Community Norms of Alcohol Usage and Blood Pressure: Tecumseh, Michigan

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Abstract: This research examines the relationship between alcohol usage and blood pressure in the adult population of a small community in Michigan. Findings suggest that blood pressure varies with alcohol usage linearly for men with a slight dip at 1-2 drinks per week, and curvilinearly for women with a low point at about 4 drinks per week. A method to measure public norms of alcohol intake and categories of drinking habits is presented. This technique may be useful in constructing drinking categories applicable in a community for both education and therapy. (*Am J Public Health* 1980; 70:813-820.)

Introduction

This research examines the relationship between alcohol usage and blood pressure based on a community sample of men and women, and describes a method to measure public norms of alcohol intake, useful perhaps for education and therapy. A number of studies show a relationship between alcohol usage and blood pressure.[1-3] At the highest levels of alcohol intake, there is a sharp rise in blood pressure.[4] * However, as Klatsky, *et al* observe:

> ". . . there may be a 'threshold level' of regular alcohol consumption (usual intake of three or more drinks per day in our categorization) above which blood-pressure elevations are found, and below which pressures are not higher or perhaps slightly lower than in nondrinkers. Although this threshold level may indeed be involved, the data do not permit precise definition of such a possible threshold because the persons taking two or fewer drinks per day are not further subclassified. This group [is] the most prevalent in the majority of sex-race subgroups . . ."[4]

The research in the present inquiry, using an adult population of a town in Michigan, asks: 1) Is alcohol usage in a normal population related to blood pressure?; 2) Are there categories of alcohol intake which are meaningful for both research and public education?; and 3) Can use of these categories yield information on the issues of "threshold" and "curvilinearity" in assessing the relationship of alcohol usage and blood pressure?

Background

This report uses data gathered in the Tecumseh Community Health Study (TCHS), a longitudinal community health project begun in 1959 in Tecumseh, Michigan, a town of about 10,000 population.[5] Since that time, two major medical examinations have been administered. Cardiovascular Examination I (CVI) was conducted from 1960 to 1962, and 8,641 respondents (88 per cent) were examined. Cardiovascular Examination II (CVII) was conducted from 1962 to 1965, and 9,226 respondents were examined.

In 1977, a special project, "Heredity, Alcohol Usage, Temperament and CHD Risk Factors," allowed a small, pretest study on a "chunk" sample of volunteers (N = 467). Results from this effort showed that relatively small amounts of ethanol consumption (< 1 drink a day) were related to low blood pressure levels, while abstainers (no prior or current drinking) and those who reported one or more drinks a day had higher levels. These findings compelled further inquiry.

Method

The sample for this closer inquiry consisted of all persons who were examined in CVI 1960 and were over 18 years old. We excluded those with no data on blood pressure and alcohol use, and Past Drinkers (N = 382). This yielded 3,390 persons: 934 Abstainers and 2,456 users of alcohol.

Blood Pressure Measurement

Blood pressures had been taken by physicians several times during the CVI examination with the respondent seated and using the right arm. The average of the first and sec-

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This paper, submitted to the Journal January 14, 1980, was revised and accepted for publication April 24, 1980.

*Hawthorne VM, Smalls MJ: Alcohol and stroke in the working population of the west of Scotland. Unpublished paper, July 24, 1978.

TABLE 1—Percentages, Means and Medians of Ethanol (oz/wk) for Current Drinkers by Self-Labels and Frequency Mode[a] for Males (N= 620)

Frequency Categories All Beverages	Self-Labels: Very Light N	%	Mean Eth.	Median	Light N	%	Mean Eth.	Median	Moderate N	%	Mean Eth.	Median	Heavy & Very Heavy N	%	Mean Eth.	Median
Less than once a year	14	6.1	.02	.02	1	.7	.01	.01	1	.5	.01	.01	—	—	—	—
Less than once a month	65	28.6	.06	.05	6	4.0	.13	.06	—	—	—	—	—	—	—	—
1 per month	45	19.7	.28	.18	5	3.3	.46	.43	1	.5	.24	.24	—	—	—	—
2-3 per month	54	23.7	.80	.64	34	22.6	1.41	1.21	12	5.9	2.20	1.73	1	2.6	.66	.66
1-2 per week	34	14.9	1.63	1.35	60	40.0	2.87	2.82	37	18.2	4.33	4.15	—	—	—	—
3-4 per week	9	3.9	3.40	3.28	24	16.0	6.55	6.92	52	25.6	9.00	8.48	8	20.5	11.30	9.54
Nearly daily	2	.9	7.08	7.08	7	4.7	7.47	5.69	47	23.2	13.43	13.32	12	30.8	17.34	14.53
1 per day	5	2.2	4.65	4.68	11	7.3	12.28	12.63	29	14.3	16.07	15.84	8	20.5	21.81	21.50
2 per day	—	—	—	—	1	.7	4.68	4.68	10	4.9	29.79	31.14	5	12.8	33.37	35.04
3+ per day	—	—	—	—	1	.7	58.72	58.72	14	6.9	59.98	61.07	5	12.8	61.77	64.23
Total N	(228)	100%	.80	.21	(150)	100%	4.21	2.55	(203)	100%	14.23	10.20	(39)	100%	24.34	16.17

[a]Each person was classified into that frequency category with the highest reported frequency of drinking among wine, beer, and liquor.

ond readings was used after adjustment through regression for age and weight. It should be noted that the blood pressure levels in CVI 1960 were relatively high compared to other research. However, the analysis in the present study rests on the rank order, not the absolute levels, and their relationship to ethanol intake.

Alcohol Usage

As this analysis aimed to test a curvilinear hypothesis between alcohol usage and blood pressure, an ordinal set of 5-10 drinking categories to describe the relation graphically was constructed; such drinking categories would also partially avoid the difficulties of using the highly skewed "L" shaped distribution of ethanol oz/wk for which the mean and variance in regression analyses are inapt descriptors. We felt that drinking categories should be defined more by community norms than by arbitrary research assumptions. We therefore decided to use both self-labels and drinking frequency reports in a pilot analysis of our 1977 data to define community drinking categories, and then apply these 1977 categories to ethanol oz/wk obtained in our CVI 1960 study sample. It should be noted that items on self-label were not asked in CVI 1960. These aims resulted in an eight-point rank order set of drinking categories (spelled out in Table 5) which we called "Tecumseh Norm, 8."

Construction of the Tecumseh Norm, 8 Variables

In 1977, questionnaire data were collected on a sample of 1,672 persons obtained from a list of multi-sibling families listed in the TCHS census (N = 17,809) and from all participants in CVI and CVII examinations, as described in detail elsewhere.[6] We excluded all past drinkers for several reasons: their recalled amounts of drinking is dubious, they have stopped drinking both recently and many years ago, and as a group they apparently have high mortality.[7] These exclusions left 1,481 persons, ages 18-70 (practically all of whom resided in the Tecumseh area while growing up and about 70 per cent of whom still did so in 1977): current drinkers = 1,266, and abstainers = 215.

TABLE 2—Ranges of Ethanol Oz/Wk by Tecumseh Norms and Sex, for Current Drinkers Only (N= 1,266)

	Tecumseh Norm Categories: Very Light	Light	Moderate	Heavy
Males				
Eth. oz/wk	.01 -1.35	1.36-5.76	5.77-15.88	≥ 15.89
DD*	.003- .38	.39-1.65	1.66- 4.54	≥ 4.55
Females				
Eth. oz/wk	.005- .49	.50-3.53	3.54-13.87	≥ 13.88
DD*	.001- .14	.15-1.00	1.01- 3.96	≥ 3.97

*DD = average drinks per day. There are, on the average, .5 oz of ethanol per drink. Therefore, the number of drinks per day is crudely computed by 2 × the ethanol oz/wk divided by 7 (days in week).

TABLE 3—Per Cent Comparison of Self-Label by Tecumseh Norms for 1977 Current Drinkers by Sex (N = 1,266)

	Males/Self-Label									
	Very Light		Light		Moderate		Heavy		Total	
Tecumseh Norms	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Very Light	81	(185)	26	(39)	4	(8)	3	(1)	38	(233)
Light	18	(40)	51	(77)	22	(45)	3	(1)	26	(163)
Moderate	1	(3)	21	(31)	47	(95)	41	(16)	23	(145)
Heavy	—	—	2	(3)	27	(55)	53	(21)	13	(79)
TOTAL	100	(228)	100	(150)	100	(203)	100	(39)	100	(620)
								Contingency coefficient = .66		

	Females/Self-Label									
	Very Light		Light		Moderate		Heavy		Total	
Tecumseh Norms	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Very Light	79	(307)	27	(42)	2	(2)	—	—	54	(351)
Light	18	(72)	54	(83)	33	(32)	—	—	29	(187)
Moderate	2	(6)	18	(28)	49	(48)	29	(2)	13	(84)
Heavy	1	(2)	1	(1)	16	(16)	71	(5)	4	(24)
TOTAL	100	(387)	100	(154)	100	(98)	100	(7)	100	(646)
								Contingency coefficient = .64		

Both self-label and consumption measures were taken in 1977. Consumption measures were also obtained by a modified use of 13 items suggested by Cahalan, *et al.*[8] A measure of ethanol oz/wk was then constructed.[9]

We next distributed these 1977 ethanol oz/wk scores by each self-label by the highest reported frequency of use across all beverages, as shown in Table 1 for men (the results for women are similar in pattern and are not shown). It is clear that the meaning in terms of ethanol oz/wk which individuals reported for each self-label ranged widely. Frequency histograms of the ethanol oz/wk for these self-label curves, including abstainers, reveal J-shaped, skewed, and flat distributions; a simple mean was therefore not an adequate summary statistic.

We chose to use the median intake for each self-label distribution in Table 1 as the measure of central tendency. We then selected the "cutpoints" or intervals about this median that would include the mean (which was mostly greater than the median) and retain a majority (50 + per cent) or more of the distribution across the mode frequency cells.

TABLE 4 Descriptive Statistics for Ethanol Qz/Wk by Sex and Tecumseh Norm Categories (Q 1977 and CVI 1960 Samples)

		Males					Females				
Tecumseh Norm Categories	Sample	N	%	E[a]	S.D.	Median	N	%	E	S.D	Median
Abstainer	Q 1977	54	8	—	—	—	161	20	—	—	—
	CVI	224	14	—	—	—	710	40	—	—	—
Very Light	Q 1977	233	35	.38	.39	.20	351	44	.12	.12	.06
	CVI	603	38	.45	.36	.40	486	27	.14	.09	.10
Light	Q 1977	163	24	3.05	1.30	2.90	187	23	1.51	.87	1.30
	CVI	474	29	2.87	1.16	2.80	435	24	1.27	.80	1.20
Moderate	Q 1977	145	21	10.17	2.91	9.80	84	10	6.96	3.23	5.70
	CVI	244	15	8.89	2.72	8.20	141	8	6.18	2.72	5.40
Heavy	Q 1977	79	12	32.81	19.24	22.20	24	3	20.62	8.02	16.50
	CVI	61	4	25.61	14.44	20.20	12	1	19.50	4.25	18.90
TOTAL	Q 1977	674	100	6.90	12.18	2.06	807	100	1.74	4.28	.15
	CVI	1606	100	3.34	6.14	1.10	1784	100	.97	2.43	.10

[a]E = mean ethanol oz per week.

TABLE 5—Ranges and Mean Ethanol (oz/wk) Values for TECNORM8 Categories (CVI: N = 3,390)[a]

TECNORM8 Categories	Male (N = 1606)					Female (N = 1784)				
	N	%	Range	Mean Ethanol (Oz/Wk)	DD[b]	N	%	Range	Mean Ethanol (Oz/Wk)	DD[b]
Abstainer	224	14	—	—	—	710	40	—	—	—
Low Very Light	296	18	0.1 - .30	.14	.04	58	3	>.00- .01	<.01	<.01
High Very Light	307	19	.40- 1.20	.74	.21	428	24	.10- .30	.16	.05
Low Light	243	15	1.30- 2.70	1.91	.55	231	13	.40- 1.10	.65	.19
High Light	231	14	2.80- 5.60	3.87	1.11	204	11	1.20- 3.40	1.98	.57
Low Moderate	123	8	5.70- 8.10	6.60	1.89	60	3	3.50- 5.00	3.99	1.14
High Moderate	121	8	8.20- 15.70	11.22	3.21	81	5	5.40-13.40	7.81	2.23
Heavy	61	4	15.80-102.50	25.60	7.31	12	1	13.50-29.70	19.50	5.57
TOTAL	1606	100	0.0 -102.50	3.34	.95	1784	100	0.0 -29.7	.97	.28

[a]This N excludes Past Drinkers.

[b]DD = Average drinks per day: $\frac{2 \times (\text{oz/wk})}{7 \text{ (days in week)}}$

Using these criteria of central tendency and variability, categories of ethanol oz/wk were selected and are called "Tecumseh Norms" (see Table 2).

Table 3 compares the Self-Label categories with the Tecumseh Norms, still using 1977 data. For example, those self-labeled as Light, about 50 per cent retained this label, but slightly more, about 26 per cent, were reclassified as Very Light, and 20 per cent were raised to Moderate, and three men and one woman were relabeled as Heavy drinkers. In total, 61 per cent of the currently drinking men and 72 per cent of the women were classified with the same drinking label from both their own viewpoint and from the group consumption norms.

Using data in the CVI 1960 sample, we then obtained measures of ethanol oz/wk from the medical history questionnaire.[7] We applied the 1977 TECNORM categories to the CVI 1960 ethanol distributions with results shown in Table 4. We expected that there would be fewer Abstainers and more Moderate and Heavy drinkers in the time between 1960 and 1977, because of historical changes in the community: the town changed from "dry" to "wet" in the early 1960s; and the 1960s "counter-culture" generally released constraints on the use of mood-altering drugs. For males, these expectations held up; for women, however, the increases were also in the Very Light category. Ratios of differences between men and women remained the same: four times as many men than women were Heavy drinkers in 1977 as well as in 1960.

Finally, to have a finer test of the expected curvilinear relationship between the Tecumseh Norm drinking categories and blood pressure, we converted the five categories into an eight-category variable. The new variable was constructed by simply dividing the categories of Very Light, Light, and Moderate at the median ethanol oz/wk for CVI data, as shown in Table 5. The new variable is called Tecumseh Norm, 8 category (TECNORM8). The average drinks per day (DD) have been computed to give the reader a comparative value. The drinking categories can be expressed in equivalent form as a label or colloquial term, a range of ethanol oz/wk, or average number of drinks consumed per week or per day.

Results

At this point, we reinvestigated the relation of blood pressure to the ordinal scale of the TEC8 norms. For men, the relationship is linear (see Figures 1 and 2), but we see a more pronounced "dip" in the curve. The low point is "High Very Light" or about 1 1/2 drinks a week as defined in Table 5. Adjustments of blood pressure for age and weight do not appear to alter the raw-score curve.

To investigate these relationships in a more quantitative fashion and to adjust the blood pressure values for effects of the concomitant variables (age and weight as well as the ordinal variable, TEC8), multiple regressions involving combinations of these independent variables were used to assess the relation to the dependent variable, blood pressure. Table 6 summarizes regressions for systolic and diastolic blood pressures. Note that R^2 is 9 per cent for systolic and 8 per cent for diastolic blood pressure, indicating that there is considerable variation in blood pressure not accounted for by the independent variables. We also note that if the quadratic term, "TEC8 squared" (TEC8SQR) is included in the model for systolic blood pressure containing weight, age, TEC8, and an age by TEC8SQR interaction term, it (TEC8SQR) will be statistically significant ($p < .002$). However, in the model for diastolic blood pressure, which includes the same terms as the systolic model, than TEC8, TEC8SQR, and an AGE by TEC8SQR interaction term are not significant. These findings indicate that the TEC8 variables contribute significantly if age and weight are in the model for systolic, but not for diastolic blood pressure.

For women, adjustment of blood pressure for both age and weight (Figures 1 and 2) affects the ethanol-blood pressure levels relationship more than for the men. The "dip" in

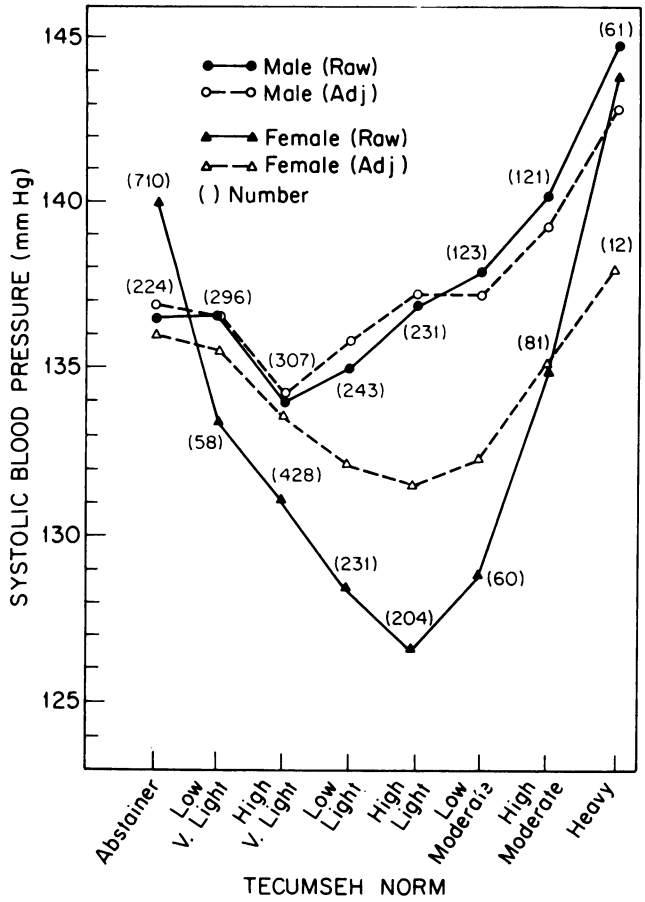

FIGURE 1—Raw and Age-Weight-Adjusted Systolic Blood Pressure and Tecumseh Norm Categories, by Sex (N = 3,390).

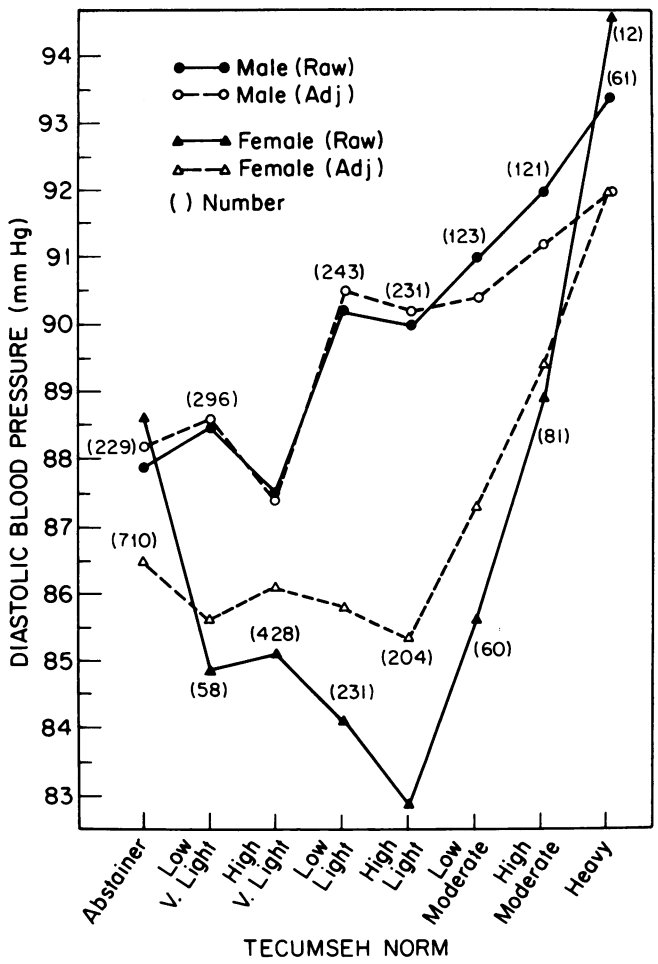

FIGURE 2—Raw and Age-Weight-Adjusted Diastolic Blood Pressure and Tecumseh Norm Categories, by Sex (N = 3,390).

the J-curve of the blood pressure levels appears at the High Light in Figures 1 and 2 or about four drinks a week as defined in Table 5. Data (not shown) indicate clearly that this curvilinear effect is minimal for women under age 40 and maximal for older, heavier women. Table 7 indicates that a regression model similar to that for males is indeed significant statistically for women for both systolic and diastolic ($r < .0001$), and $R^2 = 32$ per cent and 19 per cent for systolic and diastolic blood pressure, respectively.

Finally, it must be noted that while the data indicate a strong association of blood pressure and alcohol usage, of a curvilinear nature, especially for women, 48 per cent of our Heavy drinkers, both men and women, have normal (< 139/89) blood pressure levels (age-weight adjusted). There is still much to learn about the mechanisms relating alcohol usage to blood pressure levels.

Discussion

The relationship between alcohol usage and blood pressure in a "normal" population differs by sex. For men, the relation appears linear with a slight "dip" at about 1-2 drinks per week for both systolic and diastolic blood pressure. This relationship appears unaffected by age, weight, and smoking (data not shown). For women, there is a "curvilinear" effect for both systolic and diastolic, with a significant interaction effect for age, such that for older, heavier women this curvilinear effect is strongest. The "dip" in these curves for women appears at about four drinks per week. For both men and women, the highest levels of reported intake were associated with the highest levels of (age and weight adjusted) blood pressure. Abstainers also had slightly higher adjusted pressures than the High Very Light for men and High Light for women. These findings may clarify the curves presented by Klatsky, *et al.*,[4] and Hawthorne and Smalls. (unpublished paper footnoted earlier)**

**It might also be noted that in a series of patients being diagnosed for angina (N = 2,048 male and 480 females), the data suggest a curvilinear relation between per cent hypertension and ethanol oz/wk, for both men and women, with the lowest per cent occurring at 6-12 oz/wk (1.6-3+ drinks daily) for men, and at 1-6 oz/wk (.2-1.5 drinks daily) for women.[10] Patently, criteria for classifying ethanol oz/wk are a desirable objective.

TABLE 6—Multiple Regression for Systolic and Diastolic Blood Pressure, Males

		Systolic			
Source	DF	Sum Sqrs	Mean Sqr	F-Stat	Signif
Regression	5	45783.	9156.6	32.371	.0000
Error	1600	.45259 +6	282.87		
TOTAL	1605	.49837 +6			
Mult R = .30;		R= = .09;	SE = 16.8		
Variable		Coeff	Std Error		Signif
Constant		132.36	1.7624		0.
WGT		6.3723	.84373		.0000
AGE		7.3756	1.2324		.0000
TEC8		−2.2094	.89652		.0138
TEC8SQR		.34114	.11044		.0020
AGET8SQR		−.11191 −1	.50773 −1		.8256
		Diastolic			
Source	DF	Sum Sqrs	Mean Sqr	F-Stat	Signif
Regression	5	24512.	4902.5	29.175	.0000
Error	1600	.26886 +6	168.04		
TOTAL	1605	.29337 +6			
Mult R = .29;		R= = .08;	SE = 12.9		
Variable		Coeff	Std Error		Signif
Constant		82.811	1.3583		0.
WGT		5.7369	.65030		.0000
AGE		4.3113	.94986		.0000
TEC8		.24501	.69098		.7229
TEC8SQR		.40685 −1	.85119 −1		.6327
AGET8SQR		−.14977 −2	.39133 −1		.9695

A number of explanations of these J-shaped distributions may be offered but the scientific basis may rest in the etiology of hypertension. It would be atrractive to invoke as a mechanism the strong diuretic action of alcohol. Salt and water depletion associated with mild to moderate or early alcohol intake could result in a fall in blood pressure that might be time-related. Thereafter habituation to alcohol could be hypothesized as neutralizing this early effect and then engaging mechanisms of the main factor or factors, i.e., liver dysfunction, associated with the rise in blood pressure at the extremes of the alcohol distribution. It has also been observed that people vary in degree of vascular dilation after alcohol consumption such that performance of complex tasks is impeded for "vasoconstrictors."[11] We can speculate that this vascular response to alcohol may also be time-related, such that abstainers and heavy users would evidence a small degree of vasodilation while "light" users would tend to higher degrees.

For alcohol intake, the situation among researchers provides a great variety of methods of observation and of measured units, e.g., "drinks per day," "ml/week," "grams" and "ml per day," and "alcohol score." Experience indicates that "ethanol, oz/week" might be useful for standardized questionnaire inquiries into the full range of drinking from abstinence to daily, heavy usage. We suggest the four items in Appendix A adapted from Cahalan, *et al,*[8] as a minimal set, as an illustration of a method for reporting "ounces per week"; the final items and equivalents could be arrived at by a committee method as used by the American Society for Testing and Materials.[12] The main point of this illustration is to note that such standardization of a basic method to measure and classify intake is feasible, desirable, and overdue.

Meaningful labels to define categories of drinking for public health purposes are also needed. Public reports by government and the media use such terms as "abstainers" (often categorizing "past drinkers" with "teetotalers"), "light," "moderate," "heavy," and "problem" drinkers. These evaluative labels change over time even in the same population.[13] Contrary to present public policy emphasis on the hazards of drinking, the 1978 report to the Congress on Alcohol and Health,[14] mentions briefly only one positive ef-

TABLE 7—Multiple Regression for Systolic and Diastolic Blood Pressure, Females

		Systolic			
Source	DF	Sum Sqrs	Mean Sqr	F-Stat	Signif
Regression	5	.30574 +6	61149.	164.10	0.
Error	1778	.66254 +6	372.63		
TOTAL	1783	.96828 +6			
Mult R = .56;	R-Sqr = .32;	SE = 19.3			
Variable		Coeff	Std Error		Signif
Constant		126.49	1.5995		0.
WGT		9.6029	.94397		.0000
AGE		23.991	1.2366		.0000
TEC8		−5.1577	.93675		.0000
TEC8SQR		.71667	.13779		.0000
AGET8SQR		−.31722	.69725 −1		.0000
		Diastolic			
Source	DF	Sum Sqrs	Mean Sqr	F-Stat	Signif
Regression	5	66378.	13276.	82.836	.0000
Error	1778	.28495 +6	160.26		
TOTAL	1783	.35132 +6			
Mult R = .44;	R-Sqr = .19;	SE = 12.6			
Variable		Coeff	Std Error		Signif
Constant		81.815	1.0489		0.
WGT		6.5977	.61906		.0000
AGE		9.5311	.81096		.0000
TEC8		−2.4449	.61433		.0001
TEC8SQR		.38138	.90364 −1		.0000
AGET8SQR		−.10952	.45726 −1		.0167

fect of drinking—a positive relationship to HDL lipids. There is other evidence that "drinking can be good for you."[15] We believe therefore that the public issue of moment is how to develop habits of "moderate and healthy" drinking for Americans, rather than urge another effort at prohibition. We suggest, by combining both individual self-labels and their reported drinking intake in ethanol oz/wk, that community norms can be measured to describe local semantic usage (categories of intake) both by label and by average drinks consumed per day. These categories and usage can be periodically reassessed for given communities, demographic subsets, work organizations, regional areas, or even for national samples.

There is evidence that people may change categories over time.[16] These intake categories can of course be more finely constructed into a drinking taxonomy with inclusion of standard social and psychological measures. The critical drinking pattern to define with conventional methods is the "borderline"—pre-heavy and well before the alcoholic stage. This category might then define the *limits* for healthy drinking, and signal for intervention just as borderline blood pressure levels now signal for medical attention.

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ACKNOWLEDGMENTS

This work was supported by National Institute of Alcohol Abuse and Alcoholism grant #2 RO1-AA-02884-01-04, with supplemental funding from the Christopher D. Smithers Foundation and the American Heart Association. Acknowledgment for work during data collection is noted for Christine Deutsch, Marcy Breslow, Karen Donahue, Alice Exelby, Carol Kent, Sharon Leech, Deborah Poinier, and Peter Roeper. Our interviewers were Roberta Ludwig, Susan Neshin, and Carol Wyman.

APPENDIX

Q1. Do you currently drink beer or wine, or liquor?

1. Yes
2. I used to, but have stopped completely (SKIP TO Q4)
3. Never drank alcohol beverages at all (SKIP TO ___)

Q2. How *often* do you usually have a drink of (beverage)?

1. A few times a year or less
2. About once a month
3. 2-3 times a month
4. 1-2 times a week
5. 3-4 times a week
6. Nearly every day
7. Regular daily
8. 2 times a day
9. 3 times a day
10. 4 or more times a day

Q3. When you drink, how many drinks of (beverage) do you *usually* have on *each occasion*?

1 2 3 4 5 6 7 8 9 10+

Q4. How would you describe your drinking?

1. Very Light
2. Light
3. Light Moderate
4. Moderate
5. Heavy Moderate
6. Heavy
7. Very Heavy

(Items 2 and 3 should be asked for beer, wine, and liquor, separately.) With this set of items the variable "oz/week" could be estimated by assuming certain standard American equivalents, and then compute community norms.

Beverage	Average Unit Volume	Per cent Ethanol	Ethanol oz per Drink
Wine	4 oz	15%	.60
Beer	12 oz	4%	.48
Liquor	1 oz	45%	.45