PAPERS AND SHORT REPORTS

The changing pattern of alcohol consumption in England and Wales 1978-85

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Abstract

An alcohol consumption survey of 926 people aged 18 or over in England and Wales was conducted by Gallup in 1985. The results were compared with those obtained in a similar survey conducted by the Office of Population Censuses and Surveys in 1978. Overall alcohol consumption remained virtually unchanged. Men showed little difference in drinking habits, except for the 18-24 age group, who seemed to be drinking less. For women mean alcohol consumption in 1985 was similar to that in 1978, but more women were not drinking at all so the mean alcohol consumption per drinker had risen. As with earlier work, this study showed that social class had little influence on alcohol consumption, while being married seemed to have a moderating effect. A variable regional pattern of alcohol intake was found. In a separate analysis underage drinking was common among 16-17 year olds (65%). Their pattern of drinking was similar to that of other age groups, except for those over 65 years, who drank less.

Change in alcohol intake in the UK over the seven years was in the middle of the range of values for other European countries. The stable UK overall consumption was perhaps due to the constant relative price of alcohol.

Introduction

Over the past few years considerable sums have been spent on advertising both the benefits and the dangers of alcohol. Yearly consumption figures for Great Britain are produced by HM Customs and Excise as well as the Brewers Society. These data are mainly gross figures and pay little attention to subsamples within

the general population. The last detailed figures were generated by Wilson,¹ who surveyed 1996 adults living in England and Wales. The present study replicates this 1978 survey.

Method

STUDY SAMPLE

The present survey was conducted as part of a much larger venture concerned with consumption patterns of legally available psychoactive substances. To obtain baseline data a survey of 1058 people aged over 16 years was conducted by Gallup. This was undertaken as part of an omnibus survey in which sampling took place throughout Great Britain.

One hundred and ten interviewers were used. They were stratified by region and town size to be representative of population spread. Each interviewer was given a quota of 10 interviews, specified by age, sex, social class, and employment status, so that the sample conformed to known population statistics. About 60-65% of interviews were undertaken "on the street," while the remainder were conducted within the interviewee's home. The survey was undertaken during October 1985.

Wilson obtained his sample by selecting, at random, 35 people from the electoral register of 72 constituencies in England and Wales.¹ These constituencies were stratified by region, and all subjects were assessed using a structured interview in their homes. No data were obtained from 14% of the sample because of refusal or non-availability of subjects.

So that we could compare our data with those of Wilson we included in this report only figures relating to participants from England and Wales who were at least 18 years old. This resulted in the sample size being reduced from 1058 to 926 (428 men and 498 women). Underage drinkers were considered separately.

No data are available on the refusal rate during the survey. From past experience Gallup would expect a rate of about 20%.

QUESTIONS ASKED

Each subject was asked two questions. (1) "Thinking about the last 7 days, on how many of those days did you have at least one alcoholic drink?" (2) "Still thinking about the last 7 days, how many of each of the following types of drink did you have on a typical day: (a) beer, lager, cider (½ pint equivalents); (b) wine (glasses); (c) fortified wine—sherry, port (glasses); (d) spirits—gin, whisky (measures)?"

From this information we calculated the number of standard units of

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alcohol consumed in the previous seven days for each subject, where a unit is equivalent to a half pint, a single measure of spirits, a glass of wine, or a small glass of fortified wine. By definition "non-drinkers" had consumed no alcohol during the week before the survey.

STATISTICAL METHODS

Differences between groups in average consumption were assessed using analysis of variance (ANOVA). Pairwise comparisons used Student's *t* test. The significance of differences in the proportions of each group falling into certain categories—non-drinkers, heavy drinkers, etc.—was assessed using the χ^2 test. *P* values of less than or equal to 0.05 were considered to be significant.

Results

Throughout this section relevant data from Wilson¹ are also presented.

The 926 people surveyed consumed 9088 units of alcoholic drink during the one week period. Overall mean alcohol consumption was 15.3 units for men and 5.1 units for women. The proportion of non-drinkers was 23.8% of men and 51.0% of women. The average weekly consumption for drinkers was 20.1 units for men and 10.4 units for women (table I).

No significant differences were noted in the percentage of non-drinkers or in the alcohol consumption of men between 1978 and 1985. The increase in overall alcohol consumption for women from 1978 to 1985 was not statistically significant. The proportion of women non-drinkers was, however, significantly greater ($p=0.001$). Thus the increase in alcohol consumption among those women who did drink was significant ($p=0.022$). A summary of alcohol consumption by age and sex is given in table II.

COMPARISON BETWEEN AGE GROUPS (1985)

Two trends were noted: the percentage of non-drinkers increased with age, and mean consumption of alcohol decreased with age—whether measured by overall consumption or by drinker only consumption.

Very high consumption was found among men aged 55-64 (table II). This was due to two extreme values of >200 units per week. When these outliers were removed analysis of variance showed significant differences between age groups ($p=0.011$). This was due to those aged 65 or over, who drank appreciably less than the other groups. Repeat analysis with this group excluded, however, showed no significant difference between the remaining five age groups.

Among women analysis of variance showed no significant differences between age groups ($p=0.083$), though inspection of these data again showed that those aged 65 or over drank the least.

When these analyses were repeated for mean consumption per drinker, similar findings occurred.

To facilitate management of results and comparison with Wilson's data we classified as light drinkers men drinking 1-10 units and women drinking 1-5; as moderate drinkers men drinking 11-50 units and women drinking 6-35; and as heavy drinkers men drinking over 50 units and women drinking over 35. Table III presents these data, with drinker types classified according to age and sex.

For men the proportion of each type of drinker differed significantly between age groups ($p=0.001$). This difference was due chiefly to those aged 65 or over, who included a high proportion of non-drinkers and light drinkers. When this group was excluded there were no significant differences between the other age groups ($p=0.30$).

TABLE I—Overall consumption and abstinence figures

	1985 Survey	1978 Survey
Overall mean alcohol consumption (units):		
Men	15.3	15.4
Women	5.1	4.2
Total sample	9.8	9.4
Mean alcohol consumption of drinkers (units):		
Men	20.1	20.3
Women	10.4	7.2
Total sample	16.0	14.2
Percentage of non-drinkers:		
Men	23.8	23.6
Women	51.0	42.2
Total sample	38.6	33.5

TABLE II—Alcohol consumption in previous week by sex and age

Age	Sample size	Mean consumption		Non-drinkers (%)
		Overall (units)	Drinkers only (units)	
Men:				
18-24	81	18.9	22.8	17
-34	70	15.5	17.8	13
-44	78	14.9	18.2	18
-54	70	12.9	16.7	23
-64	45	26.3	38.2	31
≥65	84	8.2	14.1	42
Women:				
18-24	84	8.5	14.0	39
-34	91	6.4	11.7	45
-44	79	4.7	9.0	48
-54	85	3.2	6.7	52
-64	63	6.2	12.2	49
≥65	96	2.1	6.9	70
Combined:				
18-24	165	13.6	19.0	28
-34	161	10.4	15.0	31
-44	157	9.8	14.6	33
-54	155	7.6	12.4	39
-64	108	14.6	25.0	42
≥65	180	5.0	11.4	57

TABLE III—Type of drinker by age and sex. Values are percentages

Age	1985				1978			
	None	Light	Moderate	Heavy	None	Light	Moderate	Heavy
Men								
18-24	17	36	40	7	7	27	53	13
-34	13	46	36	6	12	34	45	8
-44	18	40	36	6	18	32	45	7
-54	23	41	33	3	23	37	36	5
-64	31	27	29	13	32	36	28	4
≥65	42	39	17	2	46	30	23	1
Total sample	24	39	32	6	24	33	38	6
Women								
18-24	39	29	30	2	22	38	36	4
-34	45	34	16	4	31	41	27	1
-44	48	23	24	5	35	38	25	2
-54	52	34	13	1	41	33	25	1
-64	49	33	11	6	52	33	15	0
≥65	70	16	14	1	63	25	11	0
Total sample	51	28	18	3	42	34	22	1

For women the proportions of each type of drinker differed significantly between age groups ($p=0.001$). As with the men, this difference was due chiefly to women aged 65 or over having a higher proportion of non-drinkers than the other age groups. When this group was excluded there were no significant differences between the other age groups ($p=0.12$).

COMPARISON BETWEEN 1978 AND 1985

Alcohol consumption of men and women in 1978 and 1985 was compared in terms of the proportions of each type of drinker. The analysis was undertaken separately for the two sexes (table III).

The overall patterns for men—that is, ignoring age groups—in 1978 and 1985 were similar, with 24% of them non-drinkers and 6% heavy drinkers in both years. There was no significant difference between the two overall drinking patterns. When individual age groups were considered, the only one showing much change was the 18-24 group, where the proportion of non-drinkers rose from 7% to 17% and the proportion of heavy drinkers fell from 13% to 7%. Taken in isolation, this group did show a significant change in consumption pattern between 1978 and 1985 ($p=0.024$). As this particular comparison was suggested by inspecting the data rather than from prior consideration, however, the *p* value overstates the significance of this change. Thus the suggestion of reduced drinking in the 18-24 age group can be made only tentatively.

The overall pattern for women—ignoring age groups—was significantly different in 1978 from 1985 ($p<0.001$), with an increase in non-drinkers from 42% to 51% and an increase in heavy drinkers from 1.0% to 3.2%. This "polarisation" appeared to apply fairly generally across the age groups. When each age group was considered individually there were significant differences between 1978 and 1985 in women aged 18-24 ($p=0.015$), 25-34 ($p=0.048$), 35-44 ($p=0.034$), and 45-54 ($p=0.034$).

REGIONAL VARIATION

Data collected from 10 regions in England and Wales are shown in table IV. Between 24 and 118 subjects were questioned in each area. The regions are unlikely to coincide exactly with those of the 1978 survey, but rather similar regional drinking patterns were seen in both studies.

SOCIAL CLASS

Data on social class were collected, but the group definitions were not exactly equivalent to those of Wilson.¹ The major difference lay with the lowest social group: in Wilson's survey this represented "unskilled manual workers," while in ours it included people dependent on the state for their income, such as pensioners and those out of work. Results for 1978 were, however, broadly similar to those of 1985. In both surveys social class seemed to have little important bearing on alcohol consumption.

MARITAL STATUS

Overall mean alcohol consumption by sex and marital status is given in table V. As was found earlier,¹ single people drank more heavily than those who were married or who had previously lived with another person.

UNDERAGED DRINKING

The data for those subjects aged 16 and 17 (who have so far been excluded from this analysis) are presented separately in table VI. Also in this table are data obtained from Marsh *et al.*,² who surveyed underage drinkers in 1984. Their results were similar to ours.

Although our sample was small ($n=31$), the data did not suggest particularly heavy drinking in this age group. In fact the pattern of drinking was similar to that of the other age groups considered, except for those over 65 years, who drank less (table III).

DATA VALIDATION

To provide some external criterion by which our data could be validated, we compared the consumption of alcohol per head according to Customs and Excise figures with the consumption according to the surveys. Customs and Excise figures show little change in alcohol consumption between 1978 and 1985: in England and Wales intake of absolute alcohol per person was 9.8 litres in 1978 and 9.7 litres in 1985. This similarity was reflected by the two survey results, where the present study recorded an average weekly intake of 9.8 units and the 1978 survey an intake of 9.4 units.

The units reported in our own survey corresponded to about 58% of the consumption recorded by the Customs and Excise. This figure was similar to the 53% found by Wilson.¹ Wilson concluded that this discrepancy could be accounted for by: (a) error of memory, (b) deliberate underreporting, (c) non-response by people with a serious drinking problem, (d) underrepresentation of people with a serious drinking problem in most surveys, and (e) seasonal variation in drinking.³ These factors were probably operating during the present survey.

Wilson found that the 3% of the sample who were the heaviest drinkers accounted for 25% of the total recorded consumption.³ In a survey of Scottish drinking habits Dight found that 3% of the sample accounted for 30% of the total recorded consumption.⁴ In this survey the heaviest drinking 3% of the sample accounted for 33% of the total recorded consumption.

TABLE V—Overall mean alcohol consumption by sex and marital status

	1985 Survey		1978 Survey	
	Men	Women	Men	Women
Single	18.6	10.2	23.2	7.6
Married	12.8	4.7	13.9	3.9
Divorced, separated, or widowed	15.4	3.2	11.2	3.2

TABLE VI—Type of drinker for total sample (sexes combined) and underaged subjects

Age	None (%)	Light (%)	Moderate (%)	Heavy (%)
<i>Men and women aged ≥18</i>				
18-24	28	32	35	5
25-34	31	39	25	5
35-44	33	31	30	6
45-54	39	37	22	2
55-64	42	30	19	9
≥65	57	27	15	1
Total sample (No (%))	356(38)	304(33)	225(25)	41(4)
<i>Underaged drinkers (16 and 17)</i>				
1985 sample ($n=31$)	35	26	35	3
1984 sample ² ($n=587$)	39	33	27	1

Regional consumption for the south east, excluding London, was remarkably similar to that obtained in a 1982 survey conducted in Kent.⁵ Thus we showed that men in the south east consumed 17.3 units and women consumed 6.8 units during the previous week. The corresponding figures from the earlier survey were 16.9 and 7.2 units.⁵

Finally, the pattern of drinking for underage subjects (16-17 years) that we found was similar to that found by Marsh *et al.* a year earlier.²

Taken overall, these similarities between official figures and research surveys give an apparent validity to our findings.

Discussion

Any conclusions based on the present survey must be treated with caution because of the relatively small size of the sample (926). Nevertheless, several factors seem to emerge when the patterns of drinking within different age groups are compared between 1978 and 1985.

In the population as a whole alcohol consumption in England and Wales was virtually the same in 1985 as it was in 1978. Peak consumption occurred in 1979 and was followed by a gradual reduction and then increase in consumption.

Among men average alcohol consumption remained constant at 15.3-15.4 units/week. Likewise, the proportion of male non-drinkers remained constant at about 24%. As a result, the alcohol consumption of male drinkers has not changed, being about 20 units per week. The only notable change occurred among 18-24 year olds. A reduction in drinking was noted across the board, there being a shift from heavy to moderate and moderate to light drinking and an increase in the proportion of non-drinkers. Many factors might account for this change, but the impact of government advertising,

TABLE IV—Mean weekly alcohol consumption per drinker (units) for men and women by region

	North west	North	North east	Wales	Midlands		London		South west	South east excluding London	East Anglia
					East	West	Inner	Outer			
1985 Survey:											
Men	22.4	28.1	25.0	23.5	19.7	10.8	25.7		8.5	17.3	18.5
Women	10.5	8.9	10.0	35.5*	10.5	9.4	9.8		6.3	6.8	5.3
Sample size (drinkers)	71	47	55	41	47	45	71		52	118	24
1978 Survey:											
Men	23.2	26.3	20.5	20.4	14.5	20.1	20.2	20.6	21.3	19.4	12.0
Women	7.9	6.5	6.7	9.4	3.8	9.1	9.0	6.0	5.3	8.2	5.7
Sample size (drinkers)	149	101	128	72	94	151	69	116	111	281	55

*One subject reported 252 units during the previous week.

especially about drinking and driving, might have influenced this more impressionable age group. Another possible explanation might be the increase in the unemployment rate among young people between 1978 and 1985. Some of this newly formed section of the unemployed might be expected to drink less because they could not afford it.

Among women the picture was different. In 1985 women consumed on average more alcohol than in 1978 (5.1 units *v* 4.2 units). Although the percentage of non-drinkers rose significantly (51% *v* 42%), the average alcohol consumption per woman drinker was significantly higher in 1985 than in 1978 (10.4 units *v* 7.2 units). Thus women seem to have "polarised" to some degree. More women were not drinking, but those who were drinking drank more. Apart from the current vogue for "healthy living," one factor influencing the increase in the numbers of non-drinkers may have been government sponsored negative advertising. This, however, was having no effect on those women who were drinking. For them the relative cheapness of alcohol in 1985 compared with 1978 could well have been a more relevant factor.⁶⁷ Likewise, the pressure of positive advertising from the Brewers Society plus the liberation of women, such that their lifestyles (and therefore patterns of drinking) more closely resembled those of men, may also have contributed to this increase.⁶

Whatever the reason for this increase, it is important to reverse this trend. Women are more sensitive to alcohol damage,⁹ and the inherent risk of increased consumption must therefore be made clear. Perhaps further advertising campaigns should highlight this risk.

The findings on regional variations must be considered with caution because of the small sample size. Nevertheless, rather broad agreement was seen between our survey and that of Wilson.¹ Both tended to show regional variation in consumption, with the northern areas, London, and Wales consuming the most, while East Anglia, the south west, and the south east consumed the least.

Like Wilson, we found that social class had little effect on alcohol consumption. Because of differences in definitions no formal comparisons were made between results from 1978 and 1985. These findings are, however, at variance with some others. A survey undertaken in a single London suburb suggested that men in the higher social classes drank less than those in the lower classes.¹⁰ This effect was reversed in women. Possible reasons for these different findings include great differences in the geographical spread of the work and a large time interval between the surveys.

Marital status, in both this and the 1978 survey, had some influence on alcohol consumption. Living with (or having lived with) another person seemed to moderate drinking.

Review of the limited data for underage drinking (16-17 years) did not suggest particularly heavy consumption in this group. Nevertheless, many people (65%) under the legal age limit were

drinking. This underage group showed similar consumption patterns to the other age groups, except for those over 65. Given the relative immaturity of 16 and 17 years olds such adult consumption patterns are likely to produce an increased incidence of alcohol related problems.

Consumption per head of alcohol correlates well with certain markers of alcohol morbidity and mortality (drunkenness convictions, drinking and driving offences, first admissions to hospital for alcohol dependence, death from cirrhosis of the liver).¹¹ Therefore we hope the fact that overall alcohol intake did not change between 1978 and 1985 heralds an eventual downturn in consumption with a resulting reduction in alcohol related harm.

Such a pattern was in fact seen over the same seven years in several European countries. Per capita consumption in litres of absolute alcohol fell between 1978 and 1985 in France (16.3 to 13.9 litres), Germany (12.9 to 11.3 litres), Italy (12.0 to 9.4 litres), and Spain (14.3 to 11.8 litres). Consumption in these countries in 1978 was, however, considerably greater than in the UK (7.2 litres). For those European countries with a more equivalent 1978 consumption a different pattern was seen. Thus intake increased in Belgium (10.2 to 10.8 litres), Denmark (8.9 to 9.8 litres), and Portugal (9.9 to 13.1 litres), dramatically in the last case; the Netherlands showed a small decline (8.9 to 8.7 litres). When compared with other European countries, Britain's performance was middling.

Probably the single most important reason why alcohol intake remained stable between 1978 and 1985 was the relative cost of alcohol. Over the period the "work equivalent" of a bottle of whisky changed from 2 hours 24 minutes to 2 hours 11 minutes and the percentage of disposable income spent on alcohol increased from 7.3 to 7.4%.⁷ The relative cost of alcohol thus changed little, and this might well account for the observed stability in alcohol consumption.

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SHORT REPORTS

First multiresistant pneumococcus in Britain

Multiresistant pneumococci were first detected in clinical specimens in South Africa in 1977 (types 6A and 19A)¹ from severe infections such as pneumonia and meningitis. Though pneumococci moderately resistant to penicillin (minimal inhibitory concentration 1 mg/l) have been isolated in Britain for years, no multiresistant isolate similar to the South African strains has been reported. We report the isolation of a type 6 strain showing multiple antibiotic resistance from the eye of a neonate in Bristol.

Case report

An eye swab was received in December 1986 from a 17 day old neonate with moderate conjunctivitis. The neonate had been delivered at home, had not

received any antibiotics, and was otherwise well. Culture of the swab produced a moderate growth of *Streptococcus pneumoniae*, identified by standard methods.² Minimal inhibitory concentrations to various antibiotics (table) were determined by a microdilution method (Sensititre APO1, Seward Laboratories) using Isosensitest agar (Oxoid) and 3% lysed horse blood or by broth dilution (for trimethoprim and sulphamethoxazole). The isolate was found to be sensitive to rifampicin and mupirocin on disc testing by a modified Stokes method.³ Capsular

Antimicrobial sensitivity of pneumococcus

Antimicrobial	Minimal inhibitory concentration	Antimicrobial	Minimal inhibitory concentration
Penicillin	1	Trimethoprim	16
Erythromycin	>32	Sulphamethoxazole	>64
Chloramphenicol	32	Vancomycin	0.5
Tetracycline	16		