2	S,N
Females 40-49	3.0	0.4	N	8.8	0.9	S,U	2.8	0.2	N
Females 50-57 ^b	4.7	1.2		7.9	1.2	U	2.3	0.2	N

Note. AI-SUPERPPF = American Indian Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project.

^aSignificant differences from other groups ($P < .05$) are indicated by 1-letter abbreviations for those groups: S = Southwest Indians; N = Northern Plains Indians; U = US population.

^bAge range in The Collaborative Alcohol-Related Longitudinal Project was 50-59 years.

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