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A LONGITUDINAL STUDY OF ALCOHOL CONSUMPTION AMONGST YOUNG ADULTS IN BRITAIN

III Childhood and Adolescent Characteristics Associated with Drinking Behaviour in Early Adulthood

by

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A LONGITUDINAL STUDY OF ALCOHOL CONSUMPTION AMONGST YOUNG ADULTS IN BRITAIN

I	Alcohol Consumption and Associated Factors in Young Adults in Britain
II	A National Longitudinal Study of Alcohol Comsumption Between the Ages of 16 and 23
III	Childhood and Adolescent Characteristics Associated with Drinking Behaviour in Early Adulthood

Working Papers 4,5 and 6 report on drinking behaviour, in particular heavy drinking, among young adults in Britain. Data from the National Child Development Study are used to explore: the personal, social and economic characteristics of young adults in relation to alcohol consumption (Working Paper No. 4); the relationship between alcohol consumption during adolescence (age 16) and early adulthood (age 23) (Working Paper No. 5); and alcohol consumption in early adulthood and its associations with a wide range of characteristics during childhood and adolescence (Working Paper No. 6).

The first paper covers a stage in the life cycle during which important social transitions, such as marriage and starting work occur. Alcohol consumption during this period has attracted considerable interest and several influences on drinking behaviour have been suggested. Many of these suggestions are represented in the first and second papers, whereas, there are no known previous studies of childhood factors and the approach adopted in the third paper was to cover as wide an area of individual and social experience as possible.

It is evident from these analyses that heavy drinking during early adulthood is associated with a wide range of social, economic and personal characteristics. There are, however, several main themes which have emerged. Of those characteristics examined in the first paper, marital status and equivalent net weekly income in particular, were associated with heavy drinking for both sexes. Whereas, other associations for women included partnership history and depression, and, for men, economic status and number of job changes. In the second paper, longitudinal analysis of the data showed that those who drank most and more frequently at 16 were the most likely to drink heavily at 23. This was consistent with one of the main findings in the third paper which showed that young men and women who took part more frequently in extrovert activities, such as party-going and sports, were most likely to be heavy drinkers at 23. Interestingly, neither deviant behaviour, nor measures of social disadvantage during childhood and adolesence were uniquely associated with heavier drinking later on.

It is important to point out, however, that it has not been possible to combine these analyses given the short length of this project and this could be done in a future analysis thereby producing a more comprehensive picture. Other areas which are not covered in this report, which are of topical interest and which would be possible using these data include:-

a) A comparison of those who drank relatively more than their peers at 16 and who subsequently became heavy drinkers at 23 with those who did not. Also, a comparison of those who drank little at 16 and who consequently became heavy drinkers at 23 with those who did not.

b) A comparison of those reporting similar consumption levels but who reported different numbers of alcohol-related problems (for example, health, accidents, marital breakdown), according to their drinking patterns and personal and social characteristics.

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INTRODUCTION

A major debate in the field of alcohol research concerns the nature of heavy or problem drinking. Apart from biological disease models, which are seen, at best, as having limited applicability (Kendall, 1979; Kraft, 1979), there are two main strands of thinking. The first views heavy drinking as, essentially, a function of the average consumption in any particular community with no special characteristics attached to such drinkers: the so-called Ledermann hypothesis (Ledermann 1964). On the other hand there are those who regard heavy drinking as a product of certain - albeit complex - social and personal characteristics of the drinkers (for over-views see Smart, 1979; Cartwright and Shaw, 1978; Pittman and Snyder, 1962; Horman, 1979). While both positions in their pure form seem unlikely there is ample evidence of an increase in problem drinking and alchohol related problems with increasing per capita consumption (Kendall, 1979; Paton, 1985). Evidence for the second explanation - of specific personal and social charactertistics - is more problematic.

Although there have been a few prospective studies of problem drinkers or alcoholics in certain special groups - e.g. clinic attenders or delinquents (Robins et al, 1962; McCord and McCord 1962), studies in the general population are extremely rare and limited in their coverage - as in Jones's study of personality attributes of heavy drinkers (Jones, 1968, 1971). To increase understanding in this area and to see whether heavy or problem drinkers can be identified early on several writers have stressed the need for longitudinal studies which cover as wide an area of individual and social experience as possible (Edwards, 1984; Pittman and Snyder, 1962)

An opportunity has arisen to use a large, prospective, general population study to extend our knowledge on these issues. Data were available on a national sample of children who were followed up from childhood to early adulthood, which included information on their patterns of drinking at ages 16 and 23. The purpose of the present paper is to use this sample to examine the relationship between early childhood and adolescent characteristics on the one hand and drinking in the early adult years on the other. It is hoped that as well as helping the general debate it will provide a backcloth for further, more detailed, exploitation of the data. A detailed look in one narrow area was avoided, at this stage, so that a general picture could be formed and also because the strength of the data lies rather more in its breadth than its depth.

A previous paper examined the continuity of drinking behaviour between adolescence and early adulthood in which the likelihood of being a heavy drinker at age 23 was shown to be higher for those who drank more at age 16 (Ghodsian and Power, 1985). A companion paper will consider the relationship between drinking at 23 and concurrent factors as well as those between ages 16 and 23 (Power and Ghodsian, 1985).

Data

The data used in this paper are from the National Child Development Study. This is a large, longitudinal, multidisciplinary study of all the young people in Great Britain born in the week 3rd-9th March 1958. Following the original birth study (Butler and Alberman, 1969), follow-ups have been conducted by the National Children's Bureau at the ages of seven (Davie et al, 1972), eleven, sixteen (Fogelman, 1983) and twenty-three. Immigrants to Britain born during the study week were incorporated at each stage of the survey, except at age 23.

The data used here are from those collected at the ages of 7, 11, 16 and 23. These refer to information gathered from parents, teachers and the children at the three earlier ages and the young people at age 23. At the earlier ages the large amount of data covered social, educational and personal aspects of the life of the children. The parents (usually the mothers) were interviewed at home by health visitors, teachers filled in a questionnaire and the subjects completed tests of reading and mathematics as well as completing a questionnaire at 11 and 16 (Fogelman, 1983). Data used here from the 23-year follow-up were self-reported alcohol consumption, in the week before a personal interview, carried out between August 1981 to February 1982. People who were interviewed in a three-week period over Christmas were excluded from the analyses on the grounds that their drinking at this time may not have been typical of their usual behaviour.

Method

Categories of drinking

The amounts of alcohol reported as consumed in the previous week by the respondents at age 23 were converted into standard units (1 unit = 1/2 pint of beer or lager, 1 glass of wine, 1 measure of spirit etc.) Respondents were then classified into 4 groups: non-drinkers (including those who drank only on special occassions), light, medium and heavy drinkers. The criteria for dividing the various 'drinking' groups were those used in a previous paper (Ghodsian and Power 1985) as well as by other studies. These were:

Women light drinkers 0-5 units, N = 2065;

Women medium drinkers 6-35 units, N = 2249;

Women heavy drinkers over 35 units, N = 100;

Men light drinkers 0-10 units, N = 1754;

Men medium drinkers 11-50 units, N = 3038;

Men heavy drinkers over 50 units, N = 706;

We have not used a continuous measure of drinking because simple measures of association (e.g. correlation coefficients) between the characteristics of the respondents and a continuous drinking measure could mask underlying non-linear relationships and be misleading. Additionally, the non-drinkers could not always be assumed to differ from the drinkers in the same way that people who drank little differed from those who drank more and are thus left in as a separate category.

Measures examined in relation to drinking behaviour

The data available in the study on the individuals' characteristics covered three ages and were extensive in their coverage. A large number of these variables were chosen for the examination of their relationships with drinking behaviour at 23. These relationships were examined, in so far as the variables existed and were relevant, with variables from the three ages of 7, 11 and 16. They covered socio-demographic factors and such areas as finance, housing, family structure and relationships, assessment of deviant behaviour, leisure activities, 'lifestyle' and education. Decisions needed to be made on how to present such a large number of results. Generally, as there were usually no major discrepancies between results obtained from variables at different ages, the earlier variables or those with a stronger association or more

complete data were normally used. Thus, a relationship shown at one age implies a similar one at other ages although, in some cases, where results at other ages were non-significant these are also indicated. Where the results were different at different ages in a way which indicated something of interest, these are presented separately. As data were available on similar questions at different ages this enabled some variables to be combined at the different ages to give, for example, change in social class or, financial hardship. Appendix A gives an explanation of the variables used, when they are not self evident, and the sources from which they were obtained.

Method of Analysis

The first set of analyses consisted of simple crosstabulations of categories of drinking behaviour with the various personal and social characteristics of the respondents, carried out separately for men and women. To test the differences the Chi-squared test was used. Many variables were found to be non-significant at this stage but are mentioned at the foot of the tables as they bear on the conclusions. Also at the foot of one table relevant variables which had too few cases and/or produced inconsistent results across ages are also given.

Multivariate analysis was needed in order to allow for potential confounding effects between the characteristics and thus a series of log-linear analyses were performed where relevant. However, due to instabilities from small cell sizes, only a few variables could be examined at any one time. We approached this by taking one or two variables to represent a specific area, e.g. sharing a bedroom to represent housing, so as to keep down the number of variables in each analysis.

Through these analyses variables which were related to drinking because of their interrelationships with other variables became non-significant and are indicated separately in the tables.

Because of the large size of the sample, the level of significance adopted in the study was one percent. In a few cases, where non-significant variables hinted at results which seemed of potentially substantive importance and helped towards building a picture, these were left in the tables and marked accordingly.

Figures in the tables represent the percentages of people in each drinking behaviour category with a particular characteristic, rounded to whole numbers. The column totals indicate the numbers in each of the drinking behaviour groups but the actual numbers involved in each comparison will vary because of missing data on the personal/social characteristics. In the case of one variable, mother's social class, the results are based on about 60% of those for father's social class because of the additional fact that some mothers did not work.

Non-response

There were a very few respondents (77 out of the total interviewed at 23 of 12,537) who had missing data on drinking at age 23. Thus, effectively, any bias in the data presented here is the same as that due to overall non-response at 23. The results of extensive analyses of response bias at age 23 remain unpublished. The non-response was greater at 23 than at previous ages and the biases were more significant although they were of a similar nature to those at earlier ages (Fogelman, 1983). On the whole, the response has been high with the attrition tending to be amongst those with somewhat more disadvantaged backgrounds. Additionally, we have found

that it was the non-drinkers at 16 who were more likely to be non-respondents at 23 (Ghodsian and Power, 1985). Furthermore, given that, especially amongst women, social disadvantage emerges to be related to being a non-drinker it might be that this report, perhaps, underestimates the differences between the non-drinkers and the drinkers.

Results

Social and Regional Background

Tables 1 and 2 show the social class, regional, financial and housing background of the drinking groups. It is clear that there are a number of variables which are significant for women but not men.

Taking the women first, although the social class results are not straightforward, in combination with the variables in Table 2 they show the non-drinkers to be more socially disadvantaged. They were most likely to be from the semi and unskilled manual social classes and to show evidence of financial need and to live in poor housing. Also, compared with the other groups, they were less likely to have lived in the North of England and more likely to have grown up in Scotland. By comparison, the heavy drinkers less often lived in Scotland and were least likely to come from the manual classes 4 and 5. Furthermore, in the cases where their mothers had worked, they were striking in more often having professional mothers and skilled manual fathers. (These variables remained significant when tested in a multivariate analysis).

In contrast, social and economic factors during childhood and adolescence did not prove to be of much importance amongst men. Only three variables were significant which reduced to one when combined in the multivariate analysis. Thus, the non-drinkers, were more often from families in receipt of free school meals compared with those who drank.

Family Structure and Characteristics

The few variables pertaining to family structure and family characteristics which were significant were by and large different for men and women. (Table 3). Heavy drinking women at 23 were most often, and non drinkers least often, from small families although both groups were similar in their experience of early separation from their mothers. With regard to parental education, the non drinking women were least likely, and the medium drinkers most likely, to have had parents with more than the minimum years at school. The light and heavy drinkers were similar, and lay between the two extremes. Age of mother and birth order proved non-significant in combination with other measures of family structure and mother's education in the multivariate analysis.

Again, fewer variables were significant for the men. Whether or not the mother worked after the child started school (as reported in the 7-year follow-up) was associated with drinking more, although whether the mother was working at the time of the 16 year follow-up was not significant in the combined analysis. Medium drinking men were similar to women in having the highest proportion of fathers who stayed at school beyond the minimum age. However, not only were the differences smaller than for women but mother's education was not significant and the non-drinking, light and heavy drinking men were similar in this respect. Parental

smoking was positively related to their sons' drinking at 23 but became non-significant when taking into account the teenagers' own smoking at 16 in a multivariate analysis (see below, Table 6).

Family Relationships

Table 4 shows drinking behaviour according to a number of family relationship variables as perceived by the parents (usually the mothers) and the individuals at age 16. A number of these were non-significant and it was mostly parental perceptions, rather than the individuals', which were significant for men. The parents of those women who were drinking heavily at 23 reported that they more often had arguments with their 16 year old daughters about their choice of friends of the opposite sex, smoking and drinking, and the teenagers themselves more often thought that their parents disapproved of their same-sex friends. In contrast, they less often felt that their parents had strong views about their appearance and all the drinking groups reported somewhat less conflict with their siblings. It is difficult to resolve these apparent contradictions. It could be that parents not having strong views about appearance reflects a more laissez faire family which, nevertheless, has some areas of overt conflict. As for the non-drinkers, who reported more conflict with their siblings, a closer look at Table 4 shows the non-drinkers reporting less conflict than the heavy drinkers but more than the light and medium drinkers on choice of friends. Thus, it might be that the non-drinkers came from families with as much conflict as the heavy drinkers but that some of this was expressed between the siblings rather than between the teenagers and their parents.

The parents of heavy drinking men also more often reported arguments with their sons at 16. However, the one significant variable in this area reported by their sons was that their parents had strong views about their appearance, where, like the women, less conflict was reported by the drinkers.

Drinking behaviour groups at 23 were also compared on a measure of 'deviant' behaviour at previous ages. (Table 4). At 16 this was based on ratings of behaviour made by the mothers using the Rutter home scale (Rutter et al, 1970).* This is a screening scale and high scores indicate a higher probability, and not a diagnosis, of emotional problems. The top 13% was taken as the cut-off for deviant behaviour in line with previous work (Ghodsian et al 1980). For both men and women there were no significant differences between the drinkers in the proportions with deviant behaviour at home, while the non-drinkers were more often in this category. This persisted when social and financial background were taken into account in the multivariate analyses.

Spare Time Activities

Relationships between spare time activities reported at 11 and 16 and drinking at 23 were largely non-significant. However, the few variables which were significant revealed interesting patterns, which were much stronger for the men, but could be gleaned amongst the women as well

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*The ratings at 7 and 11, which were non-significant, were from a modified version of the Rutter scale (Ghodsian et al, 1980)

(Table 5). For women, heavy drinking at 23 was associated with more of any type of spare time activity at 11. By age 16, however, there were indications that the heavy drinking women at 23 were more often involved in 'outgoing/extrovert' activities and less often reading books which could be considered a more'private/introverted' activity. Indeed, less than half the proportion of heavy drinkers indicated reading books 'often' at 16 as at 11. In the extent of their reported spare-time reading, the heavy drinking and non-drinking women were similar at 16, whereas for going to parties and going dancing the light, medium and non- drinkers were similar and contrasted with the heavy drinkers.

For the men the picture was similar at 11 and 16 and perhaps more stereotyped. That is, on the whole, heavy drinking men at 23 engaged in more 'outgoing' and less 'private' activities at 11 and 16. Doing voluntary work at 16 was an exception in that the drinkers were more or less similar but the non drinkers indicated that they more often did this.

Lifestyle

The relationships between drinking at 23 and some other aspects of 'lifestyles' at 16 are shown in Table 6. For women, the differences lay mainly between the heavy drinkers and all the other groups. Thus women heavy drinkers were more likely to go out often in the evenings, were dissatisfied with the availability of places to meet, more often smoked, had more money, spent more of their money on entertainment and alcoholic drinks and saved less.

More variables were significant for the men and the patterns were more complicated. There were a similar percentage of heavy drinkers and non-drinkers who earned more than £4 per week and received more than £2

per week pocket money. However, on other measures the heavy and the non-drinkers were different. Thus, the heavy drinkers more often went out, expressed dissatisfaction with available places to meet, more often smoked, spent more of their money on entertainment, alcoholic drinks and cigarettes and less often on food, books/magazines and savings. As in previous tables the relationships between drinking and a particular characteristic were not always linear.

Table 7 shows some aspects of the respondents educational background, plans and attitudes. Most variables were significant for both sexes although there were differences in the patterns of results. Furthermore, the differences between the drinking groups were quite large for some of these variables. Taking the women first, the non-drinkers were generally those who did least well at school, had lower school attendance, were more often rated by their teachers as showing deviant behaviour*, and, as was true of their parents, less often had what might be called academically oriented attitudes. The position of the three drinking groups varied depending on the variable and age being considered. In fact it seems that with increasing age, the position of the heavy drinking women deteriorates in relation to the others. This happens with regards to parental expectations, teacher's view of parental interest, deviant behaviour and (perhaps) school performance. The

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*Deviant behaviour was assessed using the Bristol Social Adjustment Guides (Stott, 1969) at ages 7 and 11 and the Rutter school scale (Rutter, 1967) at age 16. As for the home behaviour scales, these are screening instruments and high scores only indicate a higher probability of emotional problems. The child's behaviours were rated by the teacher and the top 13% of these

ratings were taken to represent deviant behaviour in line with previous work (Ghodsian et al, 1980).

latter is not clear but, as Table 7 shows, the heavy drinkers did better in arithmetic at age 7 than all the other groups. This was not so for reading at 7 and in this and the other tests at 11 and 16 the heavy drinkers remained similar to the medium drinkers. The arithmetic result at 7 could be a chance finding. On the other hand it could be that the heavy drinking women were genuinely better in their school performance at age 7 but could not show this on the reading test because of the low ceiling of the test (Fogelman, 1983). This possibility is made more likely by the accompanying changes in the other variables, which are in the same direction, but requires further evidence. Thus, at the later ages of 11 and 16, the heavy drinkers were similar to the medium drinkers in parental expectations, academic orientation and in having high school performance. They were similar to the non-drinkers in having parents who were less often seen by teachers as interested in their education, and in being more often judged to show deviant behaviour. Additionally, the heavy drinking women, more than any other group, thought their parents were very anxious about their school work. A complex picture evolves of young girls who do very well at school with less deviant behaviour, who have parents with very high expecations and who are seen to be very interested by the teachers, changing to adolescents who still do academically well at school (though perhaps not as well as before), but have more deviant behaviour, their parents are less often seen as interested by teachers and are seen as anxious by the adolescents themselves. The school performance and behaviour results retained their significance in multivariate analyses taking into account social-background and home behaviour.

A similar picture emerges for the men but with some differences. Like the women, the men non-drinkers and their parents tended to be less

academically oriented and have more deviant behaviour in their childhood and adolescence. With increasing age from 7 to 16 the heavy drinking men, like the women, also seem to become more like the non-drinkers. However, unlike the women, they do not start from a better position than the other groups at age 7 and their school performance falls to lower levels. At the ages of 7 and 11 the heavy drinkers were similar to the other drinkers in their parents' educational expectations and in the amount of deviant behaviour. Also, their school performance, though lower than the medium drinkers', was still higher than the non-drinkers'. As adolescents however, they were similar to the non-drinkers in that their own and, their parents' attitudes, and their teachers' perceptions of their parents' attitudes, were such as to indicate a less academic orientation. In addition, at 16, the heavy and non-drinkers had poor school performance and school attendance and were more often judged to have deviant behaviour. The school performance and behaviour results retained their significance in multivariate analyses taking into account social background and home behaviour.

To compare men and women heavy drinkers with respect to the education variables, it seems that they and their parents came to be less academically inclined by age 11 or 16. However, whereas the women felt their parents were anxious about their school work and did relatively well the men's school performance dropped to be as bad as the non-drinkers by age 16.

Conclusions

The purpose of this paper was to examine the relationships between a range

of childhood and adolescent characteristics of individuals and their drinking behaviour at age 23. The data were rare in being prospectively collected, wide ranging and from a national sample. Men and women were analysed separately and non-drinkers or special occassion drinkers were kept in the analysis as a separate category.

A large number of variables were examined from the areas of social, demographic and financial background, family structure and relationships, leisure and education. A number of the relationships were non-linear and the patterns of results were often different for men and women. Also the non drinkers could not always be considered to be on a continuum with the drinkers and were at times similar to any or none of these. For both sexes a large number of variables were non-significant and in a number of cases, where there were significant differences, the differences were not between the drinking groups but only betweeen these on the one hand and the non-drinkers on the other.

Nevertheless, a number of variables did show significant differences between the four groups of non, light, medium and heavy drinkers. The overall results can be summarised, with reference to the heavy drinkers, as follows.

Women who drank heavily at 23 were less likely to have grown up in Scotland, had better housing and less financial hardship in their childhood. They also more often came from smaller families with a skilled manual father and (for those whose mothers had worked) a professional mother. They had slightly more separations from their mothers by age 7 and they and their parents more often reported conflicts on some of the measures of family relationships at 16. Their spare time

activities were characterised by more activities at 11 and more outgoing and less private/introverted activities at 16. Also at age 16 they more often went out, expressed dissatisfaction with available places to meet, smoked, had more money and spent more of their money on entertainment and alcoholic drinks rather than on savings.

With respect to education a rather complex picture emerged whereby heavy drinkers, as young girls at the age of 7, did very well at school, had less deviant behaviour and had parents with high expectations who were also seen to be very interested by teachers. In adolescence however, they still did well academically (but perhaps not as well as before), had more deviant behaviour and their parents were less often seen as interested by teachers and more often seen as anxious by their daughters.

Men who drank heavily at 23 had mothers who more often worked after they had started school and before the age of seven (although this appears to be an oddity as no such relationship was found with whether or not the mother worked prior to her child starting school or at later ages). Their parents also more often reported conflicts with their sons in some areas of family life. Their spare time activities were more often of an outgoing nature and less often of a private/introverted nature at 11 and 16. They went out more at 16, expressed more dissatisfaction with available places to meet, had more money and spent more of their money on entertainment, alcholic drinks and cigarettes and less often on food, books/magazines or savings. As regards education the heavy drinkers were more or less similar to less heavy drinkers at the ages of 7 and 11 but by age 16 they and their parents were less academically inclined and their school performance and behaviour had deteriorated.

It should be stressed again that the contrasts summarised above do not represent one end of a clear continuum from the non-drinkers to the heavy drinkers. On a number of variables the heavy drinkers were similar to the light, medium or non-drinkers. Nevertheless, and if we assume that our major interest is what distinguishes the heavy drinkers from the others, a certain picture can be said to emerge. The heavy drinking women tended to come from small families and to more often have a professional mother and a skilled manual father. It is plausible that such a family would have high ambitions for their daughters and this is reflected, in the earlier years, in the parental (usually mothers') high educational expectations, teachers' views of parental expectations, high school performance and low deviant behaviour at school. It is then easy to see such a pressured situation contributing to a period of adolescence which contained more family conflicts, more extroverted leisure activities and higher expenditure on alchohol and entertainment, more smoking, more drinking (as shown in a previous paper) and deteriorating school behaviour and perhaps school performance. In addition the adolescent girls felt their parents were very anxious about their school work when in fact they were doing well in comparison with other groups. Heavy drinking at 23 could well be, in part, a means of dealing with high levels of tension for some of these women.

No such clear family background emerged for the men heavy drinkers. Indeed none of the social and family background variables distinguished the heavy drinkers from all the other groups. In fact the only group of variables which distinguished the men heavy drinkers at the early ages (7 and 11) related to spare time activities at 11. That is, they more often did extroverted activities and less often read books which could be

considered a more private activity. The other differences relate to age 16 and in changes in their relative positions on the education variables between 11 and 16. Thus, as adolescents, the heavy drinkers had more family conflicts, more extroverted leisure activities with higher expenditure on alcohol and cigarettes, more often smoked, drank more (as shown in a previous paper) and deteriorated, in relation to the other drinking groups, in their school performance and behaviour at school.

It is difficult to compare our findings with other studies for a number of reasons, including the lack of comparable prospective studies and variations in definitions of heavy or problem drinking. Nevertheless, a few comments can be made. Our findings on spare time activities of the men are perhaps compatible with some of the McCords' and Jone's findings that future alcoholics or problem drinkers were more 'active' (McCord and McCord, 1962) or 'extroversive' (Jones, 1968) as children. However, we did not find low social status to be associated with future heavy drinkers as Robins et al did in their follow-up of children who had attended child guidance clinics (Robins et al, 1962). Indeed, in our sample, amongst women, heavy drinking was least likely amongst those from semi-and unskilled manual backgrounds and the non-drinking men more often came from families in receipt of free school meals. These are compatible with Riester and Zucker's (1968) cross sectional findings for teenage drinking. On the other hand Donovan and Jessor (1978), also in a crossectional study of adolescent drinking, did not find socio-economic differences between their 'problem' and 'non-problem' drinkers. However, if we assume their non-problem drinkers are equivalent to our light and medium drinkers and their problem drinkers are equivalent to our heavy drinkers then our family relationship, school behaviour and, for men only, education results at 16 are compatible with theirs.

In view of the particular interest, in this field, in academic achievement and behavioural deviance a final note on these might seem appropriate. In no instance did the heavy drinkers stand alone in terms of their school performance or behaviour except for the 'model' performance of future heavy drinking women at age 7. There were no differences between the groups in home behaviour at 7 and 11. At 16 the non-drinkers were more often in the deviant category with no significant difference between the drinking groups. At school, although at the later ages the future heavy drinkers showed more deviant behaviour than the light or medium drinkers, they were similar to the non-drinkers. In school performance the future heavy drinking women did as well as the medium drinkers. The men heavy drinkers, however, did worse than the drinkers but equal to the non-drinkers.

In conclusion, both men and women heavy drinkers can come from a wide range of backgrounds and have similar characteristics to others who drink less, as shown by our many negative findings. However, certain background factors (only for women) and personal orientations (both sexes) can be identified to distinguish the future heavy drinkers. In addition, as adolescents, the future heavy drinkers had a certain lifestyle and relationships which, at least as reported, was diferent from the others. These results do not necessarily contradict the more overriding relationship between average consumption and the number of heavy drinkers mentioned in the introduction. Instead, and as referred to by Cartwright and Shaw (1978), they can act as intervening variables. Within that overall relationship, they indicate the higher probability of certain people being heavier drinkers, at least in their early adulthood.

This paper has concentrated on prediction in childhood and adolescence of subsequent heavy drinking in early adulthood. The companion paper, which examines experiences and circumstances after the age of sixteen and those concurrent with the drinking patterns at twenty-three, will cast more light on some of the issues raised above.

Table 1 : Social and regional background (percentage of people in each drinking category with the characteristic concerned).

Variable		Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Social class of father at 11								
1,2 NM	16	24	32	19	21	24	26	21
3 NM	10	9	10	9	6	10	10	10
3 M	46	43	39	56	43	45	42	45
4,5 M	29	23	19	16	30	21	23	24
Social class of mother (1)								
1,2 NM	10	13	17	22				
3 NM	25	28	32	25				
3 M	25	26	21	24				
4,5 M	41	33	30	29				
Region of residence at 7 (2)								
North of England	23	30	32	28				
Scotland	14	10	9	6				

*Non significant in multivariate analyses

(1) Mothers' most recent job when subjects were 11 years old; (2) although regional differences were significant overall, for both men and women, no consistent difference or trends were found except for those shown. Hence the categories of Midland, South and Wales for women and all regions for men are not shown.

Non-significant variables; change in father's social class between any two ages of 7, 11 and 16.

Table 2 : Financial and housing circumstances (percentage of people in each drinking category with the characteristic concerned).

Variable	Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Financial								
Financial hardship at age 11 and/or 16	19	15	12	11				
Free school meals at age 11 and/or 16	19	13	9	11	18	13	11	13
Housing (at 11)								
Rented (LA or private)	63	54	46	47				
Crowded (>1.5 persons/room)	17	11	8	4				
Shared use of amenities	14	13	9	14				
Shares bedroom	60	56	51	44				
Shares bed	22	18	16	17	18	14	15	19 *

* Non significant in multivariate analyses.

Table 3 : Family structure and characteristics (percentage of people in each drinking category with the characteristic concerned).

Variable	Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Mother's age high (1)	33	33	36	44 *				
Small family at 7 (2)	39	45	47	52				
High birth order at 11 (3)	12	8	8	7 *				
Separation from mother by 7 (4)	14	10	10	14				
Mother worked after child started school (5)					41	41	45	49
Mother worked at 16					60	64	69	70 *
Father stayed at school beyond MSLA (6)	17	23	31	24	20	22	25	18
Mother stayed at school beyond MSLA (6)	17	24	33	25				
Father smoker at 16					55	56	57	63 *
Mother smoker at 16					40	44	46	51 *

* Non-significant in multivariate analyses

(1) Over 29 when subject was born; (2) 1-2 children in household; (3) 4th or later child in household; (4) more than 1 month ; (5) asked when subjects were 7 years old; (6) Minimum school leaving age.

Non-significant variables: father's age; whether with biological parents at all three ages of 7, 11, 16; birth order at 7; mother worked between 7 and 11; mother worked before child started school; chronic illness in family by age 16.
Variables with small proportions and/or inconsistent results across ages : whether with biological parents at each separate age of 7, 11, 16; one parent family; father off work through sickness/unemployment.

Table 4 : Family relationships at age 16 (percentage of people in each drinking category with the characteristic concerned).

Variable	Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Parental perception of arguments with subject re:								
choice of friends (same sex)					20	19	17	25
choice of friends (opp. sex)	20	16	16	25				
dress/hairstyle					51	57	58	63
homework					24	29	28	35
smoking	12	13	15	24				
drinking	4	5	5	15	5	7	7	11
Subject's perception of family relationships:								
parents disapprove same sex friends	31	27	24	36				
quarrel brothers/sisters	28	22	21	22				
parents have strong views re appearance	13	13	8	6	24	20	18	21
Deviant behaviour at home (1)	15	11	11	13	17	12	9	13

(1) Top 13% of ratings.

Non-significant variables: parental perception of arguments regarding time child comes in/goes to bed, places child goes to; child's perception of: how well he/she gets on with father, mother; arguments about where child goes in the evenings. Deviant home behaviour at 7, 11.

Table 5 : Spare time activities (percentage of people in each drinking category with the category concerned).

Variable	Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Spare time activities at 11								
going to cinema	63	67	69	79	66	68	71	72
reading books	49	54	55	62	41	36	36	31 *
going to school clubs					19	22	25	30
sports outside school					47	53	56	61
watching TV	82	83	87	89 *				
Spare time activities at 16								
reading books	31	36	36	29 *	24	23	21	15 *
sports - outdoor					43	55	55	59
going to parties	74	74	78	83 *	57	64	70	74
going to dance halls etc.	51	48	52	63 *	30	27	33	44
doing voluntary work	60	57	47	66	50	38	33	35

* .01<P<.10

Non-significant variables: playing/talking with friends, reading newspapers, comics/magazines, listening to music, going to clubs outside schools, helping at home, writing stories/making up plays, drawing/painting, cooking, sewing /knitting, model making, listening to radio, collecting stamps, looking after animals, whether enjoy spare time (all at 11); swimming, indoor sports, watching TV (at 16).

Table 6 : Lifestyle at age 16 (percentage of people in each drinking category with the characteristic concerned).

Variable	Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Out 5 or more evg/week	11	10	10	22	17	15	18	26
Subject dissatisfied with places to meet	69	72	76	85	49	57	59	59
Smokes	33	32	35	45	28	32	38	47
Earnings/week 4 pounds or more	15	13	11	19	33	26	24	36
Pocket money/ week 2 pounds or more	16	14	16	22	17	13	14	19
Spends most pocket money on:								
entertainment	36	42	45	49	30	33	36	38
alcoholic drinks	2	2	5	6	5	8	14	21
cigarettes					14	14	17	24
records/cassettes					25	31	30	23
food and drinks					17	12	12	10
books/magazines					15	10	10	5
savings	29	27	22	20	28	27	20	18

Non-significant variables: Whether pocket money is to cover essentials; dissatisfied with sports facilities; has spare time job; spends pocket money on sports kit and equipment, clothes, make up.

Table 7 : Education and future plans (percentage of people in each drinking category with the characteristic concerned).

Variable	Women				Men			
	Non-drinker	Light	Medium	Heavy	Non-drinker	Light	Medium	Heavy
(Number)	(1737)	(2065)	(2249)	(100)	(611)	(1754)	(3038)	(706)
Parental expectations								
stay school> MSLA (at 7) (1)	76	82	86	93	79	83	85	85
do FE/training after school (at 11)	77	81	84	82	79	87	86	87
don't wish subject left school earlier (at 16) (2)	71	77	83	82	71	74	76	64
Subject's views (at 16)								
parents very anxious re school work	31	33	34	43				
leave school 18 or over	16	25	30	25	17	24	25	16
don't wish to have left school earlier (2)	55	66	72	70	58	62	59	52
Teacher's view (3)								
mother very interested at 7	36	45	51	54	35	42	43	38
mother very interested at 11	38	47	56	58	37	45	46	36
mother very interested at 16	39	48	52	41	43	49	45	37
School performance (4)								
arithematic at 7	23	29	36	43	24	30	37	31
reading at 7	30	37	46	43	20	29	31	25
reading at 11 (5)	19	30	39	41	21	30	35	28
reading at 16 (5)	19	29	35	34	22	34	34	24
Deviant behaviour at school (6)								
at 7	12	9	6	4	24	15	14	17
at 11	11	9	7	12	25	17	15	18
at 16	14	11	7	12	18	13	14	23
School attendance high at 16 (7)	55	61	65	64	60	68	67	59

(1) Minimum school leaving age; (2) this question refers to the raising of the school leaving age from 15 to 16, which affected this age-group directly; (3) teachers were asked about parental interest in their child's education - pattern of results was similar for mothers and fathers except at 11 when the fathers of future heavy drinking women were less often rated as very interested; ; (4) top 30% of performance; (5) mathematics results were similar at 11 and 16; (6) top 13% of ratings; (7) more than 90% attendance.

Appendix A

Description and source of variables used.

Tables 1 and 2. Social, regional, financial and housing circumstances. All variables were from interviews with parents (usually mothers):

Social class of father: father/male head's job classified according to R.G.'s classification of 1966.

Change in father's social class: this was classified as 'no change'; 'upwardly mobile' and 'downwardly mobile' between any two follow-ups.

Social class of mother: mother/mother substitute's own job classified according to R.G.'s classification of 1966.

Region: Local Authority in which the child was living classified into standard regions of North, Midlands, South, Wales and Scotland.

Financial hardship: 'Have you been seriously troubled by financial hardship in the past 12 months'.

Free school meals: 'Does any child of the family receive free school meals at present'.

Housing: 'Amenities' were bathroom, indoor lavatory and hot water supply.

Table 3. Family Structure and Characteristics

All variables were from interviews with parents.

Table 4. Family Relationships

Variables from interviews with parents.

Parental perception of arguments with subject: 'There are many things about which parents and teenagers can disagree. I will now read a list of some of the most common areas. Could you say for each one how often you and the study child argue (if at all) about this subject'.

Behaviour at home: Rutter home scale, or modified versions, as described in the text.

Variables from questionnaires completed by the 16 year olds.

Subject's perception of family relationships: 'Some people nowadays consider that young people and their families do not always get on very well. We should like to find out more about this. Read the statements below and please show by ringing the appropriate numbers how true each of them is in your case'.

Table 5. Spare Time Activities

Variables from questionnaires completed by 11-year olds.

Spare time activities: 'Below you will see some of the things boys and girls of your age find interesting. Read each one carefully and decide whether you do it'.

Variables from Questionnaires completed by 16-year olds.

Spare time activities: 'Below is a list of things which many people do in their spare time. You will probably only do a few of these. Please show by ringing one of the numbers for each one whether this is something you do often, sometimes, never or hardly ever'.

Table 6. Lifestyle

All variables, except one, were from questionnaires completed by the 16-year olds. The exception was the frequency with which the subjects went out in the evenings. This was obtained from the interviews with the parents.

Table 7. Education and Future Plans

Views of parents, the subject and the teachers were obtained directly through the relevant interview or questionnaire.

School performance was assessed through group administered tests of reading and arithmetic (at 7) or mathematics (at 11 and 16). These were either standard tests or were designed expecially for the study and are described more fully in Fogelman (1983).

Behaviour at school and school attendance were obtained from the questionnaire completed by schools.

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A LONGITUDINAL STUDY OF ALCOHOL CONSUMPTION AMONGST YOUNG ADULTS IN BRITAIN

III Childhood and Adolescent Characteristics Associated with Drinking Behaviour in Early Adulthood

by

M Ghodsian

National Child Development Study User Support Group Working Paper Series

This Working Paper is one of a number, available from the National Child Development Study User Support Group, which report on the background to the Study and the research that has been based on the information collected over the years. Other Working Papers in the series are listed below.

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NATIONAL CHILD DEVELOPMENT STUDY

The National Child Development Study (NCDS) is a continuing longitudinal study which is seeking to follow the lives of all those living in Great Britain who were born between 3 and 9 March, 1958.

It has its origins in the Perinatal Mortality Survey (PMS). This was sponsored by the National Birthday Trust Fund and designed to examine the social and obstetric factors associated with the early death or abnormality among the 17,000 children born in England, Scotland and Wales in that one week.

To date there have been four attempts to trace all members of the birth cohort in order to monitor their physical, educational and social development. These were carried out by the National Children's Bureau in 1965 (when they were aged 7), in 1969 (when they were aged 11), in 1974 (when they were aged 16) and in 1981 (when they were aged 23). In addition, in 1978, details of public examination entry and performance were obtained from the schools, sixth-form colleges and FE colleges.

For the birth survey information was obtained from the mother and from medical records by the midwife. For the purposes of the first three NCDS surveys, information was obtained from parents (who were interviewed by health visitors), head teachers and class teachers (who completed questionnaires), the schools health service (who carried out medical examinations) and the subjects themselves (who completed tests of ability and, latterly, questionnaires). In addition the birth cohort was augmented by including immigrants born in the relevant week in the target sample for NCDS1-3.

The 1981 survey differs in that information was obtained from the subject (who was interviewed by a professional survey research interviewer) and from the 1971 and 1981 Censuses (from which variables describing area of residence were taken). Similarly, during the collection of exam data in 1978 information was obtained (by post) only from the schools attended at the time of the third follow-up in 1974 (and from sixth-form and FE colleges, when these were identified by schools). On these last two occasions case no attempt was made to include new immigrants in the survey.

All NCDS data from the surveys identified above are held by the ESRC Data Archive at the University of Essex and are available for secondary analysis by researchers in universities and elsewhere. The Archive also holds a number of NCDS-related files (for example, of data collected in the course of a special study of handicapped school-leavers, at age 18; and the data from the 5% feasibility study, conducted at age 20, which preceded the 1981 follow-up), which are similarly available for secondary analysis.

Further details about the National Child Development Study can be obtained from the NCDS User Support Group.