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Factors Influencing Alcohol Consumption in a Workplace Setting

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Summary

A survey was undertaken with staff from the head office of a major multinational company, about their attitudes towards alcohol consumption and their own level of use. After reporting some of the main findings, a model is presented for discussion which purports to explain how such behaviour may arise and be maintained via the interaction of a number of factors operating at different levels of their social and personal environment.

Introduction

Previous surveys, which have gathered data on alcohol consumption and attitudes toward alcohol use have been predominantly concerned with the estimation of various indices in the general population at large (Wilson, 1980; Wood, 1986; Blaxter, 1987), or the evaluation of alcohol education campaigns (Budd et al., 1983). The research which has been directed at the influence of alcohol in working life, has been principally concerned with measuring various indices of alcohol-related harm (e.g. liver cirrhosis) in different occupational groups (Office of Population Censuses and Surveys, 1978) or else highlighting those factors which make some occupations more likely to be associated with heavier drinking than others (Plant, 1981). This work has been influential in drawing attention to the fact that most individuals with alcohol problems are in full time work and bring these with them to their place of work (Braine, 1977). To date however, little data have been collected on the normal attitudes and actual levels of alcohol consumption within a large workplace setting and how each of these reinforces the other.

Furthermore, beyond merely reporting the information obtained in the surveys, there has been little effort to explain the reported behaviour. If we are going to treat the study of people's attitudes and behaviour which affect their health as an object of serious scientific scrutiny, then we must not be content with simply describing them. The lack of any formulation of 'normal drinking behaviour' probably derives from the excessive efforts which were, for years devoted to trying to account for 'abnormal drinking behaviour'. Because alcoholism was thought to be the illness that befell a minority of individuals, prone because of some unknown constitutional weakness to excessive and damaging levels of drinking, it was presumed that the drinking behaviour of the rest of the population was not in need of explanation. Even more enlightened approaches to the causes of problem drinking (Orford, 1985; Heather and Robertson, 1986) concentrate almost totally on the minority of people with very marked problems. With knowledge of the extent of alcohol abuse in the country increasing and cognizance that the greater part of the problems caused to society by drinkers result from the actions of moderate drinkers (Royal College of Psychiatrists, 1986), there is now a more favourable climate for addressing the issue of the determining influences on normal patterns of drinking.

Recently interest in the workplace as a suitable setting for Alcohol Education (Randell et al., 1984; Cyster and McEwen, 1986a,b) has been generated. Current work undertaken with a major multinational employer situated in central London, and forming part of a larger project whose aim has been to develop, implement and evaluate materials to be used in alcohol training at the workplace, has provided an opportunity to redress some of the omissions in the literature referred to above. The main findings detailing the attitudes and reported levels of alcohol consumption within the company are contained in Roberts et al. (1988). For the purposes of the present article, these results will be reviewed and discussed in conjunction with further findings from the survey to support the presentation of a preliminary model intended to explain them.

Subjects and Methods

A postal questionnaire was sent to all the staff of a multinational company who were situated in central London. This was devised following a series of pilot interviews with a number of randomly selected members of the staff, regarding their views on alcohol use and misuse. A person's alcohol consumption was estimated on the basis of the levels reported in the 7 days prior to filling in the questionnaire. Past experience had indicated that making alcohol the sole subject of such a survey could lead to people feeling stigmatised. It was therefore decided to co-operate with the 'Smoking at the Workplace' project, also based at King's College. This would provide the opportunity of allowing us to compare a range of findings across different health issues.

Results

Three thousand staff were surveyed, of whom 1473 completed questionnaires (49·1 per cent). Of this number, 67 per cent were male and 33 per cent female. As response rates from different parts of the company did not differ significantly from their proportions in the total sample, we have no reasons for concluding that our sample of respondents are not drawn equally from different sections of the company.

The full results from this survey are given in Roberts et al. (1987).

They cover three areas: the patterns of alcohol consumption, attitudes toward alcohol consumption, and

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people's resistance to changing their behaviour toward alcohol. These will be summarized below, followed by a more detailed consideration of their correlates, to enable clarification of their determining influences.

Patterns of Alcohol Consumption

Six per cent of the sample declared themselves to be abstainers. Of those who reported currently drinking alcohol, weekly consumption averaged 15·57 units (17·88 units for men, 10·36 units for women). This difference is accounted for solely by beer consumption, with consumption for males being almost 5 times the level for females (10·34 units cf 2·13, $t = 13·37$, $p < 0·001$). These figures are roughly comparable with those obtained by Wilson (1980). Although the figures for females are noticeably higher (10·36 cf 7·0 units for females), the female respondents in our sample tended to come from younger age groups than the males, and so may in part reflect the higher alcohol consumption that is usually associated with young adults. Sensible limits for drinking recommended by the Royal College of Physicians (1987) of not more than 21 units/week for men and not more than 14 units/week for women were exceeded by 29·5 per cent of the men and 22·7 per cent of the women (see *Table I*).

When considered in relation to the Health Education Authority (1987) guidelines they show that approximately 10 per cent of both men and women are drinking at levels which are increasing likely to damage their health (above 35 units/week for men and 21 units for women).

A breakdown of the consumption figures on a day-by-day basis (*Table II*), show a generally rising pattern of alcohol consumption which peaks at the weekend.

Evidence was obtained which suggested that social desirability factors influenced the reporting of particular levels of consumption. Of the 27 per cent of the total sample who described their previous week's consumption as untypical, 88·9 per cent of these ($n = 353$) said they normally drank less.

Table I Alcohol consumption last week by sex (compared to national levels)*

Units	*Males*	*Wilson (1980)*	*Females*	*Wilson (1980)*
Teetotal	4·67	6	8·84	11
Nothing in last week	1·93	18	2·88	32
1–5	13·29	20	31·48	34
6–10	19·69	14	22·02	10
11–20	30·36	16	22·63	10
21–35	20·30	13	8·84	2
36–50	5·58	8	1·64	0
51 +	3·75	6	0·00	1
Mean	17·88	19·6	10·36	7
Sample	(985)	(933)	(486)	(1063)

* All figures are given as percentages. Figures for England and Wales to nearest whole number only.

Table II. Mean alcohol consumption each day (units)

	Day of week						
	Mon.	*Tues.*	*Wed.*	*Thur.*	*Fri.*	*Sat.*	*Sun.*
Men	1·82	2·04	2·09	2·02	3·20	4·06	2·66
Women	0·98	1·15	0·88	1·17	1·88	2·60	1·68
All	1·55	1·75	1·71	1·75	2·80	3·60	2·34

Attitudes to Alcohol Consumption

Subjects indicated a confused mixture of attitudes toward alcohol use. They considered there to be more negative than positive aspects to alcohol use (3·646 cf 2·434, $t = 23·47$, $p < 0·0001$). This was true for both men and women, however men considered there to be more positive aspects (2·511 cf 2·286, $t = 2·39$, $p = 0·017$) and the women more negative aspects (3·860 cf 3·536, $t = 2·61$, $p = 0·009$). Furthermore one third of those who did drink (33·9 per cent) had at some time considered reducing their alcohol intake. Almost three-quarters of these (73·6 per cent) had actually tried to cut down. Nearly one in five of respondents (18 per cent) had experienced other people's drinking causing a problem at work.

Side by side with these concerns about drinking, many respondents had very favourable views toward alcohol consumption; concerning how sensible it is to drink, drinking to be sociable, drinking being good for one's health. There were also a number of indications that regular alcohol consumption during the working day was looked upon favourably. Almost under three quarters of the sample considered it would be tolerable for someone to regularly drink either two pints of beer or a half bottle of wine over lunch. Fifteen per cent thought it would be tolerable for someone to drink regularly four pints at lunchtime, and over 14 per cent, would tolerate someone coming into work regularly with a hangover.

Resistance to Changing Behaviour

There was evience that subjects' attitudes and/or behaviour with regard to alcohol, would not be easily amenable to change. Given a list of possible health issues on which initiatives could be made at work, alcohol was deemed to be one of the least popular, behind diet, exercise, smoking and stress. Only A.I.D.S. was less favoured.

Subjects were not only reluctant to change their behaviour around alcohol in relation to their health, they also indicated that they would find it difficult to do. When asked to rate how easy they would find it to abstain from drinking alcohol should they be asked to do so by their G.P. for reasons connected with their health, 27·7 per cent indicated that it would not be easy. Perceived difficulty in abstaining was correlated significantly for both men ($r = 0·393$, $p < 0·0001$) and women ($r = 0·363$, $p < 0·0001$) with their weekly consumption levels. A similar proportion of the sample (28 per cent) expressed resistance to giving up drinking alcohol, when they were asked what they would do if for some reason it suddenly proved impossible to obtain alcoholic drinks in the usual manner. Most of this proportion (22·3 per cent) said they would make it themselves, with the rest (5·7 per cent) that they would make efforts to obtain alcohol elsewhere.

Further evidence of resistance to changing behaviour with alcohol is seen when comparing subjects' responses to questions concerning alcohol and tobacco use. Smoking was seen by respondents as being more detrimental to health (e.g. 74·8 per cent considered any cigarette consumption would pose a risk to health compared with 8·4 per cent for any beer consumption),

and yet more people favoured controls on the availability of alcohol at work, than on the availability of tobacco (57·3 per cent vs 45·1 per cent). Presumably alcohol is seen as a more negative influence on work than tobacco. This is interesting in that the company concerned are about to introduce a policy on smoking into the workplace ahead of any alcohol policy in response to pressure from the employees.

Discussion: Reasons for Observed Attitudes and Behaviour

The evidence reviewed so far portrays a workforce population, of whom a sizeable number are resistant to changing, a degree and pattern of alcohol consumption that is posing health risks to a significant number of that population. In this section, a model will be presented, which suggests that this state of affairs may be understood by reference to an interaction between a number of factors each operating at different levels of complexity.

From our survey a number of such influences can be identified. These include the age and sex-role norms which are imposed by society upon everyone, the role of established workplace norms and practices, the psychological processes which support the maintenance of certain beliefs, attitudes and behaviours and the extent of use of other psychoactive substances. Each of these levels will now be discussed in turn, drawing on results from the survey where appropriate; beginning with the most general levels of influence.

Age and Sex-Role Conditioning

As in other surveys the results in the present survey show the youngest age groups to have the highest reported levels (*Table III*).

As can be seen sex differences in consumption were marked for all age groups. Some of the other differences have already been touched upon. These included the amount and type of alcoholic beverage consumed each week, the numbers drinking above the recommended levels for their sex (29·5 per cent males vs 22·7 per cent females), the location where drinking took place (women were more likely to report drinking in wine bars than were men: $\chi^2 = 81{\cdot}31$ $p < 0{\cdot}0001$), and the appraisal of drinking. Concerning the latter, women considered there to be more negative aspects to drinking; the men more positive aspects. There were also significant associations between the sex of the respondent and whether they found it tolerable or 'O.K.' for someone to drink regularly at lunchtime; a half bottle of wine ($\chi^2 = 13{\cdot}301$, $p < 0{\cdot}005$), 2 pints of beer ($\chi^2 = 57{\cdot}381$, $df = 2$, $p < 0{\cdot}0005$) or 4 pints of beer ($\chi^2 = 28{\cdot}205$, $df = 2$, $p < 0{\cdot}0005$). In all cases it was the women who were proportionately more likely to say this was acceptable. One possible explanation for this is that the women were more open in their assessment of what they see to be the workplace or social norms for drinking, in contrast to the men being more reticent to acknowledge these. Another possibility is that because beer is the least popular form in which women drink alcohol they are not as good at judging the amounts which could lead to observably unacceptable effects. However this could not explain why more women think it is tolerable to consume a half bottle of wine over lunch when wine consumption does not differ significantly between the sexes.

Table III. Alcohol consumption (units) last week by age and sex

	Age Group (years)				
	18–24	*25–34*	*35–44*	*45–54*	*55–64*
Men	22·09	18·38	16·47	14·83	15·61
Women	11·34	9·15	8·74	9·00	6·46
All	15·85	14·02	15·06	13·90	14·12

There was also evidence that men are more likely than women to drink simply to be sociable ($\chi^2 = 45{\cdot}767$, $df = 4$, $p < 0{\cdot}0005$).

All of the differences noted above, concerning amount drunk, type of beverage drunk, where drinking takes place, attitudes toward lunchtime drinking, and to some extent reasons for drinking, all point to there being very different social contexts to drinking for men and women. The net result of this is not only manifest in observable behaviour but in the degree of resistance to change of the behavioural set surrounding drinking. In response to the hypothetical situation of being unable to obtain alcoholic drinks in the usual manner, a disproportionate number of men in comparison to their representation in the sample indicated that they would make it themselves ($\chi^2 = 14{\cdot}632$, $df = 2$, $p < 0{\cdot}001$). All these findings presumably reflect interaction between those aspects of the social environment which promote sex-role conditioning, the social environment as it is perceived by each of the sexes, and their internalised self-images.

Workplace Pressures

Alcohol consumption was noted to increase in almost a linear fashion from Monday to Saturday. The usual peak times for drinking at the weekend can to some extent be explained as a social norm, but there is no obvious reason why drinking should increase throughout the working week. A possible reason is that the respondents are drinking to relieve the stresses that mount up during the week. Stress is very definitely perceived to be a problem. It was the most popular choice (selected by 84·6 per cent) for workplace initiatives aimed at improving health. This conjecture was supported by a content analysis of a random sample of 100 respondents' replies to the question 'What positive aspects did they see to drinking?' The majority of responses emphasized the relief of potential discomfort during social encounters, and the physiological effects produced by alcohol. One further piece of evidence that is consistent with the view that many respondents are drinking alcohol in order to assist them in dealing with stresses they encounter during the working week, was an association found between selection of the stress option and people's actions in the event of being unable to obtain alcoholic drinks in the usual manner ($\chi^2 = 3{\cdot}61$, $df = 2$, $p < 0{\cdot}075$). Those who chose the stress option were more likely either to be prepared to brew alcohol themselves or to go to other lengths to get it.

The percentage of responses tolerant of different levels of lunchtime drinking show that there is within the workplace, a norm which favours regular consumption of alcohol and at levels which are not conducive to efficient work. One respondent remarked that his boss had made comments to the effect, that anyone who does not drink socially on a daily basis at work is a misfit.

Another that 'If you are not prepared to drink socially on a regular basis, you may as well write off a career in business.'

Employees exhibited less confidence in dealing with problems resulting from alcohol use at work (as witnessed by the coming institution of a smoking policy in response to workforce pressure on one hand, and the unwillingness to act on one's own initiative if it was suspected a colleague had a drinking problem). A common response to the question of what one would do if a colleague was suspected of having a drinking problem, was to hope that someone senior would notice (33·5 per cent). It is a distinct possibility that this may be because many employees have experienced someone senior to them with such a drinking problem, and do not feel assured of handling this. A number of respondents made reference to this in their questionnaire comments, however it must not be forgotten that the heavier drinking occurs in the younger age groups who are less likely to occupy senior positions. This may be a reflection that people attribute the worst effects of drinking to be manifest in other people, not themselves.

Psychological Processes

Leon Festinger (1957) coined the term 'cognitive dissonance' to refer to the phenomenon whereby an individual when faced with evidence that their behaviour and/or attitudes are inconsistent with information they know, will try to reduce the dissonance between them, either by denying the truth or significance of the information or else by behavioural or attitudinal change. It is known for example that smokers frequently employ strategies to reduce cognitive dissonance in disregarding evidence linking smoking to ill-health.

In conjunction with the finding that people attributed more negative than positive aspects to alcohol use, it was found not only that drinkers as a whole estimated the levels that an 11 stone man could consume in a day without risk to his health to be higher than non-drinkers (means = 3·99 cf 2·71 units, $t = 5·08$, $p < 0·0001$) (a result directly comparable to that observed for smokers), but also that the estimated levels correlated with the respondent's weekly level of alcohol consumption ($r = 0·329$ $p < 0·0001$). The level of consumption was also moderately correlated with the number of positive aspects respondents ascribed to drinking alcohol ($r = 0·233$, $p < 0·0001$), unfavourable attitudes toward government action against alcohol advertising ($r = 0·14$, $p < 0·0001$), and whether it was thought alcoholic drinks are too expensive ($r = 0·127$, $p < 0·0001$) (males only).

As we find that favourable attitudes toward alcohol, the availability of alcohol, and the estimated levels that can be drunk without risk to health all relate significantly to weekly levels of consumption, in a context in which people construe there to be more negative than positive aspects to alcohol use it is proposed that this is best explained by the cognitive dissonance produced in respondents.

Consistent with this formulation of cognitive dissonance, is that the more alcohol is drunk per week, the harder a person perceives it to be for them to abstain from alcohol should this be necessary for health reasons. This was true for both men ($r = 0·393$, $p < 0·0001$) and women ($r = 0·363$, $p < 0·0001$). It is also possible that physiological effects contribute to this relationship owing to the addictive potential of alcohol. It was estimated earlier that 28 per cent of the sample are very resistant to giving up drinking alcohol. Whilst there is no evidence to suggest that these people experience any problems associated with alcohol use, it is quite evident that they are psychologically attached to drinking. The available evidence suggests that there are a complex set of attitudes and dispositions, irrespective of external environmental influences, which will work against the individuals in our sample modifying their alcohol consumption even in the light of evidence that it would be beneficial for them to do so.

Multiple Psychoactive Substance Use

As well as the social, workplace and psychological factors thus far outlined which support and promote the current sets of attitudes and behaviour in relation to alcohol, information gathered also suggests that the level of alcohol consumption may be related to the level of consumption of other psychoactive substances. This is at present only conjecture, but the supporting evidence although indirect, is worth considering further. Two questions were put forward. Firstly does the level of alcohol consumption co-vary with the level of tobacco consumption? And secondly does it relate to tea and coffee consumption? These will be considered separately.

As in other studies, the level of alcohol consumption was related to whether or not a person smoked. Mean levels of consumption for smokers were 21·04 units/week compared to 12·83 for non-smokers ($t = 8·91$, $p < 0·0001$).

Although data are lacking on the actual levels of tea and/or coffee consumption, in its absence one can look at the relationships between the perceived levels of difficulty in abstaining from tea/coffee and alcohol (these were rated on a 9 point scale, with 1–4 denoting ease of abstention and 6–9 difficulty in abstaining). It may reasonably be inferred that this reflects the relationships between degree of consumption, as for both alcohol and tobacco use consumption level was related to perceived difficulty scores. Correlations between perceived difficulty in abstaining from alcohol with perceived difficulty in abstaining from tea/coffee were $r = 0·229$, $p < 0·0001$ for non-smokers and $r = 0·196$, $p < 0·001$ for smokers.

These results show that the degree to which tea/coffee abstention is perceived to be difficult is related to the perceived difficulty in abstaining from alcohol; suggesting that using one class of psychoactive substances may alter the difficulty one has in abstaining from another class (i.e. alter the perceived need to desire for the other substance(s)). Women indicated that they would find abstaining from tea and coffee to be more difficult than it would be for men (means = 4·671 and 4·043, $t = 4·28$, $p < 0·0001$). This could be due to women drinking more tea and coffee than men, and consequently having a higher psychological attachment to it. If women do have more investment in tea/coffee drinking it may be that they have had more opportunities in the past to use tea and/or coffee as a means to relieve stress or as a pick-me-up. An alternative (or complimentary explanation) is that the extent to which someone is using tea and coffee depends to some degree on their existing levels of alcohol consumption. Women (as already noted) have lower levels of alcohol consumption than men.

Table IV. Sex differences in weekly alcohol consumption in relation to perceived difficulty in abstaining from tea and coffee

	Perceived difficulty		
	Easy	*Difficult*	
Men	18·68	16·76	(t = 1·96, p = 0·05)
Women	11·37	9·48	(t = 1·66, p = 0·005)

If difficulty in abstaining from tea and coffee does reflect higher degrees of tea/coffee consumption, then it could be expected, given what has been said already, that this would go hand in hand with an altered desire for alcohol. To test this, respondents were divided into those who perceived abstaining from tea and coffee to be difficult, and those who perceived it to be easy, and their weekly levels of alcohol consumption were compared. It would be expected that the group with a higher abstention score for tea and coffee would have a lower weekly alcohol consumption, because of the effect this would have on their perceived need for alcohol. This is in fact what was observed. Alcohol consumption was higher for those who perceived abstaining from tea or coffee to be easy compared with those for whom it seemed difficult (15·61 cf 13·17 units, $t = 3·20$, $p < 0·001$). It was also found that the effect on alcohol consumption was more pronounced for women. This is what one would expect on the basis of their higher abstention scores (*Table IV*).

For women the differences in alcohol intake are more marked for weekly wine intake (6·13 cf 5·07 units, $t = 1·90$, $p = 0·059$), whilst for men this is true for beer (11·25 cf 9·07 units, $t = 2·84$, $p = 0·005$). For both sexes therefore differences are manifest in their preferred form of alcohol consumption (see *Table I*).

The above figures then are consistent with the contention that tea/coffee and tobacco consumption are related to alcohol consumption, but that the balance of use of these substances varies with the sex of the person. There is also some suggestion (at least with alcohol and tea/coffee) that they are being used interchangeably. This is in agreement with views expressed by Orford (1985) and Plant et al. (1985). It appears that the different sexes have learned preferences for particular psychoactive agents to cope with stress. It can of course not be said that these are the most desirable (from a social point of view) or a successful means of doing so. It is an interesting question as to what motivates people into choosing this course of action as opposed to making active attempts to change the environmental source of their stressors.

Summary and Conclusions

The results of this survey show levels of alcohol consumption in a large workforce population to be roughly comparable to what has been found in previous general population surveys. Additionally a significant number of respondents have reported drinking at levels which may be injurious to their health. These reported levels are noted to be occurring in a climate which does not appear to be conducive to future change. A number of factors have been described and evidence adduced in favour of their operation, which may go some way toward explaining the current situation. These include the age and sex-role norms prevalent in society at large, the internal workforce norms regarding attitudes to drinking and acceptable levels of drinking, the strategies which have been learned for coping with stress, the level of one's consumption of other psychoactive substances, and the attitudes or psychological processes which maintain or support this. It is suggested that these various factors exert reciprocal influence. The model can of course be elaborated. Evidence already exists on the role played by economic factors in the governing of drinking behaviour (Grant et al., 1983), and sources of stress outside the workplace also need to be considered. The operation of this multiplicity of factors adds weight to the growing belief, voiced by Hunt and McCleod (1987) and the author that providing people with information about the effects of alcohol, will not on its own be sufficient to produce behavioural change. If the vast array of harm stemming from the moderate use of alcohol is to be tackled effectively then this model suggests that an ecological approach utilizing a variety of perspectives is now required.

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