

**GROWING UP WITH ALCOHOL:
A DEVELOPMENTAL STUDY OF THE PERCEPTIONS
OF YOUNG CHILDREN**

EMMA FOSSEY

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TABLE OF CONTENTS

Abstract	vi
Acknowledgements	viii
List of Tables	xi
List of Figures	xii
Chapter 1: INTRODUCTION	1
1.1 General Introduction	2
1.1.1 Background	2
1.1.2 Rationale	4
1.2 Testing Young Children about Alcohol	6
1.2.1 Methodological Issues	6
1.2.2 Children as 'innocents'	11
1.2.3 The 'problem' of early experimentation	11
1.3 Review of the Literature on Young Children and Alcohol	13
1.3.1 Children's Familiarity with Alcohol	14
1.3.2 Children's Understanding of the Concept of Alcohol	20
1.3.3 Children's Awareness of Socio-Cultural Norms Relating to the Use of Alcohol	23
1.3.4 Children's Alcohol Expectancies	26
1.3.5 Children's Familiarity with Drunkenness	29
1.3.6 Children's Attitudes Towards Adult Drinkers	30
1.3.7 Children's Self-Reported Experience of Alcohol	32
1.3.8 Children's Future Orientations Regarding Alcohol	33
Chapter 2: LEARNING ABOUT DRINKING	35
2.1 The Young Drinkers	36
2.1.1 Early Experiences with Alcohol	38
2.1.2 Patterns of Consumption Among Young People	40
2.1.3 Adverse Consequences of Drinking	42
2.1.4 Comparisons with International Data	46
2.2 Major Influences in the Learning Process	49
2.2.1 The Role of Parents	49
2.2.2 The Role of Peers	55
2.2.3 The Role of the Mass Media	61

2.3	Alcohol Education for Young People	71
2.3.1	Underlying Theories	71
2.3.2	Knowledge/Attitudes Model	75
2.3.3	Values/Decision-Making Model	78
2.3.4	Social Competency Model	80
2.3.5	Conclusions and Implications	83
Chapter 3:	RESEARCH AIMS, DESIGN AND METHODS	86
3.1	The Research Background	87
3.2	The Main Study	87
3.2.1	Aims and Objectives	87
3.2.2	The Study Areas	88
3.2.3	Selection of Schools	89
3.2.4	Sample Selection and Demographics	90
3.3	Study Methods	92
3.3.1	Session 1 - Tasks	94
3.3.2	Session 2 - Tasks	100
3.3.3	Allocation of Subjects to Tasks	107
3.3.4	Statistical Procedures	108
3.4	The Measurement of Subjects' Verbal Ability	111
3.4.1	Rationale	111
3.4.2	Reliability and Validity	112
3.4.3	Methods	113
3.4.4	Results	114
Chapter 4:	CHILDREN'S FAMILIARITY WITH ALCOHOL AND THE CONCEPT OF ALCOHOL	117
4.1	Familiarity With Alcohol	118
4.1.1	Results	119
4.1.2	Discussion	127
4.2	Familiarity With The Concept of Alcohol	133
4.2.1	Results	134
4.2.2	Discussion	139

Chapter 5:	CHILDREN'S ATTITUDES TOWARDS AND PERCEPTIONS OF NORMATIVE DRINKING BEHAVIOUR	145
5.1	Attitudes Towards Adult Drinking Behaviour	146
5.1.1	Results	147
5.1.2	Discussion	152
5.2	Perceptions of Normative Drinking Behaviour	160
5.2.1	Results	161
5.2.2	Discussion	168
Chapter 6:	CHILDREN'S FAMILIARITY WITH MOTIVES FOR AND CONSEQUENCES OF DRINKING	175
6.1	Familiarity With The Physical Manifestations of Drunkenness	176
6.1.1	Results	177
6.1.2	Discussion	187
6.2	Alcohol Expectancies	191
6.2.1	Results	192
6.2.2	Discussion	201
Chapter 7:	INFORMAL SURVEY FINDINGS	205
7.1	Experience of Alcohol	206
7.1.1	Results	206
7.1.2	Discussion	214
7.2	General Knowledge of Alcohol	219
7.2.1	Results	219
7.2.2	Discussion	229
Chapter 8:	CHILDREN'S PERCEPTIONS OF TOBACCO USE	235
8.1	Young Children and Tobacco	236
8.1.1	A Brief Review of the Literature	236
8.1.2	Results	240
8.1.3	Discussion	246

APPENDICES

1. Design of 'Judgment of Photographs' Task
 - Table 1: Activities in Photographs
 - Table 2: Repeated Photographs
 - Table 3: Random Orders of Presentation in Sessions 1 and 2

2. Design of 'Perceived Likes and Dislikes' Task
 - Table 4: Lists of Activities
 - Table 5: Orders of Presentation of the Activity Lists

3. Subjects' Knowledge of Alcohol
 - Table 6: Predictors of Subjects' Knowledge of Alcohol

4. Subjects' Knowledge of Drunks
 - Table 7: Predictors of Subjects' Knowledge of Drunks

ABSTRACT

There is some evidence to suggest that socialisation to alcohol develops from an early age. However, in contrast to the considerable literature pertaining to adolescent alcohol-related beliefs and behaviours, little is known about the early development of knowledge in relation to young children.

This research therefore set out to trace the early development of alcohol cognitions in children aged 5½-6½, 7½-8½ and 9½-10½ years. This exercise took as its methodological basis, the classic investigation by Jahoda and Cramond (1972), consisting of a series of game-like activities designed to elicit the knowledge, attitudes and behaviour of young children with regard to alcohol. These activities were adapted and updated. In addition, children were tested with vignettes. These were designed to investigate their understanding of adult motives for drinking. Children's knowledge of and attitudes towards tobacco smoking were also examined. Eight participating schools were selected from two regions of Britain - Edinburgh in Scotland and Birmingham in England. Within each area, these schools were selected according to their religious affiliation - Roman Catholic or non-Denominational - and then within these two categories they were further differentiated according to the socio-economic status of their catchment area - middle class or working class. A total of 238 children were tested.

The findings of this study indicate that even among the youngest children in the study group, familiarity with alcohol was widespread, typically as a result of first-hand experience. Nevertheless, subjects' knowledge was negative, rather simplistic and often stereotypical. Children's attitudes towards drinkers appeared to develop at a slower rate, but also demonstrated similar negative and stereotypical patterns. This tendency

to be critical of alcohol and drinking became more intense with age of subject, in particular with regard to female drinkers. Subjects' disapproval of smoking-related activities was even more marked. Finally, the results also indicate that children are currently learning more about alcohol from a younger age than was the case at the time of Jahoda and Cramond's study.

It can be concluded that children develop an awareness of alcohol from an early age, and that this awareness commonly consists of rather simplistic and stereotypical ideas about alcohol. The implications of these findings for future initiatives are discussed.

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**The research described herein is entirely my own,
and the thesis has been composed by myself.**

This thesis is dedicated to my family

LIST OF TABLES

Table 3:1	Study Group Design	92
Table 3:2	Subjects' Performance on the British Picture Vocabulary Scale	115
Table 4:1	General Ability to Identify Odours (Trial 1)	120
Table 4:2	General Ability to Identify Odours (Trial 2)	121
Table 4:3	Recognition and Identification of Beer and Whisky	123
Table 4:4	Ability to Identify Alcohol (Trial 1)	125
Table 4:5	Ability to Identify Alcohol (Trial 2)	126
Table 4:6	Ability to Explain Bottle Groupings	137
Table 4:7	Phrasing of Explanations	139
Table 5:1	Subjects' Attitudes Towards Adult Drinking	148
Table 5:2	Attitudes Towards Beer Drinkers	149
Table 5:3	Attitudes Towards Whisky Drinkers	151
Table 5:4	Attitudes Towards Wine Drinkers	152
Table 5:5	Between-Study Comparisons of Attitude Scores	152
Table 5:6	Mean Perception Scores by Age of Subject	162
Table 5:7	Attributions of Likes/Dislikes for 'Drinking Beer'	164
Table 5:8	Attributions of Likes/Dislikes for 'Drinking Whisky'	165
Table 5:9	Attributions of Likes/Dislikes for 'Drinking Wine'	166
Table 5:10	Attributions of Likes/Dislikes for 'Going to the Pub'	167
Table 5:11	Attributions of Likes/Dislikes for 'Being Drunk'	168
Table 6:1	Recognition of Drunkenness	179
Table 6:2	Opinion of Drunk Character	181
Table 6:3	Perceived Feelings of Drunk Person	183
Table 6:4	Previous Sightings of Drunks	184
Table 6:5	Experience of Drunks	185
Table 6:6	'At Home' Sightings Compared With All Other Sightings	186
Table 6:7	Subjects' Understanding of Adult Motives for Drinking	196
Table 6:8	Subjects' Understanding of the Consequences of Drinking	199
Table 6:9	Coordinated Psychological Responses	200
Table 7:1	Children's Experience of Alcohol (1)	207
Table 7:2	Children's Likes/Dislikes of Alcoholic Drinks (1)	208
Table 7:3	Children's Experience of Alcohol (2)	211
Table 7:4	Children's Likes/Dislikes of Alcoholic Drinks (2)	212
Table 7:5	Provider of Taste of Alcohol	213
Table 7:6	Location of Taste of Alcohol	213
Table 7:7	Location of Subjects' Taste of Alcohol	214
Table 7:8	Children's Knowledge of Alcohol	222
Table 7:9	Source of Subjects' Knowledge of Alcohol	224
Table 7:10	Children's Knowledge of 'Drunks'	225
Table 7:11	Children's Future Orientations Regarding Alcohol Use	227
Table 7:12	Predictors of Subjects' Future Drinking Intentions	228

Table 8:1	Attitudes Towards Adult Smokers by Age of Subject	240
Table 8:2	Subjects' Attitudes Towards Smoking a Cigarette	241
Table 8:3	Subjects' Attitudes Towards Smoking a Pipe	242
Table 8:4	Perceived Likes/Dislikes for Smoking	244
Table 8:5	Perceived Likes/Dislikes for Smoking a Cigarette	244
Table 8:6	Perceived Likes/Dislikes for Smoking a Pipe	245

LIST OF FIGURES

Figure 3:1	Between-Study Comparisons of BPVS Scores	115
Figure 4:1a	Identification of Odours Trial 1	121
Figure 4:1b	Identification of Odours Trial 2	122
Figure 4:2	Identification of Alcoholic Odours	124
Figure 4:3	Labels Applied to Misidentified Odours	126
Figure 4:4	Subjects' Groupings of the Bottles	135
Figure 4:5	Subjects' Explanations of Groupings	136
Figure 4:6	Subjects' Phrasings of Explanations	138
Figure 6:1	Rate of Recognition of Drunkenness	178
Figure 6:2	Opinions of Drunk Character	180
Figure 6:3	Feelings Attributed to Drunk Person	182
Figure 6:4	Location of Sightings	186
Figure 6:5	Motives for Drinking	195
Figure 6:6	Consequences of Drinking	198
Figure 6:7	Coordinated Motives and Consequences of Drinking	200
Figure 7:1	Subjects' Experience of Alcoholic Drinks (1)	207
Figure 7:2	Subjects' Experience of Alcoholic Drinks (2)	210
Figure 7:3	Places Where Bottles of Alcohol Sighted	219
Figure 7:4	Subjects' Beliefs About Who Drinks Alcohol	221
Figure 7:5	Source of Information About Alcohol	223
Figure 7:6	Source of Information About Drunks	226
Figure 8:1	Attitudes Towards Tobacco and Alcohol Use	243
Figure 8:2	Perceived Likes/Dislikes for Tobacco and Alcohol	246

CHAPTER 1

INTRODUCTION

1.1 GENERAL INTRODUCTION

'...a custom, a traditional way of thinking and acting, does not survive and spread from its point of origin unless it gives men some satisfaction, unless it solves some human problem' (Horton, 1991:9).

The consumption of alcohol, as a custom, has been with us since ancient times. Its longevity and pervasiveness appear all the more remarkable when one considers the numerous attempts to control or abolish it that have been documented throughout history. Indeed, anthropologists have observed that in the rare cultures in which alcohol use does not exist, the adoption of alternative substances which are perceived to fulfil a similar function has commonly been noted. Examples of these include Jimsonweed, a popular substance in areas such as California and Mexico, and peyote, a drug obtained from the fruit of a cactus plant, which is commonly observed to be used by Native Americans (Horton, op cit.). In Britain however, over 90% of adults currently drink alcohol, at least occasionally. Moreover, as this high figure indicates, the gap between the proportions of male and female drinkers is closing. Although men still make up the greater percentage of consumers, 89% of women are current drinkers (Foster, Wilmot and Dobbs, 1990). In Northern Ireland the number of male drinkers still exceeds that for women, although the overall proportion of abstainers is considerably higher for Northern Ireland than for Great Britain.

1.1.1 BACKGROUND

More detailed accounts of current trends in alcohol consumption are available elsewhere (eg. Foster, Wilmot and Dobbs, 1990; Plant and Plant, 1992). Moreover, this book is primarily concerned with tracing the development of alcohol-related knowledge and beliefs in young children, rather than their behaviours in relation to this

substance *per se*. However, in order to give an indication of the cultural importance attached to alcohol by British society, and thus to gain a clearer understanding of the prevailing atmosphere in which children are raised, only very brief mention will be made of some of the more relevant trends.

In 1970, around the time of the survey by Jahoda and Cramond upon which the current project is based, total consumer expenditure on alcoholic beverages in the United Kingdom, was £11,552 million. The corresponding figure in 1992, was £15,966 million. These monetary figures are equivalent to constant 1985 prices, in order to demonstrate more clearly, the considerable rise in these levels of expenditure. In addition, for the year 1970, the reported amount of absolute alcohol consumed per head of population in the UK, was 5.3 litres. This level reached a recent peak in the late 1980's at 7.7 litres. Thus, while the 1992 figure of 7.4 litres remains relatively high, it does reflect an overall downward trend.

As a caveat to the information above, it should be emphasised that these national patterns of alcohol consumption do not imply uniformity in personal use of alcohol. There are numerous variations in individual drinking habits. For example, men are more likely to drink and to drink heavily than are women; young adults drink more than older adults; and professional adults are more likely than non-professionals to drink alcohol, although the latter are the more likely to drink heavily. Moreover, variations are also apparent on a regional level. Survey data from Foster, Wilmot and Dobbs (1990), have shown that in Great Britain, the Greater London region and Scotland as a whole contained the highest proportions of non-drinkers for both males and females. In addition, the greater proportion of male heavy drinkers (defined as consuming 22 units¹ or more per week) were located in the North and North West

¹A unit is equivalent to a public house measure of spirits or to half a pint of normal strength beer, lager, stout or cider or to a single glass of wine

regions of England, while for females, the North West along with the Outer South East region of England, contained the highest proportions of 'heavy' drinkers (defined as consuming 15 units or more per week).

Lest these statistics cause alarm, viewed from an international perspective, UK alcohol consumption is by no means among the highest. In comparison with many countries of the world, the United Kingdom remains at an intermediary level. Moreover, within the context of the European Community, only the populations of the Republic of Ireland and Greece drink less, while France remains the highest consumer, at 12.4 litres per head of total population. Even so, the figures above go some way to demonstrating just how pervasive is the use of alcohol. It can be seen thus, that British children are brought up in a society in which alcohol consumption is an extremely commonplace activity and where abstinence is the preserve of only a minority. Not surprisingly, given this environment, it is with relative ease that children come to learn about alcohol. Moreover, the literature pertaining to young people has indicated that the age at which they are becoming significantly involved with alcohol, is decreasing.

1.1.2 RATIONALE

It is commonly assumed that the transitional stage from late childhood to early adolescence, is the critical period in which the regular use of alcohol begins. To the end, a considerable body of research has focused on alcohol-related issues within this age group. The crucial nature of this period is not in question, but recent research has suggested that socialisation to alcohol and its use, develops from an earlier age (Zucker and Noll, 1987). However, in comparison with the quantity of research carried out on adolescents, relatively few studies have focused on younger age groups. In their classic study entitled 'Children and Alcohol', Jahoda and Cramond (1972) put forward

two reasons for this neglect. The first of these stressed the methodological difficulties of testing young children. The second concerned the common and persistent belief that children are 'innocent' with regard to alcohol, and as such would provide a fruitless target for inquiry. A third related concern which has been raised more recently in connection with the debate regarding alcohol education, is that introducing the topic of alcohol to children at a young age, may encourage earlier experimentation with alcohol. This thesis aimed to counteract these disclaimers, and took as its inspiration, the influential work of Jahoda and Cramond (op cit.). Both the latter study and the current exercise attempted to trace the development of alcohol-related cognitions in young children.

In the opening chapter of this thesis, the bases of these objections to the study of young children and alcohol are addressed, followed by a comprehensive review of the existing literature in this area. This is followed, in Chapter 2, by an examination of the survey data relating to youthful patterns of alcohol use, and a critical discussion of subsequent strategies employed to curb youthful misuse of this substance. The remainder of the book describes the present study in full, including the presentation of a detailed description of the methods involved in the testing of young children, together with a full account of the results. In the concluding Chapter, the major issues and implications raised by the findings of this project are discussed.

1.2 TESTING YOUNG CHILDREN ABOUT ALCOHOL

1.2.1 METHODOLOGICAL ISSUES

When Jahoda and Cramond referred to the methodological difficulties associated with testing young children, they were alluding to the fact that previous studies in the general field of alcohol research had tended to rely heavily on the use of questionnaires. Even today, the self-completed questionnaire remains the most widely used investigative tool in this area. However, interpretation of data derived in this way can often be problematic. Not only does it rely, a priori, upon subjects' ability to read, but it also relies on the honesty and accuracy of respondents. For example, it has been observed in surveys dealing with the issue of individual levels of alcohol consumption, that respondents may often over- or under-report personal consumption levels either unintentionally due to poor memory recall or deliberately in order to present a more 'desirable' picture of themselves (Midanik, 1982; Duffy and Waterston, 1984; Marsh, Dobbs and White, 1986). A further example of misreporting comes from studies in which subjects are asked the age at which they received their first alcoholic drink. The tendency is for older subjects to report a later age of first drink than younger subjects. It is widely accepted that this trend is an artefact of memory.

The forced-choice questionnaire can often reduce the likelihood that such misreporting will occur. This format consists of pre-defined finite response categories, which often necessitate a lower level of accuracy, and which may also serve as useful memory prompts for respondents. However, for this same reason, this type of instrument runs the risk of forcing respondents to make a choice they would not otherwise have made (Feldman and Ruble, 1981; Barenboim, in Berndt and Heller, 1985). In contrast, while the open-ended questionnaire places no such restrictions on responses, its unstructured format can lead to important information going unreported (Shantz, 1983). A simple

illustration of this appears in Jahoda and Cramond's study during which children were asked the following two open-ended questions: What have you heard people say about these kinds of (alcoholic) drinks?; and What have you been told about drunk people? Sixty-seven percent of their sample claimed to have heard nothing about alcoholic drinks, the corresponding figure for the second question was 62%, whereas the same children had previously demonstrated via alternative methods, that they did in fact possess information relating to these issues.

An alternative method of questioning which does not rely on an ability to read and write, and therefore one which might be more appropriate for children, is the interview. This technique allows the researcher to ask direct and specific questions, based on the assumption that respondent and researcher alike share a common level of discourse and understanding of discourse. For communication to be effective it is essential that both the 'transmitter' and the 'receiver' of the message, share a similar frame of reference for interpreting the communication. However, while this can often be assumed with relative justification when dealing with adult subjects, the likelihood that two persons will hold a shared frame of reference will be significantly diminished when one of them is a young child:

'For adults, a common level of discourse within a common level of meaning is shared. Although differences in shared meanings exist among adults and lead to communication problems, the probability is that the amount of overlap in consensual meaning between adults is significantly greater than that between adults and children' (Sigel, 1974: 202).

There are various difficulties specifically associated with the testing of young children, the source of which can invariably be traced back to this fundamental issue of communication. It is also important to stress that this can be a double-edged problem: discrepancies can occur between the researcher's intended question and the child's interpretation of this question; similarly, the researcher's subsequent interpretation of

the child's response may not necessarily coincide with the child's intended meaning. Moreover, young children themselves, may deliberately structure their responses in order to suit the situation, as they perceive it:

'It is well known that the suggestibility of children makes them very reactive to methodological variations. In all probability, the more remote the area of inquiry and the more uncertain the child about his/her answers, the greater this reactivity' (Goodman, 1990: 935).

An interesting study by Goodman (1990) examined children's responses to questions concerning not alcohol but mental retardation, as a function of inquiry method. Goodman's pilot studies indicated that children's responses were highly reactive to the methodology employed. Especially in situations where they were uncertain, children tended to agree with the investigator where possible, opted for a 'yes' answer in preference to a 'no' answer when these were the available options, and tended towards 'ultra-fair-mindedness'. As a result, the same children gave differing responses to questions concerning their perceptions of mental retardation according to the inquiry method. A further example of this, comes from Jahoda and Cramond's study of young children's alcohol cognitions. During this investigation, the children referred to the drinking habits of their parents. It became apparent to the authors that the girls in their study group were more likely than the boys, to report that only their father drank or that neither of their parents did so. As the authors themselves point out, it is unlikely that such differences in consumption occur between individual families as a result of the sex of the child. Thus one possibility might be that these girls tended to deliberately under-report the level of consumption for the 'sake of appearances'.

While it is apparent that methods of inquiry such as those detailed above, are restricted in their usefulness where young children are concerned, greater subtlety can be achieved through the use of experimental procedures. Experiment-based techniques are

those in which independent variables ie. those factors controlled by the experimenter, are systematically manipulated in order to observe their effects on the subsequent behaviours of the subject ie. the dependent variables. Experimental techniques have several advantages in that they facilitate experimenter control over the independent variables and allow for random assignment of subjects to various experimental conditions, both of which provide a more solid basis from which to draw conclusions about cause and effect. Moreover, they can also often be designed in such a way as to obscure the true aim of the test, which has the advantage of lessening the influence of suggestibility on subjects' responses.

Even so, the ability to generalise from data derived from artificial experimental conditions to events encountered in real life settings, is also an issue often contested. However, alternative ethological techniques are quite inappropriate in the context of young children and alcohol. The potential for complications arises in ensuring that the variable(s) to be observed in the experimental procedure is(are) not being confounded by other intervening variables that remain unrecognised. For example, in their 'Recognition of Smells' task, Jahoda and Cramond were able to acknowledge that children's familiarity with alcohol, as measured by their ability to identify alcoholic odours, may have been obscured by the fact that children were simply poor at identifying odours in general.

Although experiments do not necessarily rely on verbal ability, the verbal commands that invariably accompany the experiment are equally open to misunderstanding. As Adair (1984) observed, for every research study there are potentially two studies: one is that designed by the experimenter; the other is that perceived by the participant. In other words, the interpretation of data derived from experiments relies upon the assumption that the subject's interpretation of the experimental demands of the

situation will coincide with that of the experimenter. Again, the likelihood that this assumption will be erroneous will be enhanced when the subject is a young child:

'The child's attention is drawn to something that interests him and he speaks of it. He has some idea that is important to him and he expresses it in whatever form comes most readily to him. He is never required, when he is himself producing language to go counter to his own preferred reading of the situation - to the way in which he himself spontaneously sees it. But this is no longer necessarily true when he becomes the listener. And it is frequently not true when he is the listener in the formal situation of a psychological experiment' (Donaldson, 1978: 74)

It is not practicable to discuss with the child, his/her interpretation of the experimental demands or the intended meaning of his/her response. Therefore, the experimenter must be sensitive to the child's point of view and ensure that his/her side of the communication is unambiguous. Examples of such disparity between experimental demands and the child's subsequent interpretation of the demands have been ably demonstrated by Donaldson (1978) and her colleagues Hughes and Grieve (in preparation), in their reworkings of several major experiments by Inhelder and Piaget (1964). Piaget was the major pioneer in the field of child development, and even today his work remains extremely influential. However, it has since become apparent that some of his findings had led many to underestimate the rate at which children's cognitive abilities develop. Donaldson and her colleagues subsequently set out to conduct similar experiments to those of Piaget, adopting a format which they believed would be more comprehensible to young children. The performance of their subjects on these modified tasks, was considerably better than Piaget's findings would have led one to predict. The reason for this apparent discrepancy, these authors concluded, was that Piaget's perception of the demands of his tasks often had not coincided with his young subjects' perceptions of these same demands.

In summary, for every research technique there are invariably some drawbacks. The task of the researcher is to decide which method will be the most appropriate both to

the topic under investigation and to the subjects involved. In the case of young children, studies employing methods which place heavy emphasis on verbal and reading ability will be open to greater misinterpretation. However, recent advances in the fields of developmental and social psychology have made possible the design of more sophisticated and more reliable experimental methods of testing children.

1.2.2 CHILDREN AS 'INNOCENTS'

The second of Jahoda and Cramond's explanations concerning children as a neglected study group, related to the assumption that children are unconcerned or simply unaware of alcohol and related issues, and as such would constitute a somewhat futile area of inquiry. The studies documented in the following review provide unequivocal evidence to refute this claim. For this reason, further comment on this issue will not be made here.

1.2.3 THE 'PROBLEM' OF EARLY EXPERIMENTATION

However there are two points which need to be raised in connection with this final issue: will the early introduction of the topic of alcohol encourage early experimentation with this substance? The first concerns the question as it stands. The second relates to the implicit assumption that early experimentation with alcohol is something to be at least frowned upon and at best avoided.

The following literature review will provide evidence showing that children begin to acquire information about alcohol, in whatever form they perceive it to be, from a very

age. Such early learning indicates that children are acquiring this information from within the family environment, well before they encounter any formal introduction to the subject of alcohol. More pertinently, in many cases this awareness extends to children's personal experience of alcohol. Moreover, it does not necessarily follow that children who know about alcohol are more likely to look more positively upon alcohol. Indeed, during these early years, children's perspectives on alcohol develop from an initially neutral viewpoint to an increasingly moralistic, pro-abstinence stance.

This leads on to the second point, that it is contestable whether early 'experimentation' with alcohol need always be inappropriate. In several major European countries, socialisation to drinking often begins from a very young age. Moreover, there is no indication that these practices are themselves responsible for any greater prevalence of alcohol-related problems. Children in these countries learn how to drink from a very early age, with the emphasis on alcohol not simply as an intoxicant per se but as a social enhancer that is secondary to the social occasion itself. The same may also be said to an extent in defence of British customs. However the normative cultural values and styles of drinking do differ significantly. For example, in the United Kingdom, drinking, especially when it occurs outside of the home, is more strongly associated with adulthood and with adult men in particular, rather than as a predominantly light-hearted and pleasurable family activity. In addition, the adverse consequences relating to periodic heavy drinking such as intoxication and public disorder as a result of intoxication, pose major problems in the United Kingdom. Finally, studies of British adolescent alcohol use and misuse have indicated that those adolescents whose socialisation to alcohol occurs primarily within the family environment, are less likely than those whose socialisation occurs primarily among peers, to constitute a group of heavier and more problematic drinkers (Davies and Stacey, 1972; Harford and Speigler, 1983; Ghodsian and Power, 1987). Thus, the early introduction of children

to alcohol can be a positive proposition. Indeed, many researchers and policy makers currently advocate such action.

1.3 REVIEW OF LITERATURE ON YOUNG CHILDREN AND ALCOHOL

The first ever comprehensive attempt to trace the development of young children's knowledge, attitudes and behaviour in relation to alcohol, was conducted in Scotland, by Jahoda and Cramond (1972). Two-hundred and forty children between the ages of 5½ and 10½ participated in the study, which consisted of a series of game-like activities designed to elicit the following aspects of their alcohol cognitions: familiarity with alcohol; attitudes to adult drinking behaviour; awareness of the social norms associated with alcohol consumption; understanding of the concept of alcohol; recognition of the physical manifestations of drunkenness; and finally, future orientations regarding alcohol. The results of this study were important for two reasons. Firstly, the authors had demonstrated that alternative methods of testing children could be developed. Secondly, they had demonstrated that children are aware of alcohol at an early age.

Subsequent to the publication of this report twenty years ago, only a small number of studies have been conducted in this area. The following is a review of the rather limited literature pertaining to young children and their alcohol cognitions. The predominant messages conveyed in all these studies, respond to the objections listed above: it is possible to design methodologies that are appropriate for testing young children; children are very much aware of alcohol from an early age; and this awareness, in many cases, extends to children's early personal experience of alcohol.

1.3.1 CHILDREN'S FAMILIARITY WITH ALCOHOL

Studies that have attempted to obtain objective measures of young children's familiarity with alcohol, have commonly used one or other of two techniques. The first of these approaches involves the assessment of children's visual identification of alcoholic beverages, using photographs or unlabelled bottles of various alcoholic beverages; the second, has concentrated on children's ability to identify alcoholic beverages on the basis of odour recognition.

Visual Recognition of Alcoholic Beverages

In a study by Jahoda, Davies and Tagg (1980), one hundred and thirteen children aged between four and seven years, were presented with a set of twelve colour photographs of bottles, six of which were of alcoholic drinks (whisky, vodka, wine, sherry, beer, Guinness) and six of which were of non-alcoholic drinks (tomato juice, limeade, lemonade, Coca-Cola, Irn Bru, milk). As part of the study, children were required to 'name' the bottles in each of the photographs. In addition to responses that included the appropriate alcoholic beverage name, any mention of other specific alcoholic drinks or more general descriptions such as 'grown up drinks', were also deemed correct. On this basis, approximately half of the children in both the youngest age group (4-5½ yrs) and the middle age group (5½-6½ yrs) were able to give an appropriate alcoholic-type label to the pictures. In the oldest age group (6½-7½ yrs), almost two-thirds of the children were successful. Subsequent comparisons between performance on this task and patterns of parental alcohol consumption, failed to establish a significant association between the extent of children's knowledge of specific drinks and any aspect of their parents' drinking behaviour.

In the United States, Penrose (1978) reported a similar lack of association between children's ability to identify a series of alcoholic beverages and parental drinking

habits. Eighty-nine children aged four-and-a-half to six-and-a-half years, were asked to identify a series of alcoholic and non-alcoholic pictures. All the children successfully identified the alcoholic beverage beer, and only 2% failed to identify wine. Not surprisingly, significantly fewer children were able to identify whisky, vodka and tequila. A detailed and more standardised account than that collated by Jahoda, Davies and Tagg (op cit.) of primarily paternal drinking habits, nevertheless failed to distinguish any aspect of paternal drinking behaviour that could significantly be related to the performance of these children.

Both Noll (1983) and Greenberg, Zucker and Noll (1985) also conducted similar studies in the United States, but on groups of younger children. In a small pilot study of seventeen children aged from two-and-a-half to six years, Noll (op cit.) found that all seventeen were able to identify correctly the photograph of beer. Again, photographs of other alcoholic beverages including wine, gin/vodka, whisky and sherry were less readily identified by the children. Nevertheless, taking all the alcoholic odours together, the overall success rate for this sample was 52%.

Following on from this pilot study, Greenberg, Zucker and Noll (1985) examined a larger population-based sample of children within the same age range. Within this sample, a developmental trend in ability to identify alcoholic beverages was found, with the older children significantly outperforming the younger children. The success rates for these children were 61% and 45% respectively. Differences in cognitive capacity, as measured by the Peabody Picture Vocabulary Test - Revised (Dunn and Dunn, 1981), were not sufficient to explain the developmental trends in identification ability. However, the authors did find a significant relationship between patterns of parental consumption and children's performance. Children whose fathers reported heavy drinking levels, displayed a greater knowledge of alcoholic beverage names, than children whose fathers reported lighter alcohol consumption. This finding

highlights the role of exposure to alcohol in the immediate environment, and supports the theory that developmental increases in performance may likewise be due to the increases in exposure to alcohol that inevitably accompany rising age.

The following two studies have examined alcohol identification in samples of slightly older children. Miller, Smith and Goldman (1990) conducted a test of alcohol identification on 89 children aged between six and eleven years. Colour photographs of three alcoholic (beer, wine and liquor) and six non-alcoholic beverages were presented in three rows of three, so that each row contained one picture of an alcoholic beverage. Each child was given a sheet of paper containing an exact replica of one of the rows and his/her task was to circle the picture of 'whisky or beer'. Every child in the sample was able to complete this task successfully. The second study, by Gaines et al. (1986), examined children's ability to identify alcoholic beverages using a slightly different technique. Instead of using photographs, the authors presented children with empty and unlabelled bottles of both alcoholic and non-alcoholic beverages. In this study, the younger children (approximately five to six years old) were as successful as the older children (approximately 13-14 years old). These results, and those of the previous study, imply the existence of a ceiling effect on further age-related increases in identification ability, that occurs roughly around the age of five/six years.

It is important to note that the criteria for successful identification of alcohol differed between these studies. In both Jahoda, Davies and Tagg's study (1980) and that of Penrose (1978), successful identification included any 'alcoholic-type' label, whereas in the other studies, children were required to apply the appropriate specific names to the alcoholic drinks. Nevertheless, both types of study demonstrate early developmental trends associated with the ability to recognise and identify alcoholic beverages by sight. In general, knowledge of alcoholic beverage names improved

significantly with rising age, up to about six years of age, after which further age increases ceased to significantly enhance performance.

Odour Recognition of Alcoholic Beverages

Children can become familiar with alcohol in a variety of ways, from a number of sources. Such learning processes can be divided fundamentally into two categories: active learning through personal experiences in the immediate environment; and passive learning from sources in the external environment eg. the mass media. In many cases, the design of studies is such that it is often difficult to assess accurately which aspects of children's learning are a result of which type of process. It is evident that visual recognition of alcoholic drinks can be the result of either of these learning processes. However, evidence of children's ability to recognise and identify alcohol by smell is strongly indicative of active learning within the home-controlled environment.

In Jahoda and Cramond's study (1972), children's familiarity with alcohol was assessed by means of the 'Recognition of Smells' task. Instead of using photographs or empty bottles, the authors presented children with an array of identical jars, each containing either an alcoholic liquid (beer and whisky) or a non-alcoholic liquid (peppermint, disinfectant, paraffin, soap liquid, perfume, coffee and vinegar). On the initial trial children were asked to say simply whether they recognised each odour. On the second trial, those odours which the children had claimed to recognise were then presented again, and this time children were asked to identify the odours. On the initial trial, 55% of the total sample claimed to recognise the beer odour and 81% claimed to recognise the whisky odour. Following the second trial, the percentage of children who gave an appropriate alcoholic-type label to one or both of the alcoholic odours was as follows: 39% (5½-6½yrs); 55% (7½-8½yrs); 61% (9½-10½yrs). The authors also conducted further tests on nursery-school children and found that of their

sample of fourteen four-year olds, two children were able to identify one or both of the alcoholic odours.

During the main task, it became apparent that a proportion of children were poor at recognising and identifying odours in general. It is well established that the human capacity for unassisted or 'free' identification of odours is limited (Schab, 1991). Taking this into account, Jahoda and Cramond established an arbitrary cut-off point whereby any children who were unable to identify three or more odours were excluded from analysis. This applied to 68 children in their original sample, the majority of whom belonged to the youngest age group. As a result, the success rates for the remaining sample increased dramatically to 74%, 69% and 71% respectively, and 66% of the nursery children. Furthermore, the age-related differences in success rates for identification now disappeared. The authors tentatively concluded that children are familiar with alcohol from a very early age, and that age-related differences in performance associated with the initial trial of the task could be explained by developmental differences in ability to identify odours generally.

Again, the Michigan State Pre-schoolers Study have carried out similar investigations (Noll and Zucker, 1983; Noll, Zucker and Greenberg, 1990). In the latter study, 29 children aged between 31 and 48 months and 28 children aged between 49 and 69 months were presented with three types of odorous substances: 'universal-use' substances ie. those used commonly by adults and children (apple juice, playdoh, popcorn); 'noncontrolled adult-use' substances ie. those used commonly but not exclusively by adults (coffee, perfume); and 'controlled adult-use' substances ie. those used exclusively by adults (beer, wine, whisky, cigarettes). When asked to identify the odours on the initial trial, children were significantly more successful at identification of both the universal-use and noncontrolled adult-use substances, than identification of the controlled adult-use substances. With regard to these latter substances, 57% of

the older children gave an appropriate 'alcoholic-type' label to one or more of the three alcoholic odours, while only 21% of the youngest children were able to do this.

In order to counteract the problem encountered by Jahoda and Cramond, ie. that of confounding familiarity with alcohol with poor ability to name odours, during the second trial Noll et al. also presented children with photographs of the substances contained in the smelling jars. This assisted identification trial resulted in dramatic increases in success rates for all children. Both universal-use and noncontrolled adult-use substances continued to be identified significantly more often than the controlled adult-use substances, although this effect was now less robust. The success rates for identification of alcohol also increased, from 57% to 89% for the older children and from 21% to 69% for the youngest children, although the age-related differences in performance remained significant. The finding that age-related differences in ability to identify alcoholic odours persisted within this age group, even when the developmental differences in verbal identification ability had been adjusted for, suggests that some other factor related to age, must be responsible. Similarly, the fact that children were significantly more successful at identifying odours that were more familiar to them than alcoholic odours, lends further support to the theory that increases in exposure to these odours, opportunities for which will inevitably increase with age, are responsible for the corresponding trends in identification performance within this age group.

In a study by Noll and Zucker (1983), the sample consisted of eighteen children aged between two-and-a-half to six years, from both alcohol dependent and non-alcohol-dependent families. Those children from alcohol-dependent families showed significantly greater knowledge of alcoholic beverage names on the initial identification trial, than did children from non-problematic backgrounds. However, following the second 'assisted identification' trial this difference disappeared. This

finding suggests that children from heavier drinking environments have more opportunity to establish and consolidate an association between various alcoholic odours and their verbal labels, due to greater exposure to alcohol. For children in lighter drinking environments where alcohol is present but less salient, the appropriate verbal label is less likely to be as consolidated and as readily accessible in their memory. Thus, initial ability to identify alcohol is significantly enhanced when parental consumption is heavier, but when verbal identification is assisted, this advantage is diminished.

These studies, dealing with both visual and odour recognition of alcoholic beverages, have demonstrated a clear developmental trend in children's ability to identify alcohol, up to about the age of five/six years. Beyond this age, further rises in age appear to confer little added advantage. There are two possible explanations as to why this might occur. One is that developmental differences in cognitive capacity may account for differences in performance, up to a point at which further cognitive development ceases to confer an advantage in this respect; the other is that as children grow older, they become more familiar with alcohol due to the inevitable corresponding increase in opportunities for exposure to alcohol, and this continues to affect performance until a ceiling point is reached. This latter explanation appears to be more consistent with the present evidence, at least in relation to the particular age groups studied.

1.3.2 CHILDREN'S UNDERSTANDING OF THE CONCEPT OF ALCOHOL

As noted in the previous section, it is apparent that young children are familiar with alcohol to the extent that they can identify various alcoholic drinks by sight and by smell. For the younger children, identification may be as simple as knowing that alcoholic drinks are 'grown up drinks', whereas older children are more likely to know

specific names of alcoholic beverages. However, the ability to identify alcohol does not necessarily imply that children understand the concept of alcohol as a distinct and logical class of drinks.

This has been demonstrated in the study by Jahoda, Davies and Tagg (1980). As mentioned previously, Jahoda and his colleagues tested a group of 113 children aged between four and seven years. They found that for the younger children (aged four-and-a-half to six-and-a-half years), ability to label pictures of alcoholic beverages was not an indicator of ability to explain alcoholic/non-alcoholic groupings ie. although roughly half of these children could name the bottles in the pictures and roughly half were able to explain the groupings on the basis of an alcoholic/non alcoholic division, the same children were not necessarily able to do both. On the other hand, with the older children (aged six-and-a-half to seven-and-a-half years), there was a significant relationship between the number of children (ie. roughly two-thirds of the group) who were able to name the bottles and the number who were able to explain the groupings.

In the pioneering study by Jahoda and Cramond (op cit.), the authors also designed a task which attempted to examine the age at which children acquire an understanding of the concept of alcohol. In this experiment, children were presented with a selection of bottles of alcoholic drinks (wine, sherry, whisky and beer) and non-alcoholic drinks (milk, lemonade, Coca-Cola and orange juice), placed at random on a table in front of them. The task required children to separate the eight bottles into two groups of four, so that one group contained bottles that were similar to each other in some way but different to the bottles in the other group. The children were then asked to explain the difference between their two groups. The correct response was to group the bottles according to the alcohol/non-alcohol division. If the children did not group the bottles in this way, the experimenter regrouped the bottles accordingly and the child was given another opportunity to explain this subsequent regrouping. Only 42% of the

youngest children performed the initial stage of this task correctly, with 40% then giving the correct explanation. However, following the experimenter's regrouping, a further 26% were able to provide the correct explanation, giving a total of 66% for this youngest age group. The older children were considerably more successful. Ninety percent of the eight year olds and 96% of the ten year olds successfully performed the alcohol groupings, with all but one child in each age group able to provide the correct explanation. Following the experimenter's regrouping, a further 6% and 3% respectively went on to give the correct response, giving respective totals of 95% and 98% for each age group. The phrasing of children's explanations of bottle groupings also varied significantly with the age of the children. Not one of the youngest children mentioned the term 'alcohol'. In fact, only 11% of the total sample applied this term to the groupings, most of whom belonged to the oldest age group. The most popular way of expressing the groupings, irrespective of age, was to give the name of specific alcoholic drinks.

It is important to note that prior to this task, the children received a training task which followed a similar procedure using fruit and non-fruit items, in order to orient them to the demands of the main task. Ninety-two percent of the sample were able to discriminate accurately between these two categories of foods, with almost the same numbers able to provide an accurate verbal description. In comparison, 74.5% of the total sample were able to perform the alcohol groupings correctly, and a further 11.75% were able to give the appropriate explanation following the experimenter's regrouping, giving a total of just over 86%.

It would appear then that although many children are able to recognise and identify alcoholic beverages at an early age, most do not possess an operational concept of alcohol until about the age of seven or eight years, at roughly the same time as verbal concepts of more salient groups, eg. fruit, are being developed. However, the

acquisition of a verbal concept of alcohol appears to develop at a later stage, probably around the age of ten years.

1.3.3 CHILDREN'S AWARENESS OF SOCIO-CULTURAL NORMS RELATING TO USE OF ALCOHOL

Over the past thirty years total alcohol consumption in the UK has undergone a number of changes. In 1979, consumption peaked at approximately eight litres of absolute alcohol per head of population. This was followed by a marked decline, although currently consumption is once again on the increase. Today, over 90% of British adults drink alcohol at least occasionally. Young people drink more than older people; males drink more often and more heavily than females (Goddard and Ikin, 1988). Females also generally experience fewer alcohol-related problems than do men (Plant, 1990). However, there is now a tendency for more British women (89%) to consume alcohol, if only in small amounts (Foster, Wilmot and Dobbs, 1990). A number of studies have investigated the extent of children's awareness of cultural norms such as these, in relation to drinking alcohol.

Jahoda and Cramond (1972) investigated children's perceptions of the likes and dislikes of three social groups ie. men, women and children, in relation to alcohol-related behaviours. Children listened to audio-taped lists of alcohol- and non-alcohol-related activities, and were asked to indicate how much they thought men, women and children liked or disliked these activities. The alcoholic activities consisted of drinking beer, drinking whisky, going to a public bar and being drunk. The non-alcohol-related activities included items such as mending a car, sewing on buttons and drinking milk. Also included in these lists were several tobacco-related items ie. smoking a cigarette and smoking a pipe. The results showed that men were

consistently perceived as enjoying alcohol-related activities, with the exception of 'being drunk'. Women were invariably perceived as disliking these activities, often to the same extent as children themselves. The degree of perceived liking for men tended to decrease with rising age of the subjects, although this did not always reach statistical significance with every alcohol-related item.

The difficulty with this particular test is the choice of role models adopted by the children is unclear. That is, was it their parents, other relatives or media personalities etc. to whom they referred when making assumptions about adult preferences? It has been suggested that younger children tend to refer to their parents when asked to rate adult preferences, whereas older children are more likely to refer to popular media figures (Higgins, Feldman and Ruble, 1980). This is especially pertinent to Jahoda and Cramond's task in which children were asked to use as a term of reference 'a man/woman - somebody like your father/mother'. However, these researchers attempted to test this theory by comparing the perceptions of children from abstinent backgrounds with the perceptions of children from heavy drinking backgrounds. The results suggested that children were basing their responses primarily upon their domestic experiences. However, two points should be noted: during the study there were no specific questions concerning parental habits, so the categorisations are based solely on spontaneous remarks made by the children; similarly, the number of children who did make such remarks is relatively small (nineteen claimed their parents were 'abstainers', while eighteen reported 'heavy' drinking parents).

In the study by Jahoda, Davies and Tagg (1980) this younger sample of children were shown drawings of, in turn, a man, a woman, a boy and a girl engaged in the act of drinking something from a glass. They were then asked to choose from six photographs of non-alcoholic drinks and six of alcoholic drinks, three drinks that the person in the drawing would most like to be drinking. Over a third of the youngest

children (4½-5½yrs) were able to accurately discriminate between adult and child drinks on this basis. Predictably, the number of accurate discriminations rose as age of subject increased. No significant relationship was found between children's perceptions of social drinking norms and parental drinking habits.

Similar studies of children's awareness of cultural norms have also been carried out in the United States. Spiegler (1983) replicated Jahoda and Cramond's 'Perceived Likes/Dislikes' task on a sample of sixty children, also aged between six and ten years. Her sample displayed similar patterns of perceptions to that of Jahoda and Cramond, with greater liking attributed to men and greater dislike attributed to women and children. The 'Appropriate Beverage Task' by Penrose (1978) was also designed to examine children's awareness of drinking norms. This author presented a sample of five and six year old children with a series of drawings of festive occasions (eg. a Thanksgiving dinner, a Fourth of July picnic, a New Year's Eve party, and a birthday party) and non-festive events (eg. watching television, having lunch) in which various male or female, adult or child figures appeared. Five pictures of alcoholic beverages (beer, wine, whisky, vodka and tequila) and five of non-alcoholic beverages (milk, coffee, lemonade, Coca-Cola and orange juice) were also presented. Children were then required to guess which of the drinks the people in the pictures would like to drink, by pointing to, touching or naming one of the beverage photographs. The results showed that children were not only able to discriminate between adult- and child-appropriate drinks, but were also able to discriminate between alcoholic drinks appropriate for festive occasions and non-alcoholic drinks for non-festive occasions. These subjects also chose more alcoholic drinks for adult males than for adult females over all occasions. However, like Jahoda, Davies and Tagg (1980), Penrose found no relationship between children's awareness of these social norms and parental drinking practices.

Greenberg, Zucker and Noll (1985), also used the 'Appropriate Beverage Task' on their sample of two-and-a-half to six year old children. These authors found developmental differences in relation to awareness of socio-cultural norms, with the older children displaying greater consolidation than younger children, of the norms that adults drink alcohol and children do not, and that men drink more than women. Furthermore, the authors found that children whose fathers reported drinking for escape-related motives, tended to perceive greater levels of alcohol consumption among adults, than children whose fathers did not. Finally, Greenberg and his colleagues also examined performance on this task in relation to parental race. As might be expected in a test of cultural norms, there were differences in performance according to race. Both Caucasian and African American children selected fewer alcoholic drinks as drinking choices than did children of other races such as the Hispanic subjects.

The results of these studies indicate that children as young as two-and-a-half years show some awareness of normative drinking habits. Developmental differences in awareness of various socio-cultural norms appear up to around the age of five years, at which point these basic norms appear to become consolidated in the minds of children. The question of parental influence remains to be clarified, although the current evidence indicates that more extreme patterns of parental alcohol consumption may exert some degree of influence on children's perceptions of normative drinking behaviour.

1.3.4 CHILDREN'S ALCOHOL EXPECTANCIES

So far, little has been mentioned in relation to children's knowledge of alcohol per se. The following section describes a number of studies which have investigated various

aspects of children's knowledge of alcohol.

In addition to the main battery of tests, Jahoda and Cramond asked their sample a number of informal questions. One of these dealt with the kind of general information children had heard regarding alcoholic drinks. The majority of children (67%) could not recall having heard anything about the drinks, although this finding is probably due to the imprecise nature of the question. Of the seventy-nine children who did report some item of information, just over 73%, the significant majority whom were from middle class backgrounds, mentioned knowing something negative about alcohol. Moreover, the principle source of this information was the parents.

In a similar vein, Casswell et al. (1983) asked their sample of New Zealand nine-year olds 'what do you know about what happens to people who drink beer, whisky, wine or any other alcoholic drinks? The majority of responses referred to acute adverse effects of alcohol consumption, with 71% of the children mentioning drunkenness and only one fifth of these adding the qualification that amount of alcohol consumed would be a prerequisite factor. Fifteen percent mentioned more long term adverse consequences, and only 9% mentioned effects that were associated with more positive aspects of alcohol. On this occasion, the children cited the television as the primary source of their knowledge (35%), with parents (26%) and other miscellaneous sources (24%) following respectively.

More rigorous examination of children's perceptions of the effects of alcohol and adult motives for drinking, has been conducted by Gaines et al. (1988). Gaines and his colleagues tested eighty children aged from five years to 13 years, by means of six short vignettes depicting one of three drinking situations: escape from painful affect; facilitation of social interaction; and celebration of a positive event. Each child

received one of the six vignettes in which the protagonist was either a man or a woman. After hearing the vignette, children were asked a series of questions concerning their understanding of the protagonist's motives for drinking. The highest possible score was given to responses that contained a coordinated psychological antecedent and consequence eg. she was feeling nervous and the drink calmed her down. The youngest children (ie. those of five years) were the least successful on this task. Children in the next age group (those aged eight years) performed significantly better than the former group, but also had significantly lower scores than children in the two older age groups (11 years and 13 years). Almost 75% of the oldest children could provide coordinated responses. Scores for all children were lowest when the vignette dealt with social anxiety. In addition, girls generally achieved higher scores than boys. In relation to parental drinking, which was quantified by the number of days per year that drinking had occurred in the child's presence, a significant relationship with understanding of adult motives for drinking was found only with the eight-year old children.

More recently, Miller, Smith and Goldman (1990) examined the development of alcohol expectancies in young children, aged from six to 11 years. Their procedure for assessing children's alcohol-related expectancies (CARE), was partly based on the Alcohol Expectancy Questionnaire - Adolescent (AEQ-A), designed by Christiansen, Goldman and Inn (1982), and consisting of a list of possible consequences of consumption. Male and female hand puppets were used to represent male and female drinkers. It was found that children's alcohol expectancies became more positive with rising age, with the largest increase occurring with the eight to nine year old children. There were no differences according to gender of the child or gender of the drinker. However, children of fathers who reported no family history of alcohol problems, tended to express more positive alcohol expectancies than children with a family history of alcohol dependence.

It is difficult to draw general conclusions about children's knowledge of alcohol from these studies, as the nature of the questions differed from study to study. It would appear that the negative short term consequences of alcohol consumption are more salient to young children. However, this does not necessarily imply that they do not possess a more complex understanding of the issue, as demonstrated by Gaines et al. (1988). Generally, as children grow older, ie. between eight and eleven years, a more mature understanding of adult drinking motives develops, and more positive expectancies about alcohol are reported. Again, it appears that children whose family history suggests more extreme patterns of alcohol involvement, are more likely to give responses that reflect these patterns.

1.3.5 CHILDREN'S FAMILIARITY WITH DRUNKENNESS

The preceding section revealed that children are very much aware of drunkenness as a major consequence of drinking alcohol. However, familiarity with this term does not necessarily imply a thorough knowledge of the physical implications of intoxication. In order to test children's ability to recognise the physical manifestations of drunkenness, Jahoda and Cramond (1972) devised a silent film containing the following sequences: A - a man in a public bar drinking whisky and then picking up a glass of beer; B - the man draining the beer glass and staggering from the bar; C - the man staggering out of the bar door; and D - the man staggering along the road. Children were shown the film in reverse chronological order, cumulatively ie. part D was followed by parts CD, parts BCD, and finally the complete film was shown. Following the first part of the film presentation ie. part D, only 14 children (5.8%) failed to realise that the man was drunk, the majority of whom were from the youngest age group. By the third presentation ie parts BCD, all the children had successfully recognised the man to be drunk. Finally, when children were asked where

they had seen people like that before, 95% said they had seen a drunk person first hand.

In response to the high success rates of their main sample, Jahoda and Cramond conducted a similar test on a sample of 14 four-year old nursery-school children. Three of these children recognised the physical signs of drunkenness after part D, and only two failed to do so following the presentation of the entire film. No other studies have dealt with this issue, but it is apparent that children learn to recognise the physical manifestations of drunkenness, often through live encounters, from an earlier age.

1.3.6 CHILDREN'S ATTITUDES TOWARDS ADULT DRINKERS

The development of attitudes towards adult drinking behaviour is another aspect of children's early alcohol cognitions that has been the focus of several studies. In their study, Jahoda and Cramond (1972) designed the 'Judgment of Photographs' task to measure children's attitudes towards adult drinking behaviour. A series of photographs of individual men and women engaged in either an alcohol-related activity (drinking beer or whisky) or non-alcohol-related activity (eg. playing cards, drinking milk, reading a newspaper) were presented to the children. Children then placed each photograph into a responses box with four compartments labelled 'like very much' 'like a little' 'do not like a little' 'do not like very much'. The five to six year olds in this sample reported relatively neutral attitudes towards male adult drinkers, but attitudes to female drinkers already displayed a fairly negative nature at this stage. As age of subject increased, attitudes to drinkers of both sexes became more negative. However, at all ages, children were more condemnatory of female drinkers than of male drinkers.

Using the 'Judgment of Photographs' technique with a sample of 60 children, Spiegler (1983) found that although the attitudes to drinking of her young US sample were also generally negative, they did not differ with respect to the gender of the drinker. She did however find similar but less clear-cut age-related trends, with the older children displaying more negative attitudes than the youngest children. However, the eight-year-old children displayed more positive attitudes to both male and female drinkers than any other age group. This was principally due to the positive attitudes towards male and female drinkers of the boys within this age group. It is perhaps important to note that Spiegler's sample was subdivided into five distinct age groups ie. five years, six years, seven years and so on with each age group consisting of five girls and five boys, as opposed to Jahoda and Cramond's larger and broader age groups. Thus the positive attitude of the eight year old age group as a whole, is primarily based upon the attitudes of only five boys, and as such should be interpreted with caution.

Finally, using the 'Judgment of Photographs' task in a study conducted in New Zealand, Casswell et al. (1985) reported distinctly negative attitudes towards adult drinkers in their sample of 743 eight to nine year old children. Once again, a more pronounced negative attitude was displayed towards the female drinkers. Small, but nevertheless significant, relationships were found between children's own frequency of consumption (over 90% had tasted alcohol) and parents' drinking frequency and daily levels of consumption. More intense negative attitudes were displayed by children who reported themselves to be minimal drinkers or abstainers. On the other hand, more positive attitudes were reported by children whose parents reported both greater frequency of drinking and greater daily amounts consumed. Lastly, those children whom parents believed to be more aware of alcohol problems in their environment, also tended to hold more negative attitudes. However, of further significance, is the

finding that within this latter group of children, there was no significant association between their more negative attitudes and their parents' consumption of alcohol.

These studies indicate that although children may acquire knowledge relating to alcohol and its use at an early age, the development of attitudes towards drinking is slightly slower to occur. The finding that children may be more condemnatory of female drinkers than of male drinkers coincides with the findings of studies examining perceptions of normative drinking patterns, in which women are judged by children to dislike drinking alcohol, often to an extent similar to themselves. In relation to parental influence, the theory that more extreme drinking habits may have more influence on children is again supported. Furthermore, it is interesting to note that when other more pertinent issues are present, eg. alcohol problems in the immediate social environment, these more salient factors assume greater importance.

1.3.7 CHILDREN'S SELF-REPORTED EXPERIENCE OF ALCOHOL

In the previous sections, the extent of children's knowledge of various aspects of alcohol have been discussed. This section deals with children's personal experience of alcohol. This is followed finally by a discussion of children's future intentions regarding alcohol.

This particular aspect of children's familiarity with alcohol was also investigated by Jahoda and Cramond (op cit.). A total of 60% of their sample claimed to have tasted one or more types of alcoholic drink. Moreover, boys were significantly more likely than girls to have tasted alcohol. While the younger children tended to mention more drinks of low alcoholic content than did the older children, this did not reach

statistical significance. Finally, approximately 85% of those who claimed to have tasted an alcoholic drink, said that their father had provided the taste.

In their study of 743 nine-year old children, Casswell et al. (1983), noted that 93% of all children in this sample, claimed to have had at least a sip of alcohol. This high figure was confirmed by the fact that only 8% of the mothers of these children reported that their children had never tasted of alcohol. The modal age reported by the children for their first taste was seven years, although roughly two-thirds of the mothers estimated this age to be five years or younger. In accordance with the findings of Jahoda and Cramond (op cit.), the father was identified as the provider of the drink by the majority of the children.

The age at which most people recall having received their first alcoholic drink is commonly reported to be around twelve years. However, it is also widely held that the occasion of the first taste or sip of alcohol probably occurs at an earlier age. The results of these studies provides further confirmation of this. The findings that boys are more likely than girls to have tasted alcohol and that the father is commonly the provider of the first drink, are also supported by evidence from studies which have examined these issues in relation to older children (Davies and Stacey, 1972; Aitken, 1978; Plant, Peck and Samuel, 1985; Bagnall, 1988).

1.3.8 CHILDREN'S FUTURE INTENTIONS REGARDING ALCOHOL

Finally, Jahoda and Cramond (1972) found clear age-related differences in the responses of their sample to the question: do you think you will drink these (alcoholic drinks) when you are older? The majority of five to six year olds replied positively (70%), while 25% replied that they would not. In the middle age group the most

frequent response was still 'yes' (56%), while 38% now said 'no'. However, in the nine to ten year old group, the majority (48%) now said 'no' to this question and only 41% said that they would drink.

The finding that as children grow older they are less likely to report a positive intention to drink in the future, is nicely illustrated by the three studies that have investigated this issue. The study by Noll and Zucker (1983) included children whose mean age was four-and-a-half years. Of this sample, 90% claimed that they would drink when they grew older. The mean age of Jahoda and Cramond's study group was eight-and-a-half years and of this sample, 56% of these children responded positively. Finally, the mean age of Gaines et al's sample (1986; 1988) was ten years. Approximately 41% of these children replied affirmatively or at least conditionally affirmative. This common tendency for many young children to deny the intention to drink in the future, should not be considered a reliable predictor of actual behaviour. For, as the following chapter will show, the vast majority of young people do grow up to become drinkers.

CHAPTER 2

LEARNING ABOUT DRINKING

2.1 The Young Drinkers

The collection of data associated with the drinking habits of young people is a relatively recent exercise. The predominant method by which this has been accomplished has consisted of self-report questionnaire surveys and interviews. However, there are two fundamental problems to be borne in mind when interpreting such data: the first concerns sample bias relating to non-responders; the second relates to the question of accuracy in the self-reports of those who do respond (Skog, 1991). With regard to the first of these concerns, it is widely held that drug users who exhibit heavier patterns of use are more likely to be non-respondents (Hauge and Nordlie, 1983). On the other hand, it has been shown that those who do respond, often under-report the extent of their drug use:

'Respondents often report drinking less than they actually do, either because they forget, or, particularly among adolescents because they feel it prudent to deny drinking. It is also possible that some adolescents will be subject to poor recall, particularly when drinking occurred in informal circumstances and was not properly measured on licensed premises' (Marsh, Dobbs and White, 1986: ix)

This trend has been confirmed by studies in which official sales figures for alcohol have typically been found to be considerably higher than quantity estimates of alcohol use (Pernanen, 1974; Midanik, 1982a; Duffy and Waterston, 1984). In a study by Plant, Peck and Samuel (1985), Plant and his colleagues conducted a follow-up survey of young people, in which several questions relating to subjects' experiences of alcohol and other drugs which had been present in their original survey, were then repeated. A number of discrepancies became apparent between subjects' initial responses and those recorded on the second occasion of testing. While a propensity for misreporting was likely to account for some of these inconsistencies, it was unclear whether this was due to the incidence of over-reporting at the time of initial testing, and/or the incidence of under-reporting following the second data collection.

However, evidence from other research suggests that the tendency for respondents to report false positives ie. to claim to have used drugs when they have not, (Single, Kandel and Johnson, 1975; Barnea, Rahav and Teichman, 1987) or to over-report consumption levels (Midanik, 1982b), occurs less frequently.

Although it is not always possible to ensure against incidents of misreporting in survey data, methodological problems such as these are commonly acknowledged in the literature. Moreover, the likelihood of their occurrence is often taken into account by researchers, in terms of both the design of studies and subsequent analyses of the data. With respect to study design, comparisons between daily drinking diaries, quantity-frequency measures and retrospective drinking diaries have commonly shown that the former tend to yield more accurate reports of both drinking frequency (Sobell et al., 1989) and duration of drinking event (Samo, Tucker and Vuchinich, 1989). Furthermore, higher consumption levels have also been reported using this method (Corti et al., 1990; Lemmens, Knibbe and Tan, 1988), confirming the theory that alternative questionnaire methods do tend to produce underestimations of adolescent alcohol consumption. In relation to similar problems at the stage of data analysis, Marsh, Dobbs and White (1986) excluded from analysis a number of questionnaires, typically of young males, in which respondents 'claimed to be drinking sufficient alcohol in a week to prove fatal to creatures larger than themselves' (p. 31). Similarly, Plant and Foster (1991) excluded all self-reports of consumption levels on the last drinking occasion that were in excess of 32 units of alcohol ie. equivalent to drinking 16 pints or more of normal strength beer, lager or cider.

In spite of such difficulties, surveys of this kind have provided valuable insight into the nature of the phenomenon of youthful drinking, from both a regional and a national perspective. Furthermore, these studies have examined a wide range of factors relating to adolescent alcohol use, ranging in scope from young people's

earliest experiences of alcohol, through to the experimental drinking stage, and finally to the acquisition of stable drinking patterns. The following review is set out according to this chronological sequence, representing the processes by which adolescents acquire initial experience of alcohol and eventually establish drinking patterns. The first section relates to the initiation stage whereby young people gain personal experience of alcohol for the first time. The second section describes the development and establishment of drinking patterns adopted by adolescents as they become involved in the process of socialisation into adulthood. The final section deals specifically with those young people whose drinking habits give cause for concern. This includes so-called 'heavy drinkers' and drinkers who experience alcohol-related problems as a result of their consumption. Finally, these national data are then set in the wider context of international trends in youthful alcohol consumption.

2.1.1 EARLY EXPERIENCES WITH ALCOHOL

Most people receive their first real drink of alcohol when they are still quite young. This commonly occurs around the age of 11-12 years (Hawker, 1978; Plant, Peck and Samuel, 1985; Marsh, Dobbs and White, 1986; Bagnall, 1988; Plant et al., 1990). On average, boys tend to receive their first drink approximately one year earlier than girls (Hawker, 1978; Plant, Peck and Samuel, 1985). Even so, as has already been noted in the previous chapter, both boys and girls often experience their first taste of alcohol - commonly in the form of a sip from their parents' drinks - at a slightly younger age (Marsh, Dobbs and White, 1986; Bagnall, 1988).

So prevalent is this phenomenon, that the proportion of adolescents who, when surveyed, claim never to have personally experienced alcohol, is consistently very low. For example, in a study of 1,036 15-16 year olds conducted in the Lothian

Region of Scotland (Plant, Peck and Samuel, 1985), the proportion of both males and females who had never tasted alcohol was only 2%. Likewise, a more recent study of English teenagers, revealed that only 4% of 15-16 year olds claimed never to have tasted alcohol (Plant et al., 1990). Finally, in a survey conducted in three areas of Britain (Berkshire, England; Highland Region, Scotland and Dyfed, Wales) a similar percentage of 13 year olds who had never received a taste of alcohol, was reported by Bagnall (1988).

The provider of these first alcoholic drinks is commonly reported to be one or both parents, and invariably such events occur in the home setting (Hawker, 1978; Plant, Peck and Samuel, 1985; Bagnall, 1988). However, a study by Aitken (1978) concerning parental attitudes towards drinking among young people provided somewhat paradoxical results in light of these findings. Forty-six percent of the adults surveyed stated the belief that children under the age of eighteen years should not be allowed to taste alcoholic drinks. In addition, 63% also felt that children below the age of eighteen should not be allowed to consume small alcoholic drinks at home with their parents.

Why this double standard should occur is unclear. It should be emphasised that in the United Kingdom it is legal for children of five or more years to consume alcohol. Moreover, available evidence indicates that children who drink in the absence of their parents tend to drink more than those whose drinking occurs under parental supervision (Aitken, 1978). It has also been suggested that excessively restrictive sanctions on drinking imposed by parents can foster clandestine drinking among young people (Davies and Stacey, 1972; McKechnie et al., 1977). Findings such as these have led many campaigners to advocate the demystification of alcohol by its early introduction to children in the home. Indeed, in a recent consultation report by the Home Office, the question of the possible introduction in England and Wales, of

licensed 'cafe-style' premises has been raised. When accompanied by an adult, children under the age of 14 years would be legally permitted to remain on such premises until 8pm in the evening:

'The benefits could be To facilitate the provision of premises where sensible drinking in a mixed, family environment is the norm, instead of the heavy, binge drinking, by groups of young men, which can culminate in alcohol-related disorder' (Home Office, March 1993: para. 3.3).

2.1.1 PATTERNS OF CONSUMPTION AMONG YOUNG PEOPLE

The majority of young people in Britain drink alcohol, if only infrequently. The survey literature indicates that in most samples, the proportion of adolescent non-drinkers falls consistently below 10% (Goddard and Ikin, 1988; Sharp, Greer and Lowe, 1988; Foster, Wilmot and Dobbs, 1990; Plant and Foster, 1991; Goddard, 1991). On most occasions where drinking does occur, the amount of alcohol involved is typically small (Bagnall, 1988). Although data relating specifically to adolescents in Ireland (O'Connor, 1976) and Northern Ireland (Loretto, 1993a), suggests that these early experiences are more likely to occur outside of the home, in Britain such activities during the early teenage years, are more commonly confined to the parental home.

As a group, boys generally report higher weekly consumption levels and higher levels of consumption on last drinking occasion, than do girls (Plant, Peck and Samuel, 1985; Plant et al., 1990; Plant and Foster, 1991). Consumption rates increase for both boys and girls as they become older, and are accompanied by a growing tendency to drink outside of the family setting. Girls tend to reach 'adult' levels of consumption and drinking frequency at around 16-18 years, at which point these patterns become stabilised (Plant, Peck and Samuel, 1985; Health Education Authority, 1989, 1990;

Foster, Wilmot and Dobbs, 1990). For boys, the increase in consumption and frequency is sharper and more prolonged, and can exceed normative 'adult' levels (Plant, Peck and Stuart, 1982). However, for the majority of both males and females, these levels of consumption generally remain within the 'low risk levels' identified by the Royal College of Psychiatrists (Plant, Peck and Samuel, 1985; Marsh, Dobbs and White, 1986; Goddard and Ikin, 1988; Health Education Authority, 1989, 1990; Plant and Foster, 1991).

Nevertheless, there is a substantial minority of young people whose self-reported consumption levels have been defined as 'heavy', by researchers. In a study of 14-16 year-olds in England, Plant et al. (1990) found that of the younger age group (14 years), 5.4% of males and 7.1% of females were heavy drinkers. These proportions increased with age, with 13.5% of 16 year-old males and 15.5% of 16 year-old females reporting consumption rates that would classify them as heavy drinkers. In their Scottish sample, Plant and Foster (1991) found a similar age-related increase in the proportion of heavy drinking adolescents, although the overall proportion of heavy drinkers was significantly greater for these Scottish teenagers than for their English counterparts. Broadly similar national differences were also noted by Marsh, Dobbs and White (1986). However, it should be pointed out that the criteria for defining 'heavy drinking' often differs between studies. Of those studies which have defined heavy drinking in males as being the equivalent to drinking 50 or more units per week (Plant, Peck and Samuel, 1985; Marsh, Dobbs and White, 1986; Goddard and Ikin, 1988; Goddard, 1991), the proportion of heavy drinkers falls consistently below 5%. Similarly, in studies in which the lower threshold of female heavy drinking is commonly defined as being between 31-36 units per week, the proportion of females drinking at these levels also tends to remain below 5% (Plant, Peck and Samuel, 1985; Goddard and Ikin, 1988; Foster, Wilmot and Dobbs, 1990; Goddard, 1991).

Several studies have also attempted to assess whether such heavy drinking patterns during early teenage years are predictive of future use (Plant, Peck and Samuel, 1985; Ghodsian and Power, 1987; Bagnall, 1991). Ghodsian and Power (op cit.) reported on data analysed from a sample of 16 year olds who were followed up again at 23 years of age. Their results showed that those teenagers who had reported heavier levels of consumption per week (more than 50 units for males; more than 35 units for females) were more likely also to be drinking heavily at 23 years. In contrast, Bagnall (1991) found no association between those individuals demonstrating frequent drinking at 16 years and those who were drinking frequently at 23 years. A similar lack of association was reported by Plant, Peck and Samuel (1985). These authors examined a sample of 15-16 year olds and then sought them for re-interview four years later, when subjects were aged 19 and 20 years. Just over 92% of the original sample were re-interviewed. While they found that heavy drinking at 15-16 years was not predictive of heavy drinking at a later age, they did find that the young heavy drinkers were subsequently more likely than other teenagers to use illicit drugs. Finally, a comprehensive review by Fillmore (1988), also indicates that there is little continuity over time, with regard to these early drinking patterns.

2.1.3 ADVERSE CONSEQUENCES OF DRINKING

It should be noted that the majority of drink-related problems among adolescents are associated with the acute effects of intoxication as opposed to more chronic forms of abuse (Fisher et al., 1987). As May (1992) points out, the exact relationship between levels of alcohol consumption and acute alcohol-related problems cannot always be easily defined. For example, the effects that a certain amount of alcohol will have upon an individual is likely to differ according to whether that person is male or female. Similarly, alcohol will have a differential effect on individuals of differing weight.

Acute negative consequences

Several studies have attempted to ascertain the frequency with which young drinkers experience negative consequences from their drinking. In Bagnall's study (1988) 19% of subjects claimed to have experienced one hangover in the past six months, although a further 1% claimed that this had happened more than four times within this same time period. A higher proportion of respondents (27%) reported having had an upset stomach as a consequence of their drinking. Five percent claimed that their drinking had caused them trouble with their parents or their school, and finally, 4% had experienced an alcohol-related injury. Boys were also more likely than girls to report having experienced both positive and negative consequences of drinking, as might be predicted due to their overall higher rates of consumption. These negative aspects included being reprimanded by adults, for drinking alcohol, feeling argumentative, feeling guilty about their own alcohol consumption and experiencing an alcohol-related accident or injury.

The incidence of negative consequences as a result of drinking was also examined by Plant, Peck and Samuel (1985). Of those subjects who had ever tasted alcohol, only 18.2% had not experienced any of a series of negative consequences, ranging from intoxication, to a variety of health-, social- and school-related problems. Furthermore, 20.2% of males and 13.2% of females had experienced at least one of six of the following serious consequences: having had four or more hangovers in the previous six months; having had a drink in the morning to steady nerves or get rid of a hangover; having been advised by a doctor to drink less; having had an alcohol-related accident or injury; having a shaky hand in the morning after drinking; and having missed a day at school due to drinking.

Drunkenness

Subjective reports of the incidence of drunkenness amongst teenagers are also widely documented. In her survey of 13-18 year olds in England, Hawker (1978) found that 68% of the boys and 66% of the girls reported having been intoxicated at some time during the previous year. Of these groups, 9% and 7% of boys and girls respectively had been 'very drunk' once within this time, while a further 16% of boys and 10% of girls reported having been 'very drunk' on more than one occasion during the year. More recently, Plant, Peck and Samuel (1985) found that of their Lothian Region study group, 70.4% of boys and 61% of girls reported having been drunk to a greater or lesser degree during the previous six months. Moreover, 36.4% of all boys and 23.9% of all girls in this sample, said that they had been 'very drunk' within the past six months.

The common finding that the majority of adolescents have experienced intoxication to at least a mild extent, is echoed in the findings of a national study by Marsh, Dobbs and White (1986). When this sample was subdivided by country (Scotland, England and Wales) and by age (from 13 years to 17 years), it was found that with the exception of the youngest group of Scottish girls, the majority of teenagers in each subsample had experienced some degree of intoxication. In the case of this particular group of girls, the proportion that reported having been drunk was 46%.

More serious indices of drunkenness can be obtained from official records in which offences of drunkenness have been documented. The Home Office (1992) has reported that the numbers of known offences of drunkenness for England and Wales for the years 1989 and 1990 were 80,000 and 86,400 respectively. Four percent of those found guilty of or cautioned for offences in 1990 were under the age of eighteen years, while a further 14% were aged between 18 and 21 years. The corresponding figures for the previous year were 5% and 16%. For both age groups,

the majority of offences were for aggravated drunkenness. The peak ages for offending were 19-20 years for males (around 1,010 per 100,000 population) and 18 years for females (around 68 per 100,000 population). The rate of offending for those aged between 10 and 18 years was approximately 132 per 100,000 of the population. In comparison with figures over the past ten years, the percentage of male offenders under 18 years has fluctuated slightly from between a maximum of 7% of all known offences in 1985, to a minimum of 4% in 1989 and 1990. With regard to figures for female offenders, these too have fluctuated only slightly, with a maximum of 9% recorded in 1986, and a minimum of 5% in 1981.

Accidental Injury

Goddard and Ikin (1988) examined self-reports of driving under the influence of alcohol (i.e. having consumed an amount of alcohol deemed illegal for driving) in a sample of 419 17-24 year olds in England and Wales. With regard to the male subjects in this age group (n=239), they found that the majority (79%) had not combined drinking and driving on any occasion during the previous year. However, 8% had done so on three or more occasions, while a further 2% reported that they regularly combined drinking with driving. Of the 180 females in the sample, 93% claimed that they had not driven while under the influence of alcohol. Only 1% reported that they had done so on three or more occasions, but again, a further 2% reported that drinking and driving was a regular occurrence for them.

More objective data relating to the incidence of accidental injuries associated with the intake of alcohol has been reported by the British Medical Association (1986). Of the total number of recorded accidents for the previous year, sustained by 16-19 year old drivers, 30% of these drivers had a blood alcohol count (BAC) in excess of 80mg/100ml i.e. in excess of the legal limit for driving. The corresponding figure for drivers aged between 20-24 years was 42%. The proportions for accidental injuries

involving motorbike riders with similar BACs were 17% and 26% respectively. Although corresponding figures were higher amongst some of the older age groups, nevertheless these statistics are alarmingly high. However, a recent report from the Department of Transport provides more encouraging data concerning alcohol-related fatal road accidents (Department of Transport, 1990). The number of fatal road accidents occurring in the UK among drivers and motorbike riders with BACs in excess of 80mg/100ml, has declined dramatically over the last 10 years or so. This is true of all age groups but is particularly marked among drivers under 20 years (Department of Transport, 1990). In a paper by May (1991), it is acknowledged that the issue of drinking and driving has received a higher and more weighty profile in recent years, both in terms of public awareness and law-enforcement strategies.

2.1.4 COMPARISONS WITH INTERNATIONAL DATA

When examining comparative data on international trends in youthful alcohol consumption it is essential to acknowledge cultural distinctions in both national alcohol policies and normative drinking patterns. For instance, some South American and African nations condone (Mardigal and Miguez, 1985) or at least tolerate (Medina-Cardenas, 1985; Haworth, 1985), heavy drinking and even intoxication, and see these behaviours as integral to their culture. In contrast, the Scandinavian countries, particularly Iceland, are among the most conservative and least permissive with regard to adolescent drinking (Makela, 1984; Olafsdottir, 1985).

Early Drinking Experiences

The age at which adolescents in other countries commonly receive their first drink of alcohol is typically between 13 and 16 years (Ahlstrom-Laasko, 1975; Ahlstrom, 1987; Pandina, White and Milgram, 1991; Van De Goor, 1991). In addition, in a

comparison of data from 28 countries, Ahlstrom (1988) found that boys commonly reported a slightly earlier age than did girls for the occasion of their first drink. Although the context in which these early experiences occur is usually the family home, this is by no means a universal phenomenon. For example, Irish and Northern Irish adolescents generally experience their first drink in the company of peers (O'Connor, 1985; Loretto, 1993a), as do many Icelandic teenagers (Olafsdottir, 1985). In a survey of Swedish drinking habits, Hibbel (1985) also reported that while young people tend to drink wine in the company of their parents, spirit drinking often occurs outside the family setting, with friends.

Data concerning adult attitudes to permissible starting ages for drinking have been examined by Makela (1984). He found that adults in Iceland and Norway generally concurred in the belief that drinking with the family was permissible for 18 year olds, whereas the median preferred age expressed by Finnish adults was lower, at 17 years, and by Swedish adults lower still, at around 16 years of age. Adults from all four countries felt that drinking with peers was permissible only at a later age, around 18.5 years, although again, those from Sweden reported a slightly lower median age (18.2 years). Less recent corresponding data from other countries indicates that French adults are considerably more permissive towards youthful drinking (Bastide, 1954; Freour et al., 1969). In contrast, countries such as Mexico and Zambia (Roizen, 1981) reported adult attitudes that were considerably more conservative than those reported in the Scandinavian study.

Patterns of Abstinence and Consumption

The proportion of young abstainers appears to be higher for other countries in comparison with Britain. In the United States, Zucker and Harford (1983) reported that a little over 40% of 13-18 year olds in an American national sample were abstainers. Scandinavian data also reveal higher abstention rates among young people

than those apparent in the British survey data. A study of Swedish youth (Armyr 1985) revealed that 31% of males were abstainers, while 36% of females were abstainers. This study also confirms the occurrence of higher abstention rates among females than among males, a trend that is consistent with the data from Britain and the USA (Zucker and Harford (1983). Nor is the tendency for the proportion of youthful abstainers/non-drinkers to decline with age, a uniquely British phenomenon (Schwartz et al., 1986; Rashkonen and Ahlstrom, 1989). Moreover, among those young people who do drink, sex differences in the quantity and frequency of alcohol consumption in other countries also appear to be consistent with the British data. As a rule, boys drink more often and more heavily than girls (Rachal et al., 1980; Zucker and Harford, 1983; Ahlstrom, 1988). As noted above, it is often difficult to conduct international comparisons of heavy drinking amongst young people, as cultural perceptions of excessive drinking differ considerably. Nevertheless, the overall picture provided by US data (Pandina, White and Milgram, 1991) does indicate that these proportions (5-10%) are somewhat similar to those reported in the British literature.

In conclusion, these data confirm that while acute alcohol-related problems are likely to be experienced by the majority of young people, more serious consequences appear to be restricted to a minority, despite the almost universal use of alcohol by this age group. Thus the recent emergence of 'moral panics' (Cohen, 1972; Dorn, 1983; May, 1992) concerning young people's misuse of alcohol, when set in the context of the scientific literature, is shown to be based upon the behaviour of a small minority of adolescents who do misuse alcohol, but whose activities have been highlighted and sensationalised by the media.

2.2 MAJOR INFLUENCES IN THE LEARNING PROCESS

The issue of whether or not a young person will become a drinker and if so, how much, how often, when and where this will occur, will be dependent upon numerous intrapersonal and external/environmental factors. From a social learning perspective, these influences can be seen as the result of complex reciprocal interactions between the individual, the environment and the substance ie. alcohol (Akers, 1985). That is, in order to appreciate the extent to which one set of these factors will modify an individual's drinking behaviour, one must also acknowledge the influences of other sets of factors upon both the drinking behaviour itself, and these initial factors.

On a wider level, the way in which society as a whole communicates its culture to the individual, is through the process of socialisation. With regard to children, it would be expected that parents, peers and the mass media would constitute the common major players in the transmission of societal values concerning alcohol. Thus in this section, the role of parents, of peers and of the mass media are discussed with reference to the existing evidence.

2.2.1 THE ROLE OF PARENTS

During infancy and early childhood, those social agents that are most salient for the child's immediate physical and emotional requirements are likewise responsible for the socially oriented motivation and the development of primary socialisation of the child. Invariably it is the family, or more specifically the parents, who fulfil this role as social models. Thus it would be expected that parents might have considerable influence as models for drinking, at least within these initial years of a child's development. Indeed in an early review of research in this area, Maddox (1970) was led to conclude that

awareness of parental drinking habits provided the strongest and most accurate basis for predicting the alcohol-related attitudes and behaviours of adolescents. While this is no longer considered to be the case - Maddox' review had in fact preceded most of the now firmly established research into youthful drinking habits - familial influence remains an important, but more complex, issue.

On a general level, it has been suggested that families influence their offsprings' drinking at least indirectly, in that they are initially responsible for defining an individual's socio-economic status and ethnic and cultural background (Zucker, 1976). On the other hand, studies of more direct or active processes of family socialisation and how these relate to the use of alcohol or other psychoactive drugs by offspring, have highlighted various factors which may contribute to and shape this process. These factors can be seen as falling into two categories: social/observational learning or the imitation/modelling of parental attitudes and behaviour, perceived or actual; and family process influences ie. family structure, family support and family control.

Social/Observational Learning

Direct modelling theory states that the acquisition of a particular behaviour is a result of direct observation of the behaviour of significant role models and the subsequent modelling of that behaviour. Kandel, Kessler and Margulies (1978) have suggested that this process is relevant to the initiation of adolescent alcohol use. Barnes (1977) also proposed that various patterns of adolescent alcohol use could be understood in terms of direct modelling from parents. In support of this, Barnes (op cit.) presented evidence indicating that parental drinking patterns ranging from total abstinence to heavy use were correspondingly reflected in the drinking patterns of their offspring. She went on to propose that alcohol-related attitudes and behaviours of parents were the best predictors of youthful drinking patterns.

There is much evidence to suggest that such a relationship does exist in relation to adolescent initiation to alcohol and adult use of alcohol (Johnson, Schontz and Locke, 1984). For example, children of families where one or both parents drink are themselves more likely to drink (Rachal et al., 1975; Mookherjee, 1984). Nor does this appear particularly surprising when one considers that in many cases parents are actively involved in the process of initiating young people into the use of alcohol. In contrast, other studies have failed to identify a similar association between parental drinking and offspring use of alcohol (eg. Newcomb, Huba and Bentler, 1983). White, Bates and Johnson (1991) have argued that the majority of these examples of direct modelling effects failed to take into account the social processes involved. Thus, subsequent research has expanded upon the direct modelling theory and has taken into account the role of cognitive mediation in the imitation process (Mischel, 1973). These theories affirm the importance of modelling effects, but stress that their impact is limited to the extent that they 'influence the cognitive mediation, assimilation, and perceptual processes in the child, which themselves motivate behaviour' (Newcomb, Huba and Bentler, 1983: 714).

In a study designed to compare the direct modelling approach with the cognitive mediational approach, Newcomb and his colleagues (op cit.), examined maternal influence on children's drug and alcohol use in a sample of 662 children and their mothers. Information concerning mothers' personality and mothers' use of drugs was collected by way of self-report questionnaires, as was information concerning sons' and daughters' own drug use and perceptions of adult use. The results showed no effects of direct modelling between mothers' use of drugs and children's use of drugs. However, the results did support a cognitive mediational association between mother and child, in that mothers' use of alcohol and drugs did have an effect on children to the extent that maternal behaviour appeared to influence children's perceptions of general adult use of these substances.



Various direct and indirect parental influences have also been examined by Wilks, Callan and Austin (1989), not independent of, but in conjunction with peer and personal determinants of adolescent drinking. These authors found strong evidence of parental modelling effects on a sample of 106 adolescents. Especially in the case of young males, perceptions of parental drinking and fathers' actual drinking were the best predictors of alcohol use. Although not the strongest predictor of female use, fathers' drinking did appear to exert some influence on daughters' use of alcohol, whereas mothers' drinking had no discernible impact. Joyce O'Connor (1978), also found evidence of a differential effect between paternal and maternal influences on adolescent drinking. While parental drinking habits appeared to have little impact upon their children's behaviour, parental attitudes, and specifically paternal attitudes to alcohol, were noticeably influential.

Indeed, in relation to parental attitudes and normative standards set by parents regarding alcohol use, there is much evidence to indicate that these have some influence on drinking by offspring (Biddle, Bank and Marlin, 1980; Casswell, 1982; Wilks and Callan, 1984; Wilks, Callan and Austin, 1989). Positive parental attitudes to drinking have previously been found to predict initiation into substance use (Kandel, 1982; Newcomb et al., 1987). Moreover, O'Connor (1978) also found that perceived parental attitudes were more influential on adolescent drinking than a variety of other parental factors.

More recent data relating to these influences have been reported by Foxcroft and Lowe from Hull University (1992). In their study of 430 teenagers, these authors collected data on, among other factors, parental attitudes to their offsprings' use of alcohol, and parents' own use of alcohol. The data referring to both parental attitudes towards their children's use of alcohol and parents' own behaviour in relation to alcohol, was based solely upon the reports ie. the perceptions, of the offspring. With

regard to modelling behaviour, these authors found that the heavier adolescent drinkers in the sample were more likely to report that one or more members of their family drank regularly. Similarly, abstainers and infrequent drinkers correspondingly reported less regular drinking among their family members. In addition, data from adolescents' perceptions of their parents' attitudes revealed that heavy drinkers were more likely to report that their parents were either disapproving or ambivalent towards their own drinking behaviour, whereas 'sensible' drinkers were more likely to report that their parents had moderating attitudes towards their children's use.

The role of social learning from parents in the context of alcohol use is thus clearly significant. Moreover, it is apparent that there are a variety of paternal and maternal influences, some of which are more influential than others. However the nature of these influences and the extent to which they affect subsequent use of alcohol in offspring will also depend on upon the individual's perceptions of his/her family both in general terms and in relation to alcohol use.

Family Process

With regard to studies of family process, the possible contribution to the alcohol socialisation process of a number of salient factors, has been investigated. These factors have often been subsumed under more general dimensions, the most frequently used of which are: Family Support - eg. cohesion, conflict, affection, warmth, trust, concern; Family Control - eg. rules, discipline, permissiveness, adaptability; and Family Structure - eg. family/parental intactness, divorce, absence of father (Barnes, Farrell and Cairns, 1986; Foxcroft and Lowe, 1991). The latter authors conducted a meta-analysis of 30 published articles dealing with adolescent drinking behaviour in relation to these three family socialisation dimensions (Foxcroft and Lowe, op cit.). Their results revealed that all three factors demonstrated a negative linear association with adolescent drinking behaviour. In other words,

adolescents from home environments which were either less supportive, less controlling or less intact ie. both parents were not present, were more likely to drink more. In addition, the authors also found additional evidence of a possible curvilinear relationship in relation to family control, suggesting that high levels of control might also lead to heavy drinking in offspring.

Data from other studies have confirmed this relationship between family process dimensions and adolescent drinking. However, the relationship between these factors is not always found to be linear. For example, Barnes, Farrell and Cairns (1986), found that both high and low levels of family control were associated with heavy or excessive adolescent drinking. A similar curvilinear relationship with degree of family control was also reported by Glynn (1981). In addition, it has previously been shown that the offspring of both problem drinking and abstinent parents, are more likely to develop drinking problems than offspring of parents whose drinking habits fall somewhere between these two extremes (Kissin, 1974).

In a subsequent study, Foxcroft and Lowe (1992) went on to examine family process factors in relation to the use of alcohol by teenagers. Levels of family support were assessed by the Relationships Dimension sub-scales of the Family Environment Scale (FES) (Moos and Moos, 1986). Likewise, family control was measured by the System Maintenance Dimension of the FES. Their results supported the findings of previous studies: subjects who perceived low levels of family support were more likely to be heavy drinkers, as opposed to the moderate or higher levels of family support reported by abstainers, infrequent drinkers and 'sensible' (moderate) drinkers in the sample. Similarly, the heavy drinkers were more likely to be those who reported low levels of family control, whereas all other drinkers were more likely to report high levels of family control.

It would appear then, that in relation to family socialisation to alcohol use, the more extreme behaviours at either end of the family process dimensions are more likely to result in less effective socialisation to alcohol use, whereas moderate degrees of family support and family control are likely to produce effective socialisation. However it is essential to stress the reciprocal nature of the interaction effects of these factors when considering data from studies examining one or more of these factors. That is, while social learning and family process may influence adolescent drinking, adolescent drinking may likewise influence the nature and extent of social learning and family process factors. Research is currently being conducted on the interactions between social learning and family process factors in relation to adolescent alcohol use (Foxcroft, personal communication).

It should be mentioned that less work has been carried out on the role of siblings, in isolation from the parents, within the family process model. In the previous study by Foxcroft and Lowe (1992), older siblings were considered in conjunction with parents when applicable, but were not treated separately. Of the few studies that have dealt with this issue, the evidence is conflicting. Some have indicated a significant relationship between siblings' use of alcohol (Needle et al., 1986), while others have not (Clayton and Lacey, 1982; Coombs and Pauslon, 1988). It may be that the role of siblings in the process of socialisation to alcohol is closer in nature to that of peers.

2.2.2 THE ROLE OF PEERS

The transition from childhood to adolescence is one that is characterised by an expanding network of allegiances to multiple social groups, to which individuals refer as frames of reference for social behaviour. Most notable among these groups are peers. While peer groups may differ in composition in relation to mixed sexes (Plant

& Foster, 1991) and mixed ages of group members (Loretto, 1993b) on occasion, the main point here is that at this stage, adolescents are generally likely to be mixing more with friends rather than with their parents. However, that is not to say that these groups necessarily replace parents as social role models. For example, Rosenberg (1979) found that throughout adolescence, parents were considered more highly than peers in terms of interpersonal significance. More generally, Greenberg, Siegal and Leitch (1983) also found no evidence to suggest that age was a significant factor in perceptions of parent versus peer relationships. In addition, in the specific context of alcohol use, it has been found that the increasing importance of peers during adolescence does not develop to the exclusion of (Kandel and Lesser, 1972; Brook and Brook, 1988), nor necessarily in opposition to (Margulies, Kessler and Kandel, 1977) parental influence. Both parents and peers will tend to reinforce cultural or local norms. However, children who stay at home may face fewer conflicts of interests than those who distance themselves from the control of the family.

Unfortunately, the concept of 'peer pressure' in relation to substance use has come to be synonymous with the idea of the individual as an innocent who is subsequently tricked and led into 'undesirable' activities by 'undesirable' others. As Glassner and Loughlin (1987) point out, this particular concept of peer pressure (ie. 'bad company'), is not called upon to explain the group activities of adults, nor does it appear to be used in descriptions of the taking up of 'socially approved' adolescent behaviours. So why should this be such a popular explanation for adolescent drinking?

The role of peers in the context of drinking is undoubtedly an important one, in that they typically form the environment in which young people engage in, what is essentially, a social activity. It is commonly found that increases in age are accompanied by a growing tendency for adolescents to drink in peer settings (eg.

Plant, Peck and Samuel, 1985; Marsh, White and Dobbs, 1986; Plant and Foster, 1991). This tendency to drink outside the parental home is associated with, in turn, increases in the consumption levels reported by adolescents (Harford and Spiegler, 1983; Plant, Peck and Samuel, 1985; Plant and Plant 1992). The finding that heavy drinking occurs more frequently among peer groups than in home settings when parents or other adults are present has been confirmed by a number of studies (Davies and Stacey, 1972; Aitken, 1978; Harford and Spiegler, 1983; Plant, Peck and Samuel, 1985; Harford and Grant, 1987). In Harford and Spiegler's study (1983) conducted in the United States, the majority of students (51%) reported drinking in both home and peer settings, although more drinking occurred in the latter environment. It was found that adolescents who drank both at home and in peer settings drank more frequently than those who drank exclusively with peers, probably due to greater ease of access to alcohol. However, the amounts of alcohol consumed by both groups were similar. Also within this group of home+peer drinkers, an increase in the numbers of heavy drinkers was noted between the ages of 12-13 to 14-15 years. This increase coincided with an increasing tendency to drink at parties ie. outside the home, and a corresponding decrease in home-based drinking occasions. Moreover, there was little difference in the proportions of heavy drinkers (defined here as those consuming five or more drinks per occasion) between the home+peer drinkers and those who drank exclusively with peers. On the basis of these findings, the authors concluded that peer settings appear to 'exert their own impact regardless of whether the student has had exposure to home drinking contexts or not...' (p. 187).

It is important to note that for the majority of older adolescents, these increases in consumption levels tend to approximate normal adult levels, and then become stabilised (Plant, Peck and Samuel, 1985; Marsh, Dobbs and White, 1986; Goddard and Ikin, 1988; Health Education Authority, 1989, 1990; Plant and Foster. 1991). Thus, taken together with Harford and Spiegler's results, this suggests that peer

influences alone, do not necessarily lead to the adoption of more reckless or more 'unsafe' drinking habits. Indeed, it may be the case that peers themselves exert controlling influences on drinking behaviour, in that while young people may experience minor drinking-related problems such as intoxication, nausea etc., they rarely incur much more serious trouble.

Alternatively, it has been suggested that peers influence adolescent drinking more in terms of providing models for behaviour than by the setting of normative standards for alcohol use (Biddle, Bank and Marlin, 1980; Rooney, 1982). For example, Biddle and his colleagues (op cit.) found that while the drinkers and non-drinkers in their adolescent sample were more likely to have friends who were also drinkers and non-drinkers respectively, peer sentiment concerning normative alcohol use in the context of the group, did not appear to influence adolescent drinking. On the basis of such findings, these authors concluded that 'adolescent drinking is likely to reflect peer example, not peer norms' (p.236). Similarly, in a study by Wilks, Callan and Austin (1989) the results also suggested that for male adolescent drinkers there was evidence of some modelling in relation to how frequently their male friends drank and how adolescents perceived themselves as drinkers. Perceptions of their friends' drinking habits were internalised as their own preferences and norms, whereas friends' perceived norms appeared to influence only one single aspect of their drinking behaviour, namely their current frequency of wine consumption.

A number of studies investigating more specific aspects of peer group influences have also been conducted. For example, Aitken and Jahoda (1985), used quantitative and qualitative measures to examine various patterns of drinking in natural settings, among groups of young adults in Scotland. In relation to consumption, it was found that drinkers whose companions consumed large amounts, tended to drink more themselves and to show higher drinking rates. Indeed, the best predictor of

consumption among males was the average amount consumed by companions. Other studies have confirmed that this tendency to drink more heavily when in heavy drinking groups, is more pronounced among heavier drinking males (Cahalan, Cisin and Crossley, 1969; Cahalan and Room, 1974; Orcutt, 1991). Aitken and Jahoda (1985) also found drink purchasing procedures to be fairly useful predictors of consumption. Those groups, typically of males, who customarily engaged in round-buying procedures, also tended to consist of heavier drinkers. This is of little surprise when one considers that females generally drink less than males (eg. Plant, 1990). Thus, in the case of females, 'time spent in the bar' was found to be a slightly better predictor of consumption than was consumption by companions.

Finally in this same study, overt pressures to consume or buy alcohol were also examined. It is a noteworthy in itself that during these observations such behaviours were rarely noted. These incidents, when they did occur, appeared more often among groups of apparently under-age drinkers (ie. those under the age of 18), although more subtle pressures were reported by all drinkers in subsequent qualitative interviews. In addition, those individuals in groups where overt pressure to drink was observed, did tend to drink more alcohol. These latter findings suggest that more overt peer pressures to drink may be more relevant in situations where initiation into alcohol use is being negotiated (Aitken and Jahoda, 1985).

Among other group variables that have been examined, size of drinking group has often been found to be significantly related to consumption levels (Plant et al., 1977; Harford, 1983), although the nature of this association remains unclear. Conflicting findings have also been observed in relation to the effects of sex composition of drinking groups on levels of consumption (Rosenbluth, Nathan and Lawson, 1978; Dight, 1976; Aitken and Jahoda, 1983). In addition, more recent data from a Dutch study by van de Goor (1990) also suggest that male and female adolescents differ

with respect to the type of influences that effect their drinking. Female consumption rates appear to increase in mixed-sex groups and groups that engage in round-buying procedures. While male consumption rates appear to increase when drinking occurs in large, all-male groups, situational aspects of their drinking environment such as drinking in discos, in bars where loud music makes talking difficult, or in bars with higher variation in the numbers of clientele, appeared to account for increases in consumption rates to a greater extent. Finally, results from a Canadian study (Graham, 1993) suggests that drinking behaviour in public bars, may also be influenced by the design of the premises and the characteristics of the bar staff.

In general, it is clear that adolescents display similar drinking behaviours and attitudes to those of their peers. Abstainers commonly report higher numbers of abstinent friends than do drinkers, and vice versa (eg. Wilks, 1987; van de Goor, 1990). However, the question of whether these influences are the result of the individual adapting to his or her drinking environment or whether the individual has self-selected the environment remains unanswered, although it appears that the relationship is reciprocal. Studies such as those carried out by Biddle, Bank and Marlin (1980) and Wilks, Callan and Austin (1989) are important in that they have considered the possible influence of peers in conjunction with parental and personal determinants, thus providing a more accurate and comprehensive account of the extent to which different competing factors may exert their influence. In addition, studies conducted in more natural settings (eg. Aitken and Jahoda, 1985; van de Goor, 1991) are able to examine more specific and more subtle aspects of the social environment in which drinking occurs. Data from both of these types of studies suggest that a more useful approach for interpreting influences involved in the uptake and use of alcohol in the context of adolescent drinking, would be to consider these behaviours as 'part of peer interactions, rather than as the result of peer pressures' (Glassner and Loughlin, 1987: 166).

2.2.3 THE ROLE OF THE MASS MEDIA

In any present day discussion of the impact of external influences upon the process of learning to drink, the role of the mass media must also inevitably be considered. In Britain today, it is estimated that around 98% of all households possess at least one television. Moreover households in which more than one television set is owned, are likely to be those with children. Official estimates from the Broadcasters Audience Research Board (BARB) indicate that average viewing hours are increasing for all age groups. Young children people aged from four to 15 years probably watch more than three hours of television per day. Nor are these viewing times necessarily restricted to within the watershed hour of nine o'clock in the evening. Comparable figures have also been obtained for the United States (Wallack et al., 1990). Thus, television can be seen as a pervasive and potentially powerful medium for observational social learning and the transmission of socio-cultural norms.

An examination of the types of programme children prefer to watch suggests that programmes aimed specifically at children do not necessarily feature highly among their favourites. Soap operas are generally the most popular type of programme for children aged 10-15 years, and for those aged 4-9 years. Girls tend to watch more soap operas than do boys, who tend to watch more sports programmes (International Broadcasting Authority (IBA), Broadcasters Audience Research Board (BARB), Audits of Great Britain (AGB)). Moreover, content analyses of television programmes (Greenberg et al., 1979; DeFoe, Breed and Breed, 1983; Hansen, 1985; Wallack et al., 1990) have revealed that alcohol is used consistently and extensively in a variety of programme types. Movies made explicitly for television and evening soap operas tend to include the highest proportion of occasions in which alcohol is used. Indeed, two extremely popular British soap operas - Coronation Street and Eastenders - both of which are broadcast during prime-time viewing hours and both

of which also regularly enjoy some of the highest audience figures, are centred around a local bar. In addition, other types of programme such as situation comedies, theatrical movies and dramas also contain a high proportion of 'drinking acts'. With regard to the power of this medium to influence drinking behaviour specifically, it has been postulated that such portrayals have the potential to: 1) influence expectations regarding the use of alcohol; 2) influence attitudes concerning the acceptability or appropriateness of alcohol use; and 3) motivate people to model drinking behaviours (Greenberg et al., 1979).

The drinking behaviour depicted on television is routinely shown to be an extremely commonplace and sociable activity, while at the same time often depicting drinking behaviours which might otherwise be considered inappropriate. Examples of these include, apparent underage drinking, drinking before driving, or drinking before and/or during working hours (Breed and DeFoe, 1981; DeFoe, Breed and Breed, 1983; Neuendorf, 1985; Hansen, 1985). Rarely is any mention given to the more negative consequences of consumption (DeFoe, Breed and Breed, 1983; Gerbner, Morgan and Signorielli, 1982; Signorielli, 1987). When drinking-related problems have been tackled, these tend to be centred around the short-term consequences which are themselves often treated in a light-hearted manner. The suggestion of more serious and longer term consequences are rarely considered, although there are currently exceptions to this. Indeed, several current British soap operas (eg. 'Eastenders' and 'Brookside') have been acclaimed for their realistic and sensitive treatment of the issue of alcohol dependence.

More recently, research has also focused upon the types of drinking models provided by television. Studies in the United States (bearing in mind that many US programmes are frequently imported to Britain and elsewhere) have suggested that regular programme characters are more likely than others to be shown drinking, and that

these characters are themselves more likely to be the 'good guys' (Breed and DeFoe, 1978), upper class, attractive and glamorous (Wallack et al., 1990). On the other hand, while many British-made soap operas are based around the activities of more ordinary and possibly more credible characters, the potential for viewers to relate to these models may cause similar grounds for concern. Another source of role models in relation to alcohol and tobacco use can be seen in the televised sponsorship by these industries of sporting individuals, teams and events. The Sports Sponsorship Advisory Service previously documented over 20 different British football league teams in receipt of alcohol industry sponsorship for the years 1981-1982, while a total of 102 alcohol brand names were associated with sports ranging from such diverse areas as greyhound racing, angling and badminton.

While the ubiquitous portrayal of alcohol in television programmes has been well established and the nature of such portrayals much examined, less is known about the subsequent effects in relation to viewers' attitudes and behaviours concerning alcohol use. It is generally considered likely that a causal relationship does exist (Flay and Sobell, 1983), although studies which have dealt with this issue have generated a series of conflicting findings. For example, Sobell et al. (1986) conducted a study of programme effects on consumption among a sample of male college students, within the artificial context of an experiment. Various versions of a videotaped prime-time television programme were shown to subjects ie. those in which alcohol scenes in the programme were either included or excluded. The type of advertisements which accompanied these presentations was also systematically varied to include advertisements for either beer, non-alcoholic drinks or food. In an apparently unrelated second task, subjects were then asked to perform a taste rating of a range of beers. The results suggested that those subjects who had observed either the drinking scenes within the programme or the advertisements for beer were not directly influenced by what they had seen, in that their subsequent consumption rates were no

different from those recorded for the other groups.

In contrast, experimental studies with adolescents and children have suggested that exposure to even short segments of programmes with high alcohol content can produce dramatic effects (Rychtarik et al., 1983; Futch, 1984; Kotch, Coulter and Lipsitz, 1986). For instance, in the study by Kotch, Coulter and Lipsitz (op cit.), it was found that the boys in the sample were more likely to state that the good effects of alcohol outweighed the bad effects, following the presentation of a 'drinking' video showing only positive or neutral effects of drinking. Moreover, when questioned before the actual experiment, all boys had previously expressed the belief that alcohol causes more harm than good. No significant effects were found with regard to the female subjects.

Unfortunately, the ability to draw general conclusions about actual behaviour from data derived from artificial conditions is an issue justifiably contested. In the study by Rychtarik et al. (1983) children were asked to choose the most appropriate drink for adults from a range of alcoholic and non-alcoholic drinks, following an episode of the popular US television series *M*A*S*H*, in which alcohol scenes were either included or omitted. Those children who had witnessed the episode containing the drinking scenes were more likely than the other children to select an alcoholic drink, when asked to state adult drinking preferences. Whereas it has been shown previously that many young children are aware that adult consumption of alcohol is a normative behaviour (Penrose, 1978; Greenberg, Zucker and Noll, 1985), it could be argued that these children were reacting to cues implicit in the design of the experiment in terms of their desire to make sense of the study (eg. Goodman, 1990). In other words, they were simply responding to the cues in the film (or why else would they have been required to watch it?), and thus their responses did not necessarily extend to their wider beliefs about adult use of alcohol in general.

This raises the question of the possible ways in which attitudes and behaviour may be influenced, of which there are currently two theories. The first is based upon Social Learning Theory (eg. Bandura, 1986), and assumes that television provides models for imitating behaviour in much the same way as the cognitive mediational model does in relation to parental influences. That is, the behaviour of significant role models is observed, considered, and then subsequently acted upon. The second theory is known as the 'Cultivation Theory' (Gerbner, 1986). Cultivation Theory postulates that viewers learn a set of 'facts' from television programmes which often do not coincide with reality. This knowledge then 'cultivates' the individual's broader perception of the world, which in turn influences his/her own set of values and behaviour. To put this into the context of television portrayals of alcohol, the viewer who observes the pervasiveness of alcohol on television, may consequently overestimate the number of people who drink and the normality of such behaviour. This may foster or reinforce in children, beliefs about behaviours which are at variance from those supported by parents and other family members. Such dissonance may be particularly great in relation to children raised in a non-drinking environment.

The differences between these two theories are important in terms of scientific investigation of the effects of television. Social Learning Theory implies that a relationship exists between specific programmes and individual beliefs and behaviour, whereas Cultivation Theory attempts to examine the cumulative effects of exposure on a broader level. If the findings of, for instance, Kotch and his colleagues (op cit.), are found to be reliable, then this represents evidence in support of the latter theory.

Unequivocal evidence in support of a causal relationship between viewing of alcohol portrayals and increased use of the substance is lacking. Very little research has been carried out in relation to programmes *per se*. However, more information concerning these effects is available from studies on the effects of alcohol advertising. In 1987,

the total alcohol advertising expenditure for press and TV in the United Kingdom was £119.91 million. This was equivalent to 9.7% of total advertising expenditure on consumer goods for the same year (Statistical Review of Press and TV Advertising, Legion Publishing Services; Quarterly Digest of Advertising Expenditure, Media Expenditure Analysis Ltd). These figures represent a real increase over the past twenty years, both in terms of alcohol advertising expenditure and in terms of the proportion of expenditure on alcohol advertising in relation to expenditure on all consumer goods. On the other hand, a number of controls have been introduced by those bodies responsible for controlling advertising conduct, which have placed certain restrictions on the form in which this advertising can take. In brief, the aim of such restrictions has been to ensure 'socially responsible advertising' by preventing the promotion of images of drinking that are considered 'harmful'. In 1979, the following guidelines were laid down by the British Code of Advertising Practice of the Advertising Standards Authority:

RULES

Young People

3.1. Advertisements should not be directed at young people or in any way encourage them to start drinking. Anyone shown drinking must appear over 21. Children should not be depicted in advertisements except where it would be usual for them to appear (eg. in family scenes or in background crowds) but they should never be shown drinking alcoholic beverages, nor should it be implied that they are.

Challenge

3.2 Advertisements should not be based on a dare, nor impute any failing to those who do not accept the challenge of a particular drink.

3.3 Advertisements should not emphasise the stimulant, sedative or tranquillising effects of any drink, or imply that it can improve physical performance. However, references to the refreshing attributes of a drink are permissible

Strength

3.4 Advertisements should not give the general impression of being inducements to prefer a drink because of its higher alcohol content or intoxicating effect. Factual information for the guidance of drinkers about such alcoholic strength may, however, be included.

Social Success

3.5 Advertisements may emphasise the pleasures of companionship and social communication associated with the consumption of alcoholic drinks, but it should never be implied that drinking is necessary to social or business success or distinction, nor that those who do not drink are less likely to be acceptable or successful than those who do. Advertisements should neither claim nor suggest that any drink can contribute towards sexual success, or make the drinker more attractive to the opposite sex.

Drinking and Machinery

3.6 Advertisements should not associate drink with driving or dangerous machinery. Specific warnings of the dangers of drinking in these circumstances may, however, be used.

Excessive Drinking

3.7 Advertisements should not encourage or appear to condone overindulgence. Repeated buying of large rounds should not be implied.

Despite these concessions on the part of the media control bodies, public health campaigners consider such restrictions still to be too vague and insufficient, with many arguing for nothing less than a statutory ban. The objection most commonly raised against alcohol advertising is that it increases total consumption of alcohol, which in turn results in an overall increase in alcohol-related problems. However, econometric studies on alcohol sales have failed to produce unequivocal data to support these claims (van Iwaarden, 1985). A review by Smart (1988) has indicated that neither advertising bans nor restrictions on expenditures on advertising have any significant or consistent impact on sales of alcohol. Similarly, Smart argues that in general, studies have failed to demonstrate that advertising per se has an impact on alcohol consumption. Furthermore, when young people's day-to-day exposure to advertising has been examined in relation to their consumption, researchers have found the impact of advertising to be 'meagre' (Strickland, 1983), or very minor in comparison to other factors such as peer associations (Smart, 1988). Looking at this issue from another perspective, one study has examined the effects of the lifting of a ban on alcohol advertising in Saskatchewan, Canada, which had been imposed for a number of years. No subsequent increases in sales for alcoholic drinks was noted.

Although Atkin, and his colleagues (Atkin, Neuendorf and McDermott, 1983; Atkin, Hocking and Block, 1984) found no strong association between exposure to advertising and adult alcohol consumption, they did find a significant relationship between exposure to alcohol advertising and teenage consumption of beer and liquor. While it has been argued by the drinks industry that: 'they do not design their advertising to convince people to drink more. Rather... they are trying to increase their individual shares in the existing market' (Eisler, 1983, p.45), they do also acknowledge that younger adults are often the target of much of alcohol advertising. For as they state, these individuals represent a group who are looking to establish drinking preferences, as opposed to older adults, who have probably already done so.

The suggestion that these commercials may have a greater effect on young people than on adults has been supported by other research (Jacobsen, Atkins and Hacker, 1983; Neuendorf, 1987). Aitken, Leather and Scott (1988) conducted loosely structured interviews with groups of Scottish children aged 10, 12, 14 and 16 years. They found that although few of the youngest children mentioned advertisements for alcoholic drinks among their favourite commercials, for the older children these commercials tended to be among those first mentioned. In addition, among these older groups, children demonstrated a high degree of awareness concerning the more complex imagery associated with advertisements for alcohol. These included references to social class, gender and sociability stereotypes.

In a subsequent study by several of the same authors (Aitken et al., 1988), this degree of awareness and appreciation of alcohol commercials among young people was reinforced. Of the 433 10-17 year olds interviewed, only 7% were unable to name a brand of alcohol that had been advertised on television, with the most common of those mentioned being brands of beers and lagers. In addition, only 6% failed to identify at least one photograph of a televised alcohol advertisement, while just over

three-fifths were able to identify four or more. In accordance with studies that have shown a high sense of 'morality' towards alcohol use (Jahoda and Cramond, 1972; Spiegler, 1983), the younger children in the sample were more likely to advocate a ban on alcohol commercials. However, a high level of appreciation of the format of alcohol advertisements was also indicated by the majority of children irrespective of age.

Also in this same study, differences in perceptions of drinkers in comparison with non-drinkers were examined. Bearing in mind that all drinkers in the sample would be under-age, at least in terms of drinking on licensed premises or purchasing alcoholic drinks, it was found that the drinkers were significantly quicker than the non-drinking children at identifying the brand imagery in the commercials, and were also generally more appreciative of them. On this basis, Aitken et al. argued that while it is still not possible to state categorically that televised alcohol advertisements cause children to start drinking, it would appear that they do reinforce 'under-age' drinking.

It is generally accepted in the opposing case of alcohol education, that although people's attitudes may be affected by relevant information, this does not necessarily lead to a corresponding change in their behaviours. Indeed, in a comprehensive review of media-based strategies in relation to alcohol education Blane and Hewitt (1977) concluded that:

The effects of public information and education programs on alteration of drinking patterns is indeterminate, although it is generally felt to be slight. Research evidence is almost totally lacking; all that exists are bits and pieces of information that are no more than suggestive' (Blane and Hewitt, 1977).

The problem with much of the research evidence apparently confirming a link between media influences and drinking behaviour, positive or otherwise, is the issue

of the causal relationship between the two. Specifically, in the Aitken study, it was the older children who tended to be those already drinking alcohol and who were more aware and more appreciative of alcohol commercials. It has been confirmed by epidemiological studies that many children around this age have already begun to drink within the legally sanctioned context of the family (see previous section on youthful drinking patterns). Moreover, there are numerous factors which influence youthful drinking. Thus it is more difficult to assess the possible contribution of alcohol advertisements in reinforcing this behaviour.

In spite of, or perhaps because of the confusion surrounding this debate, there are still many who would advocate a total ban on alcohol advertising. This is a difficult issue, probably further complicated by the fact that anti-smoking campaigners have enjoyed greater success in the fight against tobacco advertising. However, the ban on tobacco advertising should not necessarily be seen as official confirmation of the undesirable effects of advertising on the incidence of smoking, but rather as a culturally symbolic and political reaction to the general issue of the harmful consequences of tobacco use. A more compelling demonstration of this can be seen in the policy banning the televised promotion of distilled liquor or spirits while at the same time allowing other types of alcohol advertising to continue. It might thus be suggested that a ban on alcohol advertising altogether might also be justified, again not necessarily as an acknowledgement of the harmful effects of advertising, but rather as a wider symbol of society's values in relation to alcohol use. The longer-term ramifications of such action might prove to be more positive in that at least the current ambivalence of our society towards alcohol use would cease to be such a confounding factor.

2.3 ALCOHOL EDUCATION FOR YOUNG PEOPLE

One formal response to widespread concern about youthful alcohol misuse has been seen in recent attempts to integrate formalised alcohol education into the school curriculum. These initiatives come under the more general remit of the provision of health education for young people, by schools, to 'facilitate voluntary adaption of behaviour which will improve or maintain health' (Green, 1979). Moreover, the number of alcohol education materials now available has increased considerably during the past twenty years, as indicated by Plant (1993) in her recently compiled guide to 'Alcohol Education In Schools'. Most of these are targeted at adolescents and teenagers in secondary (high) schools, although a comparatively small number have also been designed for younger children, college students, teachers and parents. The motives for directing alcohol education primarily at young people are two-fold: firstly, there is the assumption that young people constitute a more vulnerable group in relation to alcohol problems, due to their lack of experience; and secondly, there is the common belief or at least the hope that primary intervention strategies will help to provide adolescents with the necessary skills to cope in later life (Bagnall, 1991).

2.3.1 UNDERLYING THEORIES

In contrast to the explicit abstinence message conveyed by anti-smoking campaigns, the goals of alcohol education are less definitive and often differ with respect to each other. As Jessor (1982) notes, these may range from the promotion of total abstinence, to the delaying of onset of use, to equipping young people with the necessary skills which will lead to the 'responsible use' of alcohol, whatever this may be conceived to be. To further complicate the issue, both the use of alcohol and the form in which this occurs can be influenced by numerous factors. It has been suggested that certain

factors or combinations of factors may be differentially associated with various stages of drug use. For example, curiosity, peer pressure, price and availability have been linked with both the onset of drug use and continued use of these substances. Alternatively, problematic substance use appears to be more commonly associated with a range of factors relating to adverse social and psychological circumstances (Plant and Plant, 1992). Even so, these classifications remain tentative and as such are not intended to provide a definitive portrayal of the processes behind problem substance use, the aetiology of which remains extremely complex:

'There is no single cause of drug misuse. It is not even possible to say with any confidence what the main factors are. Many explanations have been offered: ready availability of drugs, personality defects, poor home background, peer group pressure, poor relationships, lack of self-esteem, youthful experimentation and rebellion, boredom and unemployment. All of these factors probably play some part. But there is no convincing evidence that any one - or any combination - of these factors is of greater significance than the rest'. (Home Office, 1985; paragraph 1.8)

Consequently, the conceptual framework upon which alcohol education initiatives are based has differed accordingly. For the purpose of evaluation, a number of researchers have attempted to place these programmes within some form of coherent classification.

Tobler (1986) conducted a meta-analysis of 143 adolescent drug prevention programmes, and highlighted five categories which distinguished between the functional content of these programmes: Knowledge Only - in which facts about the consequences of drug misuse only are presented; Affective Only - highlighting the psychological factors which place certain individuals at risk for drug misuse; Knowledge plus Affective - ie. programmes combining the above two strategies; Peer Programmes - including the teaching of skills to resist peer pressure and enhancing personal competence, as well as peer-led programmes; and finally Alternatives Programmes - consisting of other positive activities as alternatives to drug use and/or to enhance personal skills and competence. A meta-analysis of functional content

carried out by Bangert-Drowns (1988), identified similar categories to those identified by Tobler (op cit.).

An alternative attempt at classification has been described by Hansen (1992), which is based upon what he calls the 'building block theoretical concepts'. Using this basis for distinction, Hansen identified six groups of programmes: Information/Values Clarification; Affective Education; Social Influence; Comprehensive; Alternatives; and finally Incomplete programmes. Others have attempted to classify programmes according to their theoretical basis. For example, Bruvold and Rundall (1985, 1988) identified four types of component common to programmes: Rational components; Social Reinforcement components; Social Norm components; and Developmental components.

A more parsimonious classification which encompasses the above categories, is offered by Moskowitz (1989). Moskowitz proposed that in general, educational approaches are based upon one or more of the following three behavioural change models: the knowledge/attitudes model; the values/decision-making model; and the social competency model.

The knowledge/attitudes model focuses specifically upon behavioural use of alcohol. Stated simply, this approach is based upon the premise that an increase in knowledge about the consequences of inappropriate use of alcohol will engender in an individual more negative attitudes towards misuse and as a result, the likelihood of engaging in problematic behavioural use of alcohol will be reduced. Historically, the philosophy underlying information approaches has shifted in emphasis from that of abstinence and the 'reliance on authoritarian statements, one-sided presentation of information and fear-appeals (Blane, 1977), to the advocacy of 'responsible use' of alcohol through the dissemination of facts about alcohol and alcohol use.

Alternatively, proponents of interventions which employ the values/decision-making model argue that attitudes and behaviours cannot be changed simply by increases in knowledge, but that affective or emotional factors which may be responsible for the uptake of substance use and subsequent patterns of behaviour, must also be taken into account. As such these programmes are structured around psychological theories of individual behaviour. The central tenets of this model include the belief that individuals who misuse substances possess impaired value systems and/or insufficient ability to make the correct decisions regarding their use of alcohol. Thus the aim implicit in these strategies is to reduce the likelihood of alcohol misuse by promoting successful processes of self-examination of eg. their value systems regarding substance use and/or their ability to engage in responsible decision-making.

The final model, that of social competency, has been developed more recently. This approach leans heavily on theories of social learning developed for example by Bandura (1977) and considers the individual within the social context of alcohol use. It assumes that the development of alcohol problems can be understood in terms of inadequate social skills on the part of the drug user. Thus, the strategies employed for addressing this problem have involved the modelling of appropriate health-promoting behaviours, the acquisition by the individual of the necessary skills to resist the social influences that result in alcohol misuse, and more generally the teaching of positive intrapersonal and interpersonal life skills (Moskowitz, 1989).

It should be noted from the outset that evaluations of the efficacy of individual alcohol education interventions are conspicuously few in comparison to the large number of such interventions which exist currently. Moreover, of those which have been documented, few evaluations have been conducted on a sound methodological basis, and invariably only short-term outcomes have been considered (Goodstadt, 1985; Moskowitz, 1989; Bagnall, 1991; May, 1991). The seriousness of this failure to

attempt any form of evaluation in the case of most education initiatives is further compounded by the fact that what little evidence is available consistently reveals such interventions to be quite ineffective. These shortcomings are described in greater detail in the following sections, in which interventions are discussed in relation to their theoretical underpinnings.

2.3.2 KNOWLEDGE/ATTITUDES MODEL

The provision of facts about alcohol consumption and alcohol-related problems, as the basis for educational strategies, has been the most enduring and currently remains the most widely adopted approach throughout Europe and the United States. One of the major premises underlying this model is that those individuals targeted are unaware of the possible negative consequences of alcohol use. Not only is empirical support for this notion lacking, but as Hansen (1988) has stated, the evidence available suggests that the reverse is true. The review of the current literature on children's early alcohol cognitions presented in Chapter 1, provides overwhelming evidence that even young children are aware to some extent of alcohol and its effects, and are particularly aware of the more negative consequences of use.

Nevertheless a number of studies have shown pre-test or baseline levels of knowledge to be significantly enhanced, at least in the short-term, following such interventions (Globetti and Harrison, 1970; Grant, 1982; Goodstadt and Sheppard, 1983; Tobler, 1986; Bagnall, 1991). Moreover, in Tobler's meta-analysis (1986), in relation to other outcome variables such as changes in attitude, use of drug, social skills and general behaviour, knowledge increases accounted for the greater proportion of programme success in three out of five types of programme - Knowledge Only, Knowledge plus Affective, and Peer programmes.

Although superficially such results appear supportive of information-only techniques, the utility of increased knowledge in terms of subsequent changes in behaviour, remains doubtful. As Grant (1982) states in his review of 78 alcohol programmes:

'...those who tested for increased knowledge were seldom disappointed, whilst those which tested for changes in attitudes, behavioural intentions or current behaviour displayed far more ambiguous results' (p.8).

Bloom (1956) and more recently McGuire (1974) have postulated that knowledge as a learning outcome for behavioural change can be classified by a number of stages, involving initial exposure to the educational message, attention to the message, comprehension of the message, initial and sustained agreement with the message content, and finally behavioural changes in response to the message. While studies confirming increases in knowledge suggest that attention to and comprehension of the message is often successfully achieved, there is little evidence to indicate that sustained agreement (ie. attitude change) and/or corresponding behavioural change also become(s) established.

Indeed, with regard to subsequent changes in attitude and behaviour following the provision of alcohol facts, there is little evidence of a causal relationship (Degnan, 1972; Richardson et al., 1972; Smith, 1973; Hanson, 1980; Kinder, Pape and Walfish, 1980; Goodstadt, 1981; Wallack, 1981; Goodstadt and Sheppard, 1983). Furthermore, when subsequent changes have been reported, these have commonly been observed to be at best minor and at worse counterproductive, in that they may have increased experimentation with the substance (Stuart, 1974; Cooke, Wehmer and Gruber, 1975; Kinder, Pape and Walfish, 1980; De Haes, 1987).

In response to such disheartening findings, some researchers have examined more closely the possibility of contaminating influences on the impact of didactic messages,

such as the methods by which materials are presented, the perceived credibility of the communicator of the message, and the use of fear arousal messages. In his review of 78 alcohol education programmes, Grant (1982) noted that 'the more passive the more of communication, the less impact it tended to have on any variables other than knowledge' (p.6). Programmes which placed a greater reliance on interactive educational techniques such as discussions, audio-visual aids, field trips etc. tended to yield more positive results in relation to possible behavioural change. Furthermore, in a study by Caleekal-John and Pletsch (1984), an interdisciplinary approach in which information about alcohol was disseminated in the context of an environmental physiology course, produced an increase in knowledge, positive increase in responsible attitudes towards alcohol use, and to a lesser significant extent, a reduction in the incidence of negative behavioural consequences among participating students.

With regard to communicator credibility and message content, Fritzen and Mazer (1975) found no difference in subjects' attitudes in relation to the non-alcoholic or alcoholic status of the communicator, but they did report less positive attitudes to alcohol following a high-fear message, when these were assessed at a one-week follow-up. However, no corresponding changes in drinking behaviour were observed for any of the conditions. More recently Williams, Ward and Gray (1985) found that knowledge of alcohol was significantly enhanced when the communicator was perceived by the target group to be credible, and when the message was low in fear appeal. However, no subsequent changes in attitude were noted.

In a unique exercise, Smart and Fejer (1974) contrasted the impact of low and high fear messages on subjects' attitudes towards marijuana (cannabis) and an imaginary substance. While no attitudinal differences were reported for marijuana following either of the two conditions, the high-fear message concerning the imaginary substance produced more negative attitudes towards its use among subjects. While this latter

study is interesting in that it demonstrates the relative ease with which attitudes to objects of which we are completely ignorant can be shaped, its usefulness is limited in the present context. What it does perhaps emphasise though, is the fact that changing attitudes and behaviour in relation to objects with which individuals are already familiar, is an altogether more difficult task.

In conclusion, there is little theoretical or empirical evidence to support the belief that passive communication of facts about alcohol can achieve the desired aims of alcohol education. And yet incredibly, as Rhodes and Jason (1988) state:

'Despite the questionable etiology of this approach, as well as over a decade of research indicating that information alone does not deter or decrease substance abuse, drug education continues to be the most widely used approach to preventing substance use' (p.22).

2.3.3 VALUES/DECISION-MAKING MODEL

The progression from didactic approaches to those involving more interactive learning techniques has been accompanied by a shift in emphasis from the psychoactive substance per se, to the individual as a substance user. As a result, psychological theories of individual behaviour have formed the basis for values/decision-making programmes. The focus of these strategies has been the enhancement of an individual's self perception, self-esteem, personal values and coping and decision-making skills, both on a general level and/or with specific regard to substance use.

In a comparative study of three education interventions, Goodstadt and Sheppard (1983) examined the outcome success of 1) a knowledge-only programme; 2) a decision-making programme; 3) a values clarification programme. As expected, the

former approach significantly enhanced baseline knowledge at post-testing. While the decision-making programme did produce greater understanding of the major general decision-making concepts, as demonstrated by responses to hypothetical situations, no changes in relation to attitudes and/or actual drinking behaviour were observed. Similarly, the values clarification programme was also found to be ineffective in terms of both current and future expectations of alcohol use.

In another comparative study, Schlegel, Manske and Page (1984) compared the efficacy of a 'facts-only' approach with both a 'facts+values' approach and a 'facts+decision-making' approach. The 'facts only' programme led to a reduction in consumption among students both at immediate post-testing and when followed up six months later. In contrast, neither of the combined interventions appeared to influence students' consumption, suggesting that such approaches undermined the impact of the provision of facts only component.

More positive findings have been reported by Schaps et al. (1982). In an evaluation of a multi-substance affective programme dealing with marijuana and tobacco as well as with alcohol, Schaps et al. measured outcome success in terms of a number of variables: knowledge of drugs; attitudes to drug use; perceptions of peers' attitudes to drugs; perceptions of the costs and benefits of drug use; and finally actual drug use. Their results indicated that at least for a subgroup of younger females (12-13 yrs), effective changes were found in relation to knowledge, perceptions of peers' attitudes and actual use of both alcohol and marijuana (but not for tobacco). Increases in knowledge were also demonstrated by the older males and females (13-14 yrs), with the latter also displaying a heightened awareness of the negative consequences of alcohol use, but no changes in actual drinking behaviour were noted.

In contrast, Hansen et al. (1988) reported negative outcomes following a decision-making programme in relation to alcohol, tobacco and marijuana use. These negative effects were found to be persistent even after one- and two-year follow-ups.

In general, data from meta-analyses (Tobler, 1986; Hansen, 1992) have confirmed this pattern of findings. Tobler (1986) found that as a group, Affective Only programmes had an extremely poor outcome success, particularly with regard to actual drug use following intervention. (However, as noted previously, Tobler's programme classification was not structured according to the underlying behavioural-change model but to the functional content, and as such programmes in her Affective category may have differed somewhat). Similarly, Hansen (1992) has suggested that on the whole such programmes appear to have a rather neutral impact on subsequent substance use.

In conclusion, there is scant evidence to indicate that rational consideration of the positive and negative aspects of substance use has much predictive value in relation to subsequent use (Huba, Wingard and Bentler, 1980). In addition as Moskowitz (1989) points out, little evidence exists to suggest that initiatives based on the decision-making model achieve much success with adolescents in relation to drug education specifically, nor more generally with regard to other social and moral values (Governali and Sechrist, 1980; Urbain and Kendall, 1980; Leming, 1980-81).

2.3.4 SOCIAL COMPETENCY MODEL

A more promising alternative to alcohol education has recently emerged in relation to the Social Competency Model. This approach sets alcohol use and related problems in the social context in which they occur and thus considers the social influences

associated with drinking. Such interventions have had considerable success in the context of tobacco education, both in the short-term (Gillies and Willcox, 1984) and possibly in the longer term (Vartiainen et al., 1986). There is much research to support the belief that social influences are associated with alcohol use and misuse. Moreover, it has been postulated that adolescent use of tobacco and alcohol share common determinants (Millman and Botvin, 1983). However, the abstinence goal implicit to tobacco education is markedly different from the 'responsible use' goal of much of the alcohol education literature, and as such provides a differential criterion for success.

Nevertheless, results from studies incorporating a 'social skills' approach, either separately (Hansen et al., 1988) or in conjunction with other approaches (Botvin et al., 1984; Botvin et al., 1990; Bagnall, 1991), have yielded more promising indications. In each of these studies, subjects who were involved in a social influences programme reported modest but significant changes in actual drinking behaviour in comparison to the control subjects.

Bagnall's (1991) education package incorporated components of each of the three behavioural-change models. Those subjects who had not been involved in the exercise were significantly more likely than those who had taken part, to report having consumed alcohol during the previous seven days. Moreover, subjects in the former group were also more likely to report higher maximum levels of consumption than those in the latter group. Similarly, Botvin et al. (1984) found that subjects exposed to a cognitive-behavioural intervention were significantly more likely than those of the control group, to report less frequent drinking occasions, a reduction in the amount of alcohol consumed per drinking occasion and fewer episodes of drunkenness. Furthermore, in a one-year follow-up study following implementation of a cognitive-behavioural programme, Botvin et al. (1990) also found that additional factors such as peer-led activities and supplementary or booster sessions enhanced the likelihood of

reduced alcohol use. Similar findings were also found in relation to tobacco and marijuana use.

In general, data from meta-analyses confirm that '...the most efficacious program for reducing drug abuse onset is a program that features social influences resistance training as a major focus' (Hansen et al., 1988: 150). However, such findings must be put into perspective. While it is widely acknowledged that social influence programmes or programmes which rely heavily on this behavioural-change model are generally more successful than other programmes (Hansen, 1992), it should be noted that these so-called 'success rates' are still relatively low, and are based on relatively short term follow-up evaluations only. Moreover, the variety of components involved in these programmes makes it difficult to identify whether this degree of success is due to the accumulative combination of programme components, or whether it is due to one or more specific components.

This highlights the fact that very little is known about how the processes of social cognition and social behaviour relate to each other (Ford, 1982), and more specifically how they relate with each other in the specific context of drug-related behaviour (Huba, Wingard and Bentler, 1980; Botvin, 1982; Jessor, 1982; Moskowitz, 1983; Braucht and Braucht, 1984; Snow, Gilchrist and Schinke, 1985). For example, the current widely held concept of 'peer pressure' which forms the basis for many social influence programmes remains contentious and is rather simplistic. For example, as May (1991) points out, it takes no account of the notion of peer pressure as a restraint on alcohol-related problems. In order to develop more effective educational techniques it is essential to understand just how these social influences operate.

2.3.5 CONCLUSIONS AND IMPLICATIONS

Alcohol education programmes generally conform to one or more of the three behavioural-change models outlined above. The evidence to date indicates that programmes based upon the knowledge only model produce at best very minor changes and at worse may increase experimental use of alcohol, while programmes based upon the values/decision-making model appear to have negligible impact on subsequent alcohol-related attitudes and behaviour. While programmes incorporating components based upon the social competency model may represent a more promising alternative strategy, the level of success of these programmes remains disappointingly low, even in the short term. In light of this evidence it seems incredible not only that existing alcohol education materials should be retained, but also that more recently produced materials continue to adopt similar formats.

One of the major problems faced by educationalists lies in the definition of the goals of alcohol education, and the subsequent evaluation of success in relation to these goals. For example, abstinence as an objective is specific and unambiguous, and one which in theory can be observed relatively easily in terms of assessing behaviour. Delaying onset of use is also relatively easy to assess, although the appropriateness of either objective in relation to young people of whom the majority already report alcohol use to a greater or lesser extent, is rather doubtful.

However, strategies designed to encourage sensible drinking are both difficult to put into practice and difficult to evaluate in terms of outcome. Most adolescents who drink do so infrequently and the amounts consumed are generally small (Bagnall, 1991; May 1992; Plant and Plant, 1992). As a result it is difficult to assess the positive impact of interventions promoting responsible use of alcohol when the baseline use of alcohol is commonly seen to be low. In these cases the goals of education may be interpreted as

reinforcing and maintaining responsible use. Alternatively education may have no impact, in that individuals through their personal experiences have already established for themselves guidelines for drinking which coincide with the responsible message of the education initiative. For example, it may be that an individual who reports having been very drunk and having experienced acute negative effects as a consequence, may have been put off reaching that stage of intoxication again as a result of that actual experience. Indeed, there is evidence that some people feel this is the only way to learn about alcohol (Loretto and May, 1993). Finally, it is noteworthy that the studies described in this review tend not to distinguish between the subsequent drinking patterns of heavy drinkers and those of light drinkers in response to the educational message. This would seem to be an important oversight.

These findings also raise the issue of the optimum age at which to focus alcohol education. The majority of school-based initiatives are aimed at secondary school children in their early to mid-teen years. As the review of young people's consumption in an earlier section (section 2.1) of this chapter has indicated, the majority of children at this age report having had some experience of alcohol. The study by Smart and Fejer (1974) involving attitudinal change in relation to an imaginary substance, suggests that in situations where little or no knowledge of the substance exists it may be easier to influence attitudes. While the current study sets out to demonstrate that awareness of alcohol is apparent in very young children, the implication here is that interventions targeted at an age when early cognitions are being formed might achieve greater levels of success. This issue is discussed in greater detail in Chapter 9.

The standard of alcohol education programmes in terms of the extent to which they achieve their objectives, will inevitably be restricted by the extent of our knowledge concerning the complex aetiology of alcohol-related problems. Until full comprehension of the interactive influences between the substance, the individual user

and the sociocultural context in which use occurs (De Haes, 1987) is attained, this success will remain limited.

CHAPTER 3

RESEARCH AIMS, DESIGN AND METHODS

3.1 THE RESEARCH BACKGROUND

The research was undertaken between January 1991 and January 1993. The main objective was to examine the development of alcohol cognitions in a study group of children aged from five-and-a-half to ten-and-a-half years, from Edinburgh in Scotland and Birmingham in England. The project took as its inspirational basis, the classic investigation by Jahoda and Cramond (1972) conducted in Glasgow, Scotland, which had traced the development of alcohol-related knowledge, attitudes and behaviour in a similar group of young children. While the results of the original study by Jahoda and Cramond provided evidence indicating that young children begin to develop knowledge and attitudes towards alcohol from a very young age, very little similar research has been conducted since that time.

3.2 THE MAIN STUDY

3.2.1 AIMS AND OBJECTIVES

The two principle aims of this study were: (1) to assess the extent of young children's knowledge, attitudes and to a lesser extent, their behaviour, in relation to alcohol; (2) to compare the current perceptions of young children with those previously described in the classic study conducted more than twenty years earlier by Jahoda and Cramond (1972).

With regard to these aims, it was proposed to examine the following aspects of children's alcohol cognitions:

- 1) Ability to recognise alcoholic beverages by smell.
- 2) Attitudes towards adult drinking behaviour.
- 3) Perceptions of the social norms relating to drinking behaviour amongst men, women and children.
- 4) The age at which children conceptualise alcohol as a distinct entity.
- 5) Familiarity with the physical manifestations of drunkenness.
- 6) Understanding of adult motives for drinking alcohol.
- 7) Extent of direct experience with alcohol.
- 8) Future orientations towards alcohol.

In addition, children's perceptions of tobacco use was also examined as follows:

- 1) Attitudes towards adult use of tobacco.
- 2) Perceptions of the social norms relating to tobacco use amongst men, women and children.

In relation to these aims an additional objective of the study was to identify priorities for future research and health education with respect to young children and alcohol.

3.2.2 THE STUDY AREAS

The study was conducted in state schools in two regions of Britain. The cities of Edinburgh, in Scotland and Birmingham in England were selected as fieldwork locations on an opportunistic basis. The city of Edinburgh is situated in the Lothian Region, and is the administrative, geographical and financial capital of Scotland. Its population is roughly 434,500, 1.1% of which are made up of ethnic minority peoples. Unemployment is currently at the level of 8.3%. The city of Birmingham is

located in the West Midlands of England, with a population of around 992,800. It is primarily an industrial city, the manufacturing industry being the major employer. The rate of unemployment for the West Midlands stands at 11.7%. Birmingham also has the second highest concentration of ethnic minorities after the South East region of England, with approximately 1 in 15 of the population belonging to an ethnic minority group (Central Statistical Office, 1992).

3.2.3 SELECTION OF SCHOOLS

The cooperation of the Department of Education in Edinburgh and Birmingham Health Education Unit was established by letters and personal visits, at which details of schools' involvement in the study were discussed. The respective directors then contacted those schools which had provisionally been selected at this stage, notifying the Head Teachers of their approval of each school's involvement in the project. Subsequent personal meetings between the researcher and the Head Teachers of these schools were then conducted, during which final cooperation was secured. In all, eight schools participated: four in Edinburgh, Scotland; four in Birmingham, England. These schools were selected on a non-random quota basis, according to both religious affiliation and the socio-economic status of the catchment population. It should be emphasised that the design of the study and more crucially the willing participation of schools required that no information regarding parental details were collected. For this reason, both religious affiliation and socio-economic status of subjects were through necessity categorised in terms of type of school and school catchment area. With regard to the latter, in order to ensure as valid a socio-economic divide as possible, schools in areas at either extremes of the deprivation/privileged spectrum were chosen. While it is acknowledged that this is by no means an ideal approximation of class or religion - a factor to be born in mind when examining the

findings of this study - the results detailed in the following chapters suggest that these demographic divisions were reflective of differences within the study group. Accordingly, two 'middle class' and two 'working class' schools were selected in each city; each pair consisting of one Catholic school and one non-denominational school. Not one of the eight schools originally selected refused to be involved.

3.2.4 SAMPLE SELECTION AND DEMOGRAPHICS

Class lists were obtained from each of the eight cooperating Head Teachers. Only one class per age group was selected as these generally contained sufficient numbers of children to allow for refusals, while at the same time, minimising the number of excess children who might be disappointed at their lack of inclusion when sampling procedures were carried out. Letters were then sent directly to the parents/guardians of these children, explaining the study and giving them the opportunity to withdraw their sons and/or daughters from participation. This technique of recruitment of subjects by 'contracting out' rather than 'contracting in' has been used elsewhere (Plant, Peck and Samuel, 1985; Bagnall, 1988; Plant et al., 1990; Plant and Foster, 1991). It has been suggested that the latter technique usually results in a much poorer response rate, due to lack of motivation rather than a desire not to participate (Jessor and Jessor, 1978). Very few refusals from parents were encountered, although in two schools a number of home addresses were found to be out-of-date, thus preventing contact with these parents.

The target study group consisted of thirty children from each school, with equal numbers of boys and girls from each of three age groups - 5½-6½ years, 7½-8½ years and 9½-10-½ years. This gave a projected sample of 240 subjects. No attempt was made to control for racial groupings. There were two reasons for this. Firstly, it

would have been extremely difficult to find sufficient numbers of ethnic minority children in the Scottish schools. Secondly, in terms of methodology, the size of the study group was too small to cope with the introduction of this additional variable. Finally, as no parental details were collected, it was not possible to assess whether those from different ethnic backgrounds had been brought up to adopt the cultural values of their race of origin or whether they were fully integrated into British society. Nevertheless, the likelihood that ethnicity did influence performance in this study will be discussed where applicable, specifically in cases where differences in the results were observed between English and Scottish respondents.

It is stressed that this was not intended to be a nationally representative study. Unfortunately the intensive testing of individual children would have rendered this too lengthy and costly a process. Instead it was decided to adhere to the selection procedures of Jahoda and Cramond as far as possible in that age, sex, socio-economic status, verbal fluency and religious affiliation being commonly employed major demographic variables were retained, as well as allowing more valid comparisons to be drawn between the two studies, while the Scottish/English divide would replace Jahoda and Cramond's pre-/post-Christmas division. Thus when drawing conclusions from the results of the present exercise, it is emphasised that these relate to this specific study group only.

Random sampling was conducted on those children whose parents had been contacted and who had not subsequently been 'contracted out'. Accordingly, the total number of girls and boys per class list was divided by five (i.e. the number of children required of each class). Depending on the resulting figure, rounded-up to the nearest whole number ('n'), every 'n'th child was then selected. For example, if there were 13 girls in one class, every third child on the list was selected, although this would necessitate going through the list twice. However, it was not always possible to use this random

procedure, as for several of the classes, the number of male and female children falling within the correct age range who were available on the day of testing, was small. In these cases, every 'n'th child was then excluded until the desired number of children remained. An insufficient number of boys in the youngest age group was found in one school. This procedure resulted in a final study group of 238 subjects. This procedure resulted in a final study group of 238 subjects, as shown in Table 3:1.

Table 3:1 - Study Group Design

City	Age	Middle Class Area				Working Class Area			
		Catholic		Non-Den		Catholic		Non-Den	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Edinburgh	5½-6½	3	5	5	5	5	5	5	5
	7½-8½	5	5	5	5	5	5	5	5
	9½-10½	5	5	5	5	5	5	5	5
Birmingham	5½-6½	5	5	5	5	5	5	5	5
	7½-8½	5	5	5	5	5	5	5	5
	9½-10½	5	5	5	5	5	5	5	5

3.3 STUDY METHODS

Although the design of the tasks in this study often differed from that adopted by Jahoda and Cramond (described in full in the following section), the nature of the tasks and the order in which they occurred in each session, followed the same procedure, with one exception. The final task of the second session was introduced only in the present study. Thus, the test battery was as follows:

Session 1: British Picture Vocabulary Scale
 Recognition of Smells
 Judgment of Photographs (1)
 Perceived Likes/Dislikes (1)

Session 2: Judgment of Photographs (2)
 Perceived Likes/Dislikes (2)
 Concept Task
 Drunkenness Films
 Adult Motives for Drinking

With the exception of the British Picture Vocabulary Scale, each test in the battery was administered in the guise of a game-like activity. This was done for several reasons. These reasons have been elaborated elsewhere. The testing of each child was carried out over two half-hour sessions separated by roughly four weeks. As a result, a small number of children (n=9) failed to complete all the tests due to absenteeism at the time of the second session. All testing was completed in the autumn term, 1991. The Scottish children were tested by the author. The English children were tested by Ms Erica Coles, an infant school teacher based in Birmingham (but with no prior contact with the children in the target schools), who was trained by the author.

3.3.1 SESSION 1 - TASKS

1/1 British Picture Vocabulary Scale (see section 3.4)

1/2 Recognition of Smells

Rationale: This task measured one aspect of children's familiarity with alcohol. Children are able to glean information about alcohol from a variety of sources, ranging from the home environment (parents, other family members) to the school environment (teachers, peers), to the wider remit of the media. This particular task provided an objective measure of children's personal contact with alcohol.

Materials: Nine small jars, identical in size and appearance and each painted to obscure their contents, were filled with one of the following odorous substances: peppermint essence, disinfectant (Dettol), vinegar, whisky (Bells), coffee (essence), bubble bath, beer (Grolsch), perfume and tomato ketchup. The latter item replaced paraffin, which had appeared in Jahoda and Cramond's original battery of smells. However, it was felt that paraffin was not a suitable substance for inclusion in a task which required children to identify odours from unmarked bottles. Bubble bath was also used instead of soap liquid, as it was felt that this was a more commonly used substance and would therefore be more readily identifiable.

Procedure: The task consisted of two trials. On the first trial, the child was presented with each jar in turn and simply asked: "Have you smelt this before?" Only if the child answered yes, was he/she then asked "What do you think it is?" Irrespective of whether his/her subsequent response was correct, the child was then encouraged to say something about the substance, i.e. Where have you smelt it before? Who uses it? Do you use it? Do you like it? Responses were recorded, but no feedback was given.

In order to minimise the confounding effects of generally poor human ability to identify odours, a second trial was carried out according to the procedures adopted by Noll et al. (1990). Nine colour photographs of the substances were placed in front of the child who was told that these were pictures of what was in the jars and so would help him/her guess what he/she was smelling. These photographs remained on view throughout the second trial. Those odours which had not been initially recognised or which had been incorrectly identified in the first trial were then presented to the child a second time. Again, irrespective of whether or not the substance was correctly identified, the child was encouraged to say something about the substance and responses were recorded. Correct responses and close approximations to the non-alcoholic items e.g. soap instead of bubble bath, were all categorised as 'correct'. Similarly, children's responses to the alcoholic odours were deemed correct if they applied any alcoholic label to the odour.

1/3 Judgement of Photographs

Rationale: The aim of this task was to obtain an indirect measure of children's attitudes towards adult drinking. The examination of young children's attitudes poses a number of methodological difficulties. The process of reflective thinking is not common to young children (Livesley and Bromley, 1973). The introduction of an unfamiliar attitude object such as alcohol will further complicate an already difficult task. Furthermore, any method that relies heavily on verbal ability runs the risk of confounding verbal ability with the variable to be measured (Shantz, 1983; Berndt and Heller, 1985; Yussen and Kane, 1985). Therefore a non-verbal and indirect measure in which inferences about the attitude can be drawn from performance on apparently objective tasks constitutes a more suitable method of inquiry. The assumption here is that performance on an objective task may be influenced by the attitude, and that a

systematic bias in performance on such a task will reflect the influence of the attitude (Cook and Selltiz, 1964).

Materials: These consisted of four training photographs and forty-eight experimental photographs (eight of which were duplicates and acted as controls for consistency of the responses). New photographs were taken for the specific purpose of this task, but they did replicate those previously used by Jahoda and Carmond. For each session, the four training cards and 24 experimental photographs were used. In the first session, each photograph showed either a man or a woman engaged in one of three types of activities: an alcohol-related activity (drinking whisky, drinking wine, or drinking a pint (for the men) and a half pint (for the women) of beer); a tobacco-related activity (smoking a cigarette or smoking a pipe (the latter applied only to photographs of men)); a neutral activity (e.g. reading a book, drinking milk, speaking on the telephone). The item 'drinking wine' had not been present in Jahoda and Cramond's set of photographs, but was included in the present set to represent an alcoholic drink which might be more likely than beer or whisky, to be associated with female drinkers. In the second session, those same men and women engaged in an alcohol or tobacco-related activity were then shown in a neutral activity, and vice versa. There were three random orders of presentation of the photographs in accordance with Jahoda and Cramond's format, details of which are shown in Appendix 1. The same photographs showing the man/woman drinking wine were also used to depict drinking whisky. As a result, children were systematically assigned to either the 'wine' category or the 'whisky' category, but not to both. In order to minimise the common tendency of young children to focus on the physical characteristics of people (Livesley and Bromley, 1973) and encourage subjects to concentrate on the activity, the photographs were taken in black and white, and showed only the side view of the men and women.

Subjects' responses were recorded by means of a response box consisting of four compartments labelled respectively: **Like very much**; **Like a little**; **Do not like a little**; **Do not like at all**. To help those children who might experience difficulty with these labels, additional labels were also attached to each compartment: a large **L**, a small **L**, a small **D**, a large **D** respectively, and each was accompanied by an appropriately happy or sad face.

Procedure: The task was performed over two sessions. In the first session, prior to the actual experiment, time was taken to familiarise each child with the procedure. Once familiarity was established and the four training photographs had been used, the experimenter told the child: I am going to show you some more photographs, and each time, I want you to put it into the box that says what you feel about it. In Jahoda and Cramond's study the child was further prompted with the statement some are nice and some are not so nice, in order to counteract a possible 'Polyanna effect' of the children calling them all 'nice'. However, in the present study it was felt that such a statement might encourage the child to say what he/she believed to be the experimenter's 'desired' response. The tendency for children to try to structure their responses to coincide with the perceived desired response of the experimenter has been noted in a paper by Goodman (1990). For this reason the prompt was omitted from the current study. Finally, as a further method of focusing the child's attention on the activity as well as to the sex of the person, a verbal description of the photograph accompanied its presentation eg. Here is a picture of a man reading a newspaper.

The second session, carried out approximately four weeks later, followed the same procedure as the first.

Rationale: The purpose of this task was to examine children's understanding of the social norms associated with drinking. That is, to discover children's perceptions of the 'normal' drinking behaviour of three social groups, namely men, women and children. Again, the inappropriateness of direct verbal questioning necessitated an indirect approach to this question. For this reason, the method of inquiry adopted was based on eliciting children's perceptions of activities that men, women and children normally like or dislike. On the basis of these perceptions it is possible to construe basic images of social norms held by the children.

Materials: These consisted of two sets of lists of activities generated previously by Jahoda and Cramond, each consisting of four training items, followed by twenty-four experimental items/activities appropriate to child, female adult and male adult roles eg. going to school, sewing on buttons, mending a car. Jahoda and Cramond's lists included four alcohol-related items: drinking beer, drinking whisky, going to the pub, being drunk. In the present study a fifth alcohol-related item - drinking wine - was included as an example of a less stereotypically male drinking item. Two smoking items -smoking a cigarette and smoking a pipe - were also included. In order to ensure the standardised presentation of lists in terms of intonation and length of pause between items, the lists were pre-recorded on to audio tapes, as in the original study. Both the lists and the order of the items within each lists was systematically varied (see Appendix 2). In each list, four of the items were repeated to provide a measure of consistency of responses.

The task was carried out over two sessions. During the first session the lists contained no mention of the alcohol-related items.

As with the Judgment of Photographs task, children's responses were divided into the like/dislike format. In the original study, Jahoda and Cramond designed an apparatus consisting of a closed box with the four response windows (labelled: **Like a lot**; **Like a little**; **Do not like a little**; **Do not like a lot**). Beneath each window was a button which when pressed, simultaneously lit up the appropriate label and sounded a buzzer. However, in the present task responses were registered by means of a computer. During the task, four windows appeared on the computer screen labelled: **Like very much** (with a large L), **Like a little** (with a small L), **Do not like a little** (with a small D) and **Do not like at all** (with a large D), and each containing the number of the keyboard key appropriate to each option. On the keyboard itself, matching labels (ie. large and small L's and D's) were attached to four corresponding keys. Each time the child pressed one of these keys, the four windows disappeared and the letter corresponding to the child's response appeared on the screen, and was then replaced again by the four windows. Finally, four dolls - two adult dolls of each sex and two child dolls of each sex - were used to further orient the children at each stage of the task.

Procedure: Prior to the main task, time was taken to train the child in the use of the computer and to familiarise him/her with the procedure. This was then followed by the presentation of the four training items. At the start of the main testing, a child doll of the same sex as the subject was placed in front of the child next to the computer, and the child was then told; Now you are going to hear lots of different things that people do. I want you to tell me what things you think he/she (pointing to the doll) likes to do and what he/she does not like to do; and you just press the button that says what you think.

When this first run was completed, the child doll was replaced by one of the adult dolls, who was described as 'a lady' or 'a man', and the same list was played again.

This procedure was then repeated for the third and final time with the second adult doll. If any child appeared to have difficulty understanding the concept of typical men and women, the adult dolls were then described as 'just like other men/women' or if they still had difficulty 'a man/lady just like your dad/mum'. The child doll was always the first one to be used, as it was felt that this would be the easier part of the test and so would allow the child more time to become comfortable with the task, before going on to the more difficult stages concerning adult preferences. The man-woman woman-man sequence was then systematically varied.

3.3.2 SESSION 2 - TASKS

2/1 Judgment of Photographs (2)

As described above.

2/2 Perceived Likes/Dislikes (2)

As described above. However in this session the alcohol-related activities were now included in the lists presented.

2/3 Concept Task

Rationale: This task was designed to examine the age at which children acquire an understanding of the concept of alcohol. A number of studies have shown that children can acquire a basic awareness of a concept without necessarily understanding the meaning of the term (Jahoda, 1959). For this reason direct verbal questioning is unsuitable.

Materials: The task consisted of three sections - an initial training section, the

experimental section dealing with the concept of alcohol, and a final section included to reduce the salience of the alcohol theme. Thus, the materials used in the first section of the task were: an apple, an orange, a banana, some grapes, a pear, a lemon (fruit), and meat paste, chocolate, cheese, an egg, biscuits, a bread roll (non-fruit); in the second section, bottles of beer, wine, whisky and sherry (alcohol) and bottles of milk, orange juice, coca cola and lemonade (non-alcohol); and in the third section, a toy pig, horse, sheep and cow (farm animals) and a lion, tiger, elephant and hippopotamus (wild animals). As popular brands tend to differ between Scotland and England, some of the foodstuffs and bottles of drinks differed accordingly, so that children were not faced with items they did not recognise, but with which they would otherwise be familiar.

Procedure: At the start of the initial section, children were told that they were going to play a guessing game. Two items of food, one a fruit the other a non-fruit item, were placed on the table in front of the child who was then told: Here are two things to eat. I want you to guess which one I am thinking about. Obviously at this stage the child can only guess. If the child pointed to or mentioned the fruit he/she was told that it was correct. If he/she chose the non-fruit food he/she was told that it was wrong. The child was then shown further pairs of fruit and non-fruit foods, the former being the correct response each time. This continued until the child either made five consecutive correct choices, or spontaneously mentioned the conceptual link, or failed to understand the concept after approximately ten trials. In the original study the number of attempts allowed for each child was sixteen. However, initial testing in the present study indicated that children understandably became demoralised or upset or simply bored after being told they were wrong on this number of occasions, so the limit was reduced. This was the only aspect of the Concept Task which differed from the format employed by Jahoda and Cramond. At this stage, the experimenter then replaced all the food on the table and divided them into groups of

fruit and non-fruit. If the subject had previously failed to understand the fruit theme, he/she was then asked: What is it that makes all these things (ie. the fruit) the same as each other but different from this other group of things (ie. the non-fruit)? If the child still failed to give the correct response, the experimenter then explained the groupings to him/her. Questions were then asked about the various foods: Where have you seen them? Who eats them? Which have you tasted? Who gave you a taste? Which do you like? These questions were included in order not to arouse children's suspicion as to the main aim of the study, when similar questions would be asked during the alcohol section.

The main experimental section immediately proceeded the fruit task. All eight bottles of alcoholic and non-alcoholic beverages were placed at random in front of the child, who was now told: I want you to put these bottles into two groups like we did with the food, so that one group of bottles is different from the other group in some way. I want the same number of bottles in each group. Irrespective of the groupings he/she then made, the child was asked to explain why he/she had grouped them in this way. If the child had failed to group the bottles according to the alcohol/non-alcohol division, the experimenter then regrouped them according to this criterion, and asked the child if he/she could explain this subsequent grouping. As in the preceding section of the task, questions were then asked about all the different kinds of drinks. As well as the questions previously noted above, subjects were also asked: Where were you when you had a taste? What have you been told or heard about these types of drinks? Who told you these things? Do you think you will drink these when you are older?

The third section involving the toy animals, was conducted in a similar manner to the previous alcohol section.

2/4 Drunkenness Videos

Rationale: This task examined the stage at which young children are able to recognise the physical manifestations of drunkenness. It was also designed to elicit information about children's knowledge of and attitudes towards drunks and drunkenness.

Materials: In Jahoda and Cramond's study, three black and white loop films designed to portray bodily and mental states were devised, although insufficient resources prevented a sound track being added to these films. However, because of the high success rate shown by their sample even without sound cues e.g. slurred speech, it was decided that the newly made films in the current study would remain without sound. These films were constructed in the same way as the originals produced by Jahoda and Cramond, except that they were now recorded on VHS video, and for two of the situations, a version incorporating a female character was also made.

The task was divided into three phases, for the same reasons as those relating to the Concept Task ie. to provide a training film, and an additional film to reduce the salience of the alcohol theme following the main experimental presentation. The video in the first phase involved a young boy going shopping with his mother for a present. The target emotion in this film was happiness, and the sequence of events was as follows:

- A. A young boy with his mother choosing a toy in a toyshop
- B. Boy taking toy to counter where shop assistant wraps it up for him, boy smiling
- C. Boy smiling as parcel is handed to him and mother and child head for the door
- D. Mother and child walking from the shop, boy smiling (close-up shot)

The second phase concerned the drunkenness theme. Two videos were made, one in which the drunk character was a man, the other in which the intoxicated character was a woman.

- A. Man/woman in a public bar drinking whisky/wine and then picking up a glass of beer/wine
- B. Man/woman draining glass and stumbling from bar
- C. Man/woman staggering towards door of bar
- D. Man/woman staggering along the road (close-up shot)

The third set of films also had both a male and female version. The target state in these films was exhaustion.

- A. Man/woman in gymnasium weight lifting/on exercise bike
- B. Man/woman slowing down, then putting down weights/getting off exercise bike
- C. Man/woman entering changing room and collapsing on bench
- D. Man/woman wiping brow and looking exhausted (close-up shot)

The films were reconstructed so that they could be played back in reverse chronological order, cumulatively i.e. section D would be shown first, followed by Sections C and D, then sections BCD and finally sections ABCD.

Procedure: Each child was systematically assigned to either the female videos or the male videos. Before the first film was shown the child was told: You are going to see some films of people doing different things. I want you to watch them and tell me what you think the person has been doing. Following the first section (i.e. part D) of the training film, the child was asked: What is the boy doing? What do you think he

was doing just before? and responses were recorded. The child was then told that he/she would now see what was happening just before the initial piece of film, then the next section was then shown, i.e. parts CD. If the child had been unable to give a satisfactory answer to the first two questions, these questions were repeated, followed by further questions: What do you think of him? Do you think he is nice or not very nice? Then parts BCD were shown and the following questions were added: How do you think he feels? Is he happy or sad? When do people usually look like that? The complete film i.e. parts ABCD was shown only if the child had still failed to understand the theme.

The drunkenness film was presented in the same manner, although several additional questions were now included: Have you seen anybody like that? Where did you see them? Has anyone told you about people like that? What did they tell you? Who told you these things? Finally, both the exhaustion film and the accompanying questions were presented according to the same procedure as the previous two films.

2/5 Drinking Vignettes

Rationale: The aim of this final task was to investigate the development of children's understanding of adult motives for drinking alcohol in various social contexts. This task did not appear in Jahoda and Cramond's test battery, but was designed by Gaines and colleagues in the United States (Gaines et al., 1988). It was felt that this test examined an important aspect of children's alcohol-related knowledge, the inclusion of which would give a more complete overall picture of children's knowledge.

Materials: Three short stories or vignettes were selected from Gaines et al. (op cit), depicting three different roles of alcohol: (a) calming influence after shock (of being in

a near-miss car accident) (b) facilitation of social interaction (when meeting strangers) (c) celebration of a positive event (i.e. winning a prize). Gaines et al. chose these alcohol 'roles' on which to base the vignettes, on the basis of evidence from Brown et al. (1980) and Christiansen, Goldman and Inn (1982), showing that these types of roles for alcohol could be differentiated by most 12-year olds. A further vignette was also produced by the author, which was labelled (d) consolatory drinking (after bad news). The contents of the four vignettes are given below:

Social Anxiety: Mr/Mrs Brown has been invited over to a neighbour's house to meet some people he/she does not know. Before leaving his/her house to meet the strangers, Mr/Mrs Brown drinks three glasses of beer/wine/whisky.

Celebration: While listening to the radio in his/her car, Mr/Mrs Green hears the man on the radio say that he/she, Mr/Mrs Green has won a large amount of money as a prize in a competition. Mr/Mrs Green pulls over to a nearby pub (public bar) and drinks three glasses of beer/wine/whisky.

Escape: On the way homw from work, Mr/Mrs Smith's new car was hit and badly damaged by another car, but luckily he/she was not hurt. When Mr/Mrs Smith finally arrives home, he/she drinks three glasses of beer/wine/whisky.

Consolation: As Mr/Mrs Gray is about to go home from work, his/her boss comes into the office and tells Mr/Mrs Gray that there is no longer any work for him/her to do, so he/she must lose his/her job. When Mr/Mrs Gray arrives home, he/she drinks three glasses of beer/wine/whisky.

Two dolls - one an adult male doll, the other an adult female doll, were used during the presentation of the vignettes, to represent the protagonist. This was to help

children to focus on what was essentially an abstract/hypothetical story.

Procedure: Each child was systematically allocated one of the four vignettes. Both the sex of character and the type of drink consumed in the vignette also varied systematically between male and female, and beer, whisky and wine respectively. Before the vignette was read aloud, the experimenter placed either the male or female adult doll in front of the child, who was then told: I am going to tell you a short story about Mr/Mrs Smith (pointing to the doll) and I am going to ask you some questions afterwards, so listen carefully. The vignette was then read aloud by the experimenter, after which the following questions were asked of the child: Why do you think the man/woman had three drinks of beer/wine/whisky? How did he/she feel before having the drinks? How did he/she feel after having the drinks?

3.3.3 ALLOCATION OF SUBJECTS TO TASKS

Within the study, several of the tasks involved more than one manipulation of their basic format. Those aspects that were to be manipulated between subjects concerned the random orders of presentations of items, the sex of characters and the types of drinks in certain tasks, and also in the case of the Drinking Vignettes task, the type of vignette. With regard to the projected study group there were 240 children, consisting of 48 groups of five children belonging to each basic cell (eg. subjects numbered from 1 to 5 were boys aged 5½-6½, from a middle class area, attending a Roman Catholic school in Edinburgh, subjects numbered from 6 to 10 were boys aged 7½-8½, from a middle class area, attending a Roman Catholic school in Edinburgh and so on). In order to ensure a balanced allocation of subjects to each version of the task, taking into account the necessity of ensuring that at least roughly equal numbers of subjects with their demographic manipulations could be found, this allocation took place

before the subjects were themselves allocated a subject number. Thus the questionnaires were numbered and the version of each task pre-ordained, before the random allocation of the five children within each basic cell was carried out. This is what is meant when, in the following sections, reference is made to the 'random allocation' of subjects to the various versions of each task.

3.3.4 STATISTICAL PROCEDURES

In the following chapters, the findings of these tasks are presented. Various statistical procedures were used to analyse these results, using both the Statistical Package for the Social Sciences (SPSS/PC) and GLIM (Payne, 1985). The following is a description of those used.

Analysis of variance (ANOVA) was employed to examine the effects of various independent variables on subjects' mean scores. Analysis of variance produces a ratio which compares the variance resulting from an independent variable (eg. age of subject, sex of subject etc.) with the error variance, which is known as the F-statistic. If the F-statistic is statistically significant, then this implies that the independent variable in question has had a significant effect on the results. To identify differences between a number of experimental conditions, it is necessary to perform further analyses using orthonormalised transformation matrix contrasts, which allow one to make comparisons between the various experimental groups. In order to understand the nature of the effect of the independent variable it is necessary to examine the cell means, the coefficients and the 95% confidence intervals. The nature of the effect can be deduced from the negative or positive value of the coefficient, and whether or not the effect is significant can be confirmed from the 95% confidence intervals - only if they do not pass through zero is the effect significant.

The *t*-test also deals with means data and was used in the current study to compare independent sample means ie. to compare the mean scores from the present study with those found by Jahoda and Cramond. This procedure tests the null hypothesis that two independent samples come from the same population. The *t*-statistic is the sum of ranks of the observations from one sample which is compared to tabulated limits. If the value of *t* is statistically significant, then the null hypothesis can be rejected.

The chi-square statistic, put simply, tests whether the observed frequency of respondents falling into a category is significantly greater or less than should be expected, based on the overall sample distribution. In the following text, if the probability (*p*) is less than 0.05, this indicates that the difference between what would be expected and what was actually found, is significant, and thus the null hypothesis (i.e. that there is no difference between observed effects and expected effects) can be rejected.

Finally, both logistic regression and loglinear regression analyses were used to estimate the effects of a number of explanatory variables (e. age of subject, sex of subject etc.) on dependent binary response variables (logistic) or multiple response variables (loglinear). In other words, to predict the likelihood that a particular response will be given by a certain category of subject or as the result of certain types of influences within the task. Forward stepwise regressions were performed on SPSS/PC+ and then the resulting model was transferred in to GLIM, as the former statistical package could not easily cope with interaction effects. Thus, for each analysis, a model was constructed which best fitted the observed data, and the resulting log odds and 95% confidence intervals for each variable in the model were calculated. The log odds can then be exponentiated in order to produce the odds ratios for each variable.

In order to clarify the interpretation of odds ratios in the text, the following explanation is given. The calculation of the 'probability' (P) of an outcome occurring and the calculation of the 'odds' (O) of an outcome occurring are basically two ways of measuring the same thing, where:

$$O = \frac{P}{1-P}$$

Thus where the 'odds ratios' are presented in the subsequent results sections, these figures refer to the odds of a particular outcome occurring compared to the odds of a different outcome occurring, by producing a ratio of the odds of both.

3.4 THE MEASUREMENT OF SUBJECTS' VERBAL ABILITY

3.4.1 RATIONALE

The English Picture Vocabulary Test (EPVT) was included in Jahoda and Cramond's study for two reasons. In the first instance, it would provide an enjoyable and relatively undemanding introduction to the main testing. Secondly it would produce at least a rough measure of subjects' verbal ability with which to judge their performance on subsequent tasks. More recently, researchers in the United States (Greenberg, Zucker and Noll, 1985; Noll, Zucker and Greenberg, 1990) who have been conducting studies on young children's alcohol cognitions, have also employed the US version of this task i.e. the Peabody Picture Vocabulary Scale, to ascertain subjects' verbal proficiency. For these reasons it was decided to retain this task in the present study, although it was possible to use a more refined, up-to-date British version of this measure, entitled the British Picture Vocabulary Scale.

The British Picture Vocabulary Scale (BPVS) is designed to measure an individual's 'receptive (hearing) vocabulary for standard English'. It is stressed that the Scale does not purport to be a measure of general intelligence, but that it does provide a measure of one major facet of intelligence, namely, vocabulary. Vocabulary has been found to be the best single indicator of school success (Dale and Reichert, 1957). However, in the present battery this test was included to provide a reference measure of subjects' cognitive development.

There were several additional advantages in using this particular test: minimal training of the examiner is required; scoring is objective; and standardised norms are available for the interpretation of the scores. Furthermore, the procedure is such that other skills such as reading and writing ability are not confounded with the specific skill to be measured. Finally, the test has no time limits, few verbal instructions and a cut-off

point for errors, all of which ensure that subjects find it neither threatening nor demoralising.

The Scale is a modified version of the Peabody Picture Vocabulary Test - Revised (Dunn and Dunn, 1981), which is itself a revision of the Peabody Picture Vocabulary Test devised by Dunn and Dunn in 1959. Although it has been used more commonly in the United States in areas of education, clinical and research testing, the BPVS has been modified to ensure its appropriate application in Britain. In addition, standardisation has been carried out on a nationally representative British sample.

3.4.2 RELIABILITY AND VALIDITY

Numerous studies examining the reliability of the BPVS have been carried out, which have demonstrated conclusively that its reliability is stable for various specific subject groups. With particular reference to the short form version of the test (the version used in the present study), corrected reliability coefficients ranged between .75 to .86 (median .80), for subjects up to the age of 16 years. After this age, the higher ability of subjects is less reliably measured due to the small number of items in this test. However, the children in the present study fall well below this higher threshold.

With regard to content validity, the stimulus words used in the test cover a fairly comprehensive range of word categories: actions; animals (parts and accessories); buildings (parts); clothing (accessories); descriptive words; foods; domestic fixtures; household utensils; parts of the human body; human workers and groups; mathematical terms; plants (parts); fruits and vegetables; school and office equipment; transportation; recreational equipment; and finally weather, geography and outdoor scenes. It should be noted however, that the format of the test is such that words that

cannot be depicted visually are necessarily excluded. In relation to construct validity, in both the Wechsler Intelligence Scale for Children - Revised and the British Ability Scales, strong correlations have been found between the vocabulary subtests and subjects' overall IQ scores (Wechsler, 1974; Elliot, 1982). Finally, a number of studies have revealed strong correlations between this particular measure and other measures of vocabulary and intelligence (for a review see Robertson and Eisenberg, 1981), providing confirmation of the criterion related validity of this test.

3.4.3 METHODS

Materials: The Scale appears in two forms: the short form (consisting of 6 training plates and 32 test item plates); and the long form (consisting of 6 training plates and 150 test item plates). The former was used in the present study. Each consecutively numbered plate or page consists of four numbered line drawings (i.e. the four drawings on each plate were consistently numbered 1 to 4). The experimenter is given a numbered list of words, with each word corresponding to one of the line drawings on each consecutive plate. As the test progresses, the words to be identified become more difficult or less familiar to subjects.

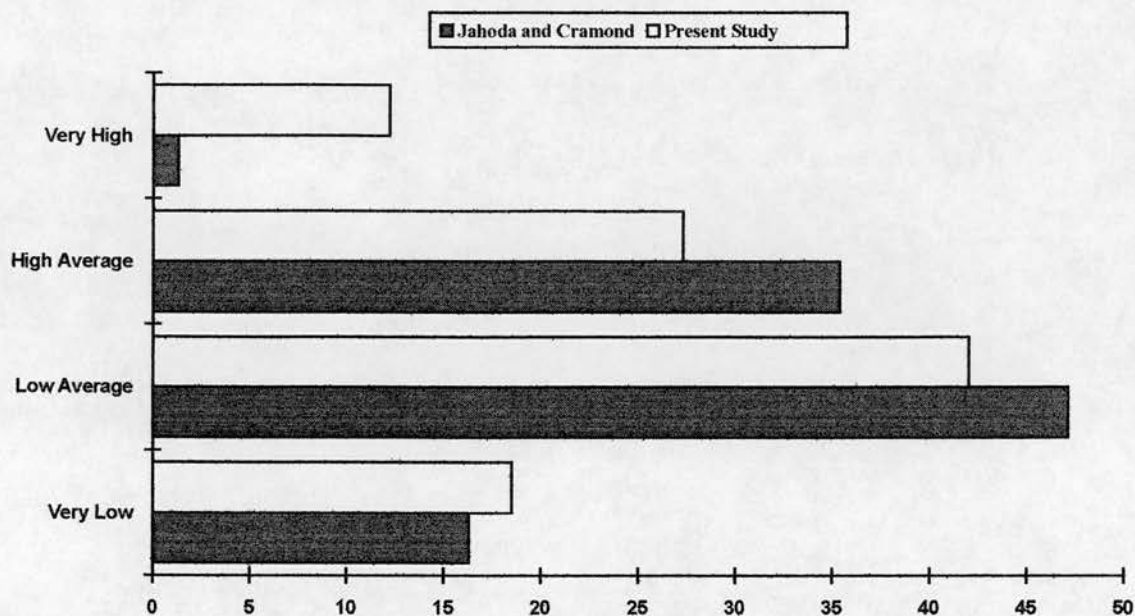
It should be noted that the short form of the BPVS is suitable for subjects ranging in age from two- and-a-half to eighteen years. Incorporated within the format of the test are standard age-based starting points which appear at various stages on the experimenter's word list. For this reason all subjects in the present study could be tested using the BPVS short form, although the starting point differed according to the age of each subject. Accordingly, older subjects commenced the test at a later, more appropriate stage in the word list, so that they would not get bored or over-confident by being asked to identify too many of the easier words at the outset.

Procedure: The training plates were presented initially, in order to familiarise the subject with the procedure. As each plate was presented, the subject's task was to identify the drawing, either by pointing to the drawing or calling out the appropriate number, that corresponded to the word called out by the experimenter. As the main test progressed, these words became more difficult or less common. The test continued in this manner until the subject reached his/her ceiling item. This occurred when the fifth error within eight consecutive items was made. The subject's raw score was then computed by subtracting the total number of errors made, from the number of the ceiling item. Conversion tables were then used to establish a standardised score for the subject. Percentile equivalents and vocabulary-age equivalents for the standardised score could also be calculated.

3.4.4 RESULTS

Figure 3:1 shows the level of performance on the British Picture Vocabulary Scale (derived from the standardised scores) for the present study group, in comparison with that tested by Jahoda and Cramond. However these comparisons should be treated only as rough indicators of between-sample differences, as two different versions of the same Test were employed. In the present exercise, the overall mean score for subjects fell into the 'low average' range at 96.83 (standard deviation=17.28). This score is equivalent to a percentile rank of 41, which means that 41% of persons within this age group of 5.5-10.5 years of the BPVS standardisation sample achieved scores that were equal or less than 96.83, while 59% achieved higher scores. The minimum score recorded was 61 and the maximum was 145, giving a range of 84.

Figure 3:1 Between-Study Comparisons of BPVS Scores



Logistic regression was carried out in order to identify any differences which might have occurred between subjects. For this analysis (and for all further statistical analyses) the BPVS scores were subdivided into two categories only - high scores and low scores. The results are shown in Table 3:2.

Table 3:2 - Subjects' Performance on the British Picture Vocabulary Scale

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
AGE (5-6 yrs)				
Age (2) - 7-8 yrs	0.5114	-0.4316	1.4544	1.67
Age (3) - 9-10 yrs	0.3995	-0.5367	1.3357	1.49
SES¹ (Middle Class)				
SES (2) - working class	-0.7716	-1.7164	0.1732	0.46
CITY (Edinburgh)				
City (2) - Birmingham	-0.7718	-1.3832	-0.1604	0.46
AGE * SES				
Age (2) * SES (2)	-1.8710	-3.3786	-0.3634	0.15
Age (3) * SES (2)	-2.0140	-3.5816	-0.4464	0.13

(Predicting the likelihood of a high score on the British Picture Vocabulary Scale)

¹ In this table, as in all others, SES denotes socio-economic status

The overall distribution of scores for this sample is very similar to that reported by Jahoda and Cramond for their sample, although in the present exercise a greater proportion of subjects recorded well above average scores. In both studies, middle class children tended to demonstrate superior verbal ability over the working class subjects (in the present study, increasingly so with age of child), thus validating a division between the two class categories at least in this particular respect. The finding that subjects from Birmingham performed less well than those from Edinburgh, might be indicative of the higher proportion of ethnic minority subjects in the former group, a factor which should be born in mind when interpreting the results of the following tasks. Although in the main experimental tasks the emphasis was on eliciting information by way of non-verbal techniques in order to minimise the risk of confounding verbal ability with the specific variables to be measured, a number of additional direct questions did require a certain level of verbal ability.

CHAPTER 4

CHILDREN'S FAMILIARITY WITH ALCOHOL AND THE CONCEPT OF ALCOHOL

4.1 FAMILIARITY WITH ALCOHOL

The methodology adopted in the current exercise has been described in full in Chapter 3. However, in brief, this task consisted of two trials. In Trial 1 subjects were presented with nine odours in turn, and on each occasion they were asked simply whether they had smelt the odour before. Only if they claimed to recognise the odour were they then asked to try to identify it. Responses were recorded but no feedback was given to the subjects. In Trial 2 in the present study, nine colour photographs of the substances were randomly placed in front of the subject. Those odours which had previously not been recognised or which had been incorrectly identified were now presented for a second time to subjects, who could refer to the photographs while attempting to identify these substances.

There were several differences between the methodology applied in the current exercise and that employed by Jahoda and Cramond (1972). To begin with, it was felt that paraffin would be an unsuitable substance for inclusion in such a task and so it was now replaced by tomato ketchup. With more specific regard to task procedure, the two stages of Jahoda and Cramond's task i.e. 1) simple recognition of the odours and 2) attempt at identification of the odours, were also altered. In the present study, these two stages were incorporated into one stage i.e. children were first asked whether or not they thought they recognised the odour and if they did they were immediately asked to try to identify it. As described above, a new second stage was then introduced, whereby photographs of all nine substances were laid out in front of the children, under which conditions they were then given a second chance to identify any odours which had been misidentified or not recognised in the first stage. Thus, unlike subjects in the 1972 study, all subjects in the current exercise were given two opportunities to identify the odour, regardless of whether or not they claimed to recognise it initially. This innovation has been used elsewhere (Noll et al., 1990), and

was introduced here in order to minimise the confounding effects of poor general odour identification ability which had previously been encountered by Jahoda and Cramond.

4.1.1 RESULTS

The odours used in this task were of either alcoholic beverages or other substances. For the sake of brevity, these will be referred to as 'alcoholic' or 'non-alcoholic' odours respectively. Correct responses and close approximations to the non-alcoholic items e.g. soap instead of bubble bath, were all categorised as 'correct'. Similarly, children's responses to the alcoholic odours were deemed correct if they applied any alcoholic-type label to the odour, i.e. the name of a different alcoholic beverage, or for example, if they made more indirect references to alcohol such as mentioning that these were 'grown-up drinks'. (It should be noted that due to one of the bottles containing a non-alcoholic substance becoming broken at one stage during the testing, 6 subjects were presented with only 8 odours).

Identification of all odours

On this basis, a total of 1,013 (47.4%) correct identifications were made on the initial trial. Only four children, from the two older age groups, successfully identified all the odours. Excluding the six subjects who were presented with only eight odours, forty-nine children identified less than three of the nine odours (the arbitrary cut-off point established by Jahoda and Cramond, which categorised subjects as generally 'poor smellers' i.e. generally poor at verbal identification of odours). Logistic regression was conducted in order to ascertain which variables might be predictive of good general

odour identification ability (i.e. ability to identify three or more of the nine odours).

The results are shown in Table 4:1.

Table 4:1 - General Ability to Identify Odours (Trial 1)

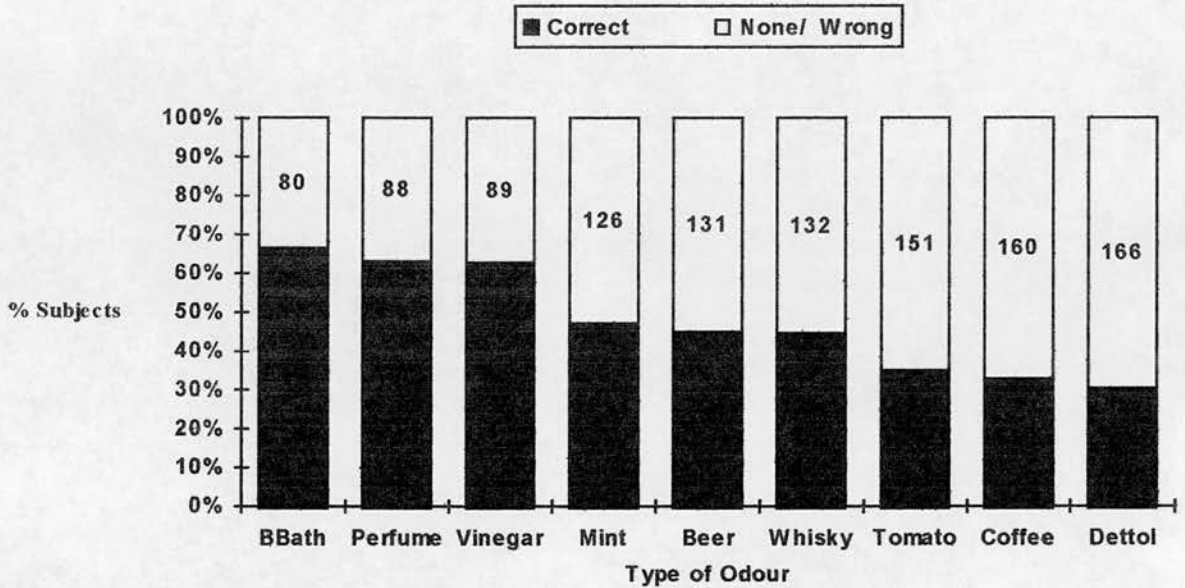
PARAMETER (reference category in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
AGE (5-6 yrs)				
Age (2) - 7-8 yrs	1.4710	0.6560	2.2860	4.35
Age (3) - 9 -10 yrs	2.2440	1.2654	3.2260	9.43
BPVS (low score)				
BPVS (2) - high score	0.8521	0.0989	2.3450	2.34

(Predicting the likelihood of being a 'good smeller')

As can be seen from Table 4:1, the odds of 7-8 year olds and 9-10 year olds being 'good smellers' were 4.4 and 9.4 times those of the youngest subjects. Similarly, the odds of children scoring high on the verbal intelligence scale identifying three or more odours, were 2.3 times those of low scorers.

Significant differences between the number of successful identifications for each odour were also found, as shown in Figure 4.1(a). Bubble bath was identified the most often and disinfectant (Dettol) the least often ($\chi^2=144.5$; 8df; $p<0.00001$).

Figure 4.1(a) - Identification of Odours Trial 1



As expected, the inclusion of photographic cues in the second trial made a significant difference to performance for all odours. This resulted in an increase of over thirty percent, to make a total of 1,671 (78.2%) correct identifications. A total of 61 children (25.63%) correctly identified all the odours presented with the help of the cues. Only ten children still failed to identify three or more odours. Logistic regression was carried out in order to identify which subjects were more likely to be the 'good smellers', the results of which are shown in Table 4.2. Thus, the odds of working class subjects identifying three or more odours following Trial 2, were only 0.1 times those of middle class subjects.

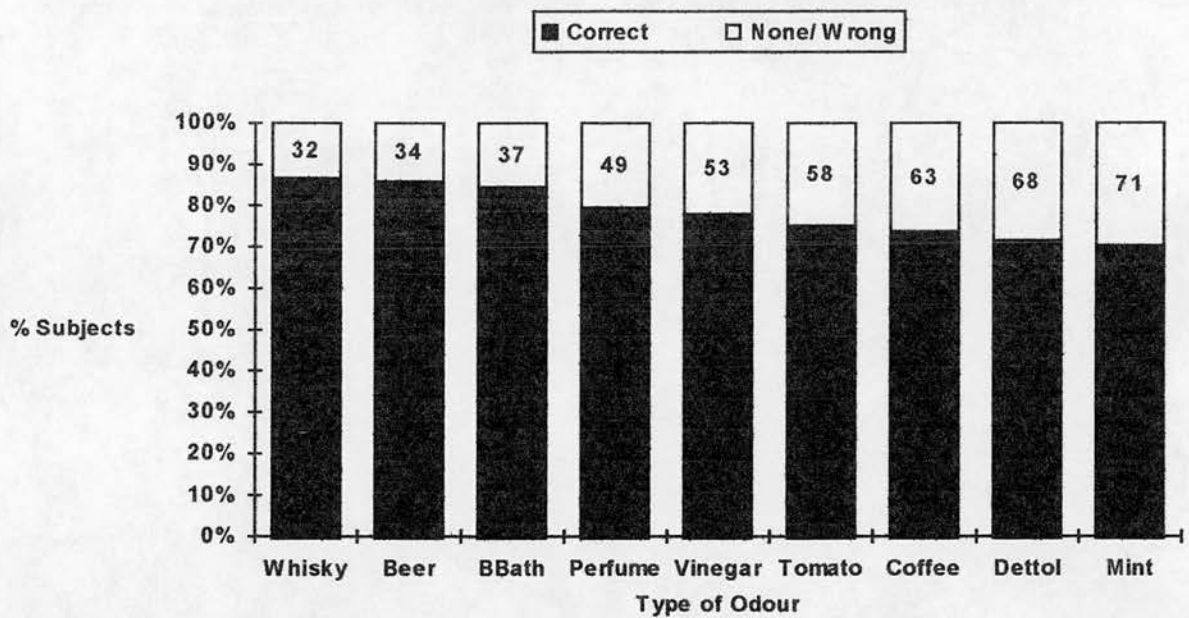
Table 4:2 - General Ability to Identify Odours (Trial 2)

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SES (Middle class)				
SES (2) - working class	-2.3050	-4.3990	-0.2110	0.10

(Predicting the likelihood of being a 'good smeller')

Following the cued trial, the pattern of identification of the odours also changed. Whisky and beer now became the odours most often identified, with mint now being identified the least often ($\chi^2=43.33$; 8df; $p<0.00001$). However, it should be noted that following this second trial, the percentage increase in correct identifications for the alcoholic beverages was not necessarily greater than that for all the other odours. Response rates for all odours on this second trial are shown in Figure 4.1(b).

Figure 4.1(b) - Identification of Odours Trial 2



Identification of the alcoholic beverage odours

With regard to the alcoholic odours, when these were analysed individually, there were no significant differences between the total number of correct responses for beer and the total number of correct responses for whisky, on either of the two trials. However, the number of children (n=141) who labelled the odour beer 'beer' as opposed to any other alcoholic drink was significantly greater than the number of children (n=54) who labelled whisky 'whisky' as opposed to any other drink ($\chi^2=75.73$; 1df; $p<0.00001$), suggesting that the term 'beer' was the subjects'

preferred generic term for any alcoholic beverage. The separate response rates for each of the alcoholic odours are shown in Table 4:3.

Table 4.3 - Recognition and Identification of Beer and Whisky

	Initial Recognition YES	Label Given	Trial 1 - cues	Trial 2 + cues	Initial Recognition NO	Label Given	Trial 2 + cues	Total correct
Beer	n=148	Beer	70	19	n=90	Beer	52	141
		Other	37	8		Other	18	63
		Total	107	27		Total	70	204
Whisky	n=160	Whisky	16	16	n=78	Whisky	22	54
		Other	90	21		Other	41	152
		Total	106	37		Total	63	206

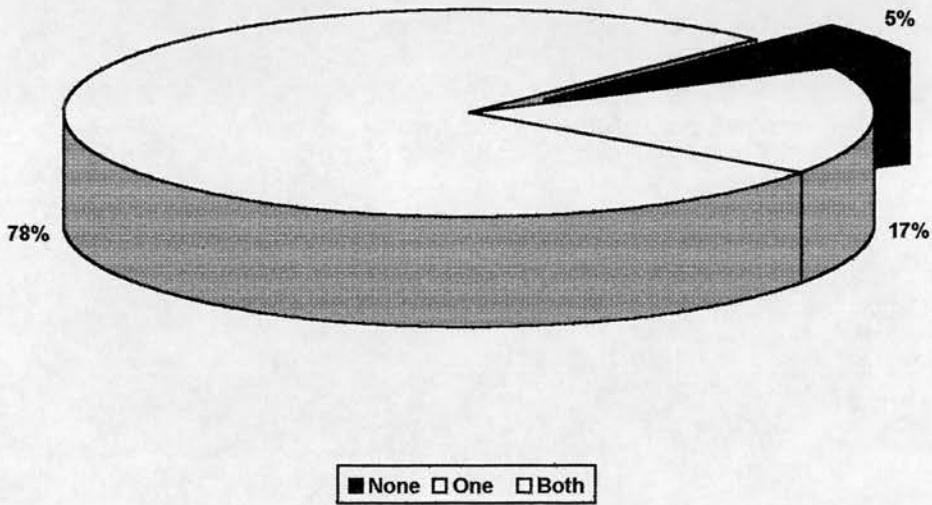
In this figure, responses falling into the 'other' category include occasions on which other types of alcoholic beverage were mentioned and those on which more indirect references to alcohol were made.

Subjects' success in identifying the odours in relation to whether they had initially recognised them, are also shown in Table 4:3. On the first trial, 90 (37.8%) children initially claimed not to recognise beer and 78 (32.8%) claimed not to recognise whisky. However, on the second trial, 70 children from the first group and 63 children from the second group went on to correctly identify beer and whisky respectively. There were no significant differences in terms of ability to successfully identify these odours by name, between subjects who had initially claimed not to recognise the odours and those subjects who had initially claimed recognition.

Combining performance over the two trials, a total of 225 children (94.5%) identified beer and/or whisky. One hundred and eighty-five (77.7%) children identified both whisky and beer. Of this group, 63 (26.5%) identified both odours without the aid of cues. Only thirteen subjects (5.46%) failed to identify correctly either beer or whisky,

five of whom identified less than three odours overall. These results are shown in Figure 4.2.

Figure 4.2 - Identification of Alcoholic Odours



Direct comparisons with Jahoda and Cramond's findings (bearing in mind that the methodology employed in Trial 1 of the present study was equivalent to the overall methodology adopted by Jahoda and Cramond for this task), revealed that subjects in the present study were significantly more likely than those in the latter, to identify alcohol following only the initial trial ($\chi^2=16.78$: 1df: $p<0.001$). Moreover, for each age group, identification of one or both of the alcoholic odours following the initial trial was as follows: 5½-6½yrs=38 (48.72%), 7½-8½yrs=54 (67.5%), 9½-10½yrs=58 (72.5%). Logistic regression was conducted in order to see whether general odour identification ability, age and any other subject demographics were significantly likely to have affected performance.

Table 4:4 - Ability to Identify Alcohol (Trial 1)

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
AGE (5-6 yrs)				
Age (2) - 7-8 yrs	1.5190	0.2932	2.7448	4.57
Age (3) - 9-10 yrs	0.5998	-0.4862	1.6858	1.82
SEX (Male)				
Sex (2) - Female	0.9428	-0.1576	2.0432	2.57
SMELLERS ('poor')				
Smellers (2) - 'good'	2.5410	1.6688	3.4132	12.69
AGE * SEX				
Age (2) * Sex (2)	-2.2470	-3.8682	-0.6258	0.11
Age (3) * Sex (2)	-0.6256	-0.9056	0.9056	0.53

(Predicting the likelihood of identifying alcohol)

The main finding in this table was that identification ability was a major significant predictor of ability to identify alcohol. The odds of 'good smellers' identifying alcohol were 12.7 times those of 'poor smellers'. Having previously noted that general odour identification ability was greater among the 9-10 year olds, it was the 7-8 year olds who were more likely than any of the other age groups to identify alcohol. Age of subject also displayed a significant interaction effect with sex of subject. That is, among boys, the 7-8 year olds were more likely than the others to recognise alcohol, while among the girls, this age group was the least likely to do so.

Following the second trial, the figures for alcohol identification increased dramatically to 69 (86.25%), 77 (96.25%) and 79 (98.75%) respectively by age. Chi-square analysis comparing the total number of identifications in the present study (n=225/238, including the 'poor smellers') with the total number reported by Jahoda and Cramond (n=122/172, having excluded the 'poor smellers'), revealed that children in the present study were still the more likely to have identified alcohol ($\chi^2=42.9$, 1df: $p<0.0001$). Logistic regression was again carried out in order to ascertain whether general ability to identify odours and/or any demographic variables were likely to

have affected performance on this occasion. The results are shown in Table 4:5. Once again, ability to identify odours in general was the main significant predictor of ability to identify alcohol.

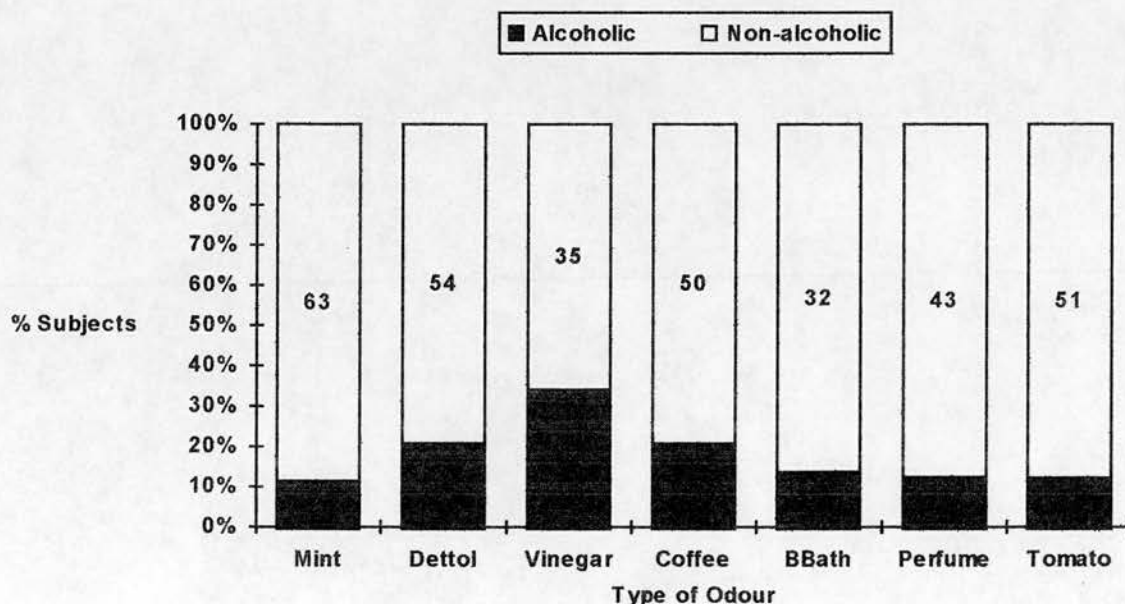
Table 4:5 - Subjects Ability to Identify Alcohol Following Trial 2

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SMELLERS ('good')				
Smellers (2) 'poor'	5.0280	2.7020	7.3540	152.63
SES (middle class)				
SES (2) - working class	1.8580	-0.2760	3.9920	6.41

(Predicting the likelihood of identifying beer and/or whisky by smell)

Finally, the types of identification errors made by subjects were also examined, in particular the occasions where subjects identified non-alcoholic odours as alcoholic. Figure 4.3 shows the number of such misidentifications that were made for each odour.

Figure 4.3 - Labels Applied to Misidentified Odours



When these were crosstabulated with all other misidentifications for each non-alcoholic odour i.e. when non-alcoholic odours were misidentified as other non-alcoholic odours, it was found that the odour vinegar was mistakenly identified as an alcoholic beverage on significantly more occasions than any other non-alcoholic odour ($\chi^2=15.12$, 6df, $p<0.025$).

4.1.2 DISCUSSION

The overall performance of the sample on the initial trial of the task was relatively poor. The percentage of successful identifications for all odours was only 47.4%.

The human sense of smell has been referred to as 'the poor relation of the special senses' (Sumner, 1962). Although people are reasonably sensitive in detecting even weak odours and are able to recall past experiences when memory is triggered by a single relevant odour, human ability to identify odours accurately is extremely limited. The specific processes responsible for these limitations in human odour identification have yet to be pinpointed. Schab (1991) has suggested that these shortcomings may lie within one or more of three conceptualised processes involved in the course of such identification, namely the encoding of the odour, the activation of possible appropriate verbal labels in semantic memory, and the selection of the most appropriate label from those activated. In previous studies, tests of unassisted or 'free' identification of common odours have typically yielded low success rates of between 40% and 50 % (Lawless and Engen, 1977; Cain, 1979; Engen, 1987). Thus the success rates of the current sample, following the initial 'free' identification trial (i.e. 47.4%), fell within the expected range due to a commonly poor ability to identify odours. Furthermore, both the age-related and verbal ability differences in performance on this initial trial would seem to support the theory that performance

was strongly related to developmental differences in verbal identification ability. Similarly, general ability to identify odours was the strongest predictor of ability to identify alcohol on this first trial.

However, it has been demonstrated that identification can be significantly enhanced when subjects receive some form of assistance concerning possible verbal labels. This assistance may take various forms: multiple-trial tests in which subjects are given feedback on their initial trial, self-generated labels (Cain, 1979); multiple-trial tests in which subjects are provided with veridical odour labels on the initial trial and then given corrective feedback (Cain, 1979); or finally, tests which incorporate a multiple-choice procedure (Cain, 1979; Engen, 1987). In order to ensure that the measurement of familiarity with odours was not being confounded with shortcomings in the general process of odour identification, especially with such young subjects, this study incorporated several tactics. As mentioned before, close approximations to the correct labels were also accepted as correct responses. However in addition, a second trial was included using visual cues to aid the activation of verbal labels. As a result, the success rates following this second trial would provide a more accurate indication of the sample's familiarity with the odours. Moreover, it was hypothesised that any between-subject differences in performance could now more justifiably be interpreted in terms of corresponding differences in exposure to/familiarity with the odours.

When semantic memory was aided by visual cues on this second trial, the percentage of successful identifications increased dramatically to 78.2%. The only predictor variable for 'good smellers' on this occasion was social class. Quite why this finding should emerge is not immediately clear. It may be that this reflects the significant association between social class and verbal ability as documented in Chapter 3, and thus is similar in nature to the effects of the predictor variables indicated in Trial 1 of the task.

Moreover, on this second trial children were extremely successful at identifying alcohol with almost 95% of the sample identifying one or both of the alcoholic odours, 82% of whom identified both. Nevertheless, general odour identification emerged as the only significant predictor variable for alcohol identification. Thus while visual cues did dramatically enhance subjects' performance, they did not completely overcome this confounding factor. On this basis it is possible to conclude tentatively that familiarity with alcohol was as well established by the age of five-and-a-half years as it was among those subjects aged 10 years. Furthermore, any differences in performance between subjects were most likely to be due to differences in general odour identification ability which had not been controlled for. However, the finding that older children were nevertheless slightly more likely than the youngest subjects to identify alcohol following Trial 1 suggests that age-related increases in exposure to alcohol may have had some effect on performance.

Indeed, whisky and beer were identified significantly more often than any of the non-alcoholic odours. When analysed separately, there was no significant difference between the overall identification rates for these two odours. However, the proportion of children who labelled beer as 'beer' was significantly greater than the proportion of children who labelled whisky as 'whisky'. This tendency to apply the label 'beer' to other types of alcoholic beverage has been noted in a previous study (Noll, Zucker and Greenberg, 1990) and suggests that for young children 'beer' is typically the preferred generic term for any alcoholic drink, rather than beer being more readily identified for what it is.

It has been demonstrated, as one would predict, that children are significantly more successful at identifying substances which are commonly encountered by children, than substances used commonly or exclusively by adults (Noll, Zucker and Greenberg, *op cit.*). The fact that in the present study, the alcoholic odours -

substances used exclusively by adults - were identified significantly more often than odours more commonly encountered by children, is difficult to explain. The reason for this may be that some element of the organic compound which produces alcohol has a more distinctive odour compared to that of other substances. The finding that vinegar was mistakenly identified as an alcoholic beverage significantly more often than was any other non-alcoholic odour, would seem to support an explanation of this kind.

With regard to sex differences in performance, studies of general odour identification ability have found that females are typically more successful on such tasks (Koelega and Koster, 1974; Cain, 1982; Doty et al., 1984). However, in the present study there were no significant differences in performance by sex in this regard. There was a slight tendency for girls to be more likely than boys to identify alcohol following Trial 1 but this was not significant. Neither Jahoda and Cramond (op cit.), nor Noll, Zucker and Greenberg (1990) reported any gender-related differences in their studies. Although as mentioned previously, there were several between-subject differences in relation to identification of all odours, there were only very few in relation to alcohol identification, suggesting that early familiarity with alcohol is a pervasive phenomenon. Data concerning parental drinking habits were not collected in this study, thus preventing comparisons to be drawn between parental use of alcohol and children's performance.

Overall, the level of performance of the present sample was higher than that found in previous studies. In Jahoda and Cramond's study the success rates were as follows: 6yrs - 39%; 8yrs - 55%; 10yrs - 61%. Similarly, the success rates for the sample examined by Noll et al. (1990) were 69% for those aged 2½-4yrs and 89% for those aged 4-5½yrs. With regard to the latter study (Noll et al., op cit.), this difference is likely to be due to the difference in ages between the two samples, affecting either

limitations on opportunities for exposure to alcohol and/or developmental differences in identification ability.

The rate of alcohol consumption in the UK has increased quite considerably in the intervening years since Jahoda and Cramond's study in 1972. While this might partly explain the greater familiarity with alcohol of the present sample, the differences in performance between the two studies are also probably largely due to differences in methodology. In the original study by Jahoda and Cramond, subjects received no form of verbal memory prompt during either of the trials. Even allowing for the 'poor smellers' in their sample, performance following the visual cues trial and including the 'poor smellers' in the present exercise was significantly greater.

Moreover, a second methodological difference between the two studies may also have been partly responsible for the differences in the results. If subjects in Jahoda and Cramond's sample claimed not to recognise the odour on the initial presentation, they were not given a chance at identification. In the current study, a substantial proportion of children who claimed never to have smelt the odour on the initial trial successfully identified these odours on the second trial. Thus it is likely that even when the so-called 'poor smellers' were excluded from analysis, the success rates of Jahoda and Cramond's sample were probably still an underestimation of the subject group's true familiarity with alcohol.

To conclude, by about five or six years, many children are already familiar with alcoholic beverages to the extent that they are able to recognise and identify these kinds of beverages on the basis of smell alone. This awareness apparently begins to develop at an earlier age and increases with age up to about five or six years, at which time further age-related increases in exposure appear to lose their advantage. Previous research has tended to underestimate this familiarity, highlighting the difficulty in

designing studies appropriate for young children. Often the methodological design of tests fails to take adequate account of the ways in which children perceive and react in these situations. As a result, it is often assumed that children are less knowledgeable with respect to alcohol than is the case. Furthermore, the early age at which this familiarity begins to develop, strongly implicates the influential role of the family in children's early learning experiences in relation to alcohol. The implications of this will be discussed in the concluding chapter.

4.2 FAMILIARITY WITH THE CONCEPT OF ALCOHOL

In the first part of this chapter it was demonstrated that young children are familiar with alcohol to the extent that they can identify various alcoholic drinks on the basis of smell. For very young children this familiarity may be as simple as knowing that such drinks are something that adults drink, whereas older children are more likely to be able to name specific alcoholic beverages. However, children's ability to recognise and name certain drinks does not necessarily imply that they have a conception of the possible social or behavioural implications of alcohol consumption (see Chapter 6). Nor does it necessarily follow that they understand the concept of alcohol as a distinct and logical class of drinks, as has been ably demonstrated by Jahoda, Davies and Tagg (1980).

In brief, this task consisted of three parts: an initial training section, using fruits and non-fruits, to familiarise children with the demands of the proceeding task; the main experimental section, dealing with the concept of alcohol; and a final section using wild and domesticated toy animals, included in order to reduce the salience of the alcohol theme. For both the food task and the bottles task, care was taken to ensure that the item brands used were prototypical of their kind i.e. those brands which would most commonly be associated with each particular product. In addition, as product brands tend to differ in popularity between Scotland and England, some of the foodstuffs and bottles of drinks differed accordingly, so that children would not be confronted with items which they might not recognise, but with which under other circumstances they would be familiar.

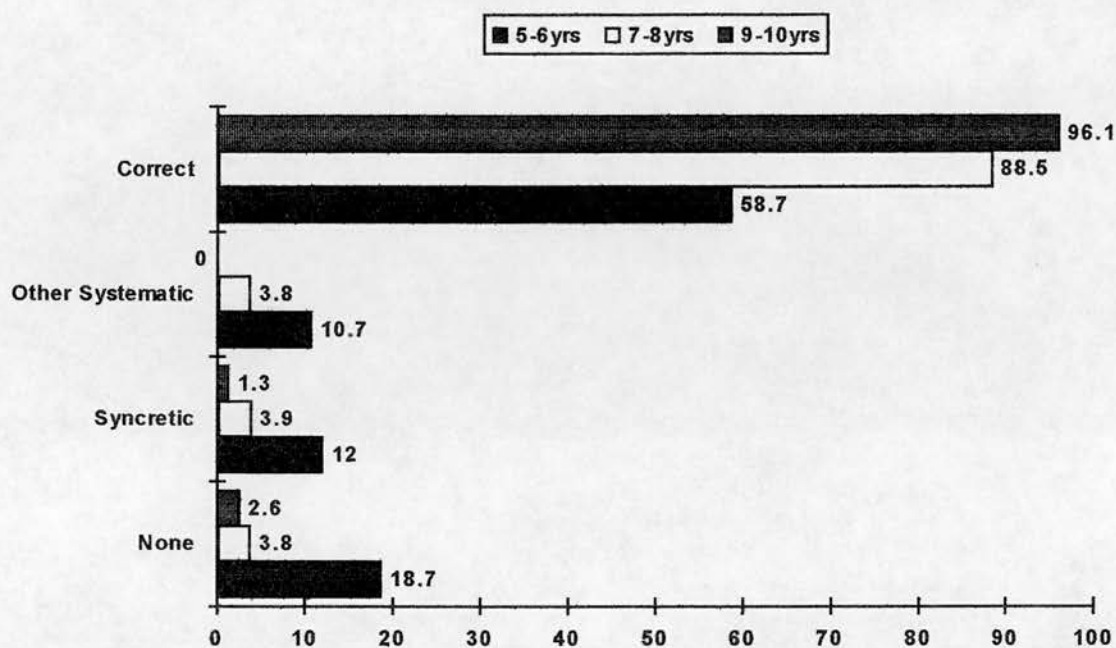
The task in the current study was identical to that originally employed by Jahoda and Cramond, with one minor exception. During the training phase in which children were required to choose between pairs of non-fruit or fruit items, subjects in Jahoda and

Cramond's study were presented with the pairs on 16 occasions before the experimenter formed all the items into one group of fruit and one of non-fruit. In the present exercise this was reduced to ten occasions. Initial testing had indicated that children became bored or demoralised after being told they were wrong on so many occasions, and the overwhelming majority who showed this difficulty were nevertheless able to explain the groupings once the items had been divided into the two groups. In both studies, for any subjects who still failed to understand the groupings, a verbal explanation was given by the experimenter.

4.2.1 RESULTS

The inclusion of the preliminary 'fruit' trial within this task was considered necessary in order to prime subjects for the more important, subsequent bottle grouping task. That is, it was important to ensure that children understood that physical characteristics such as shape, size or colour would be insufficient criteria for the groupings. The success rate of subjects on this initial trial was extremely high. Only eight children (3.5%) failed to correctly explain the fruit/non-fruit distinction, even after all the items had been placed in the two appropriate groups by the experimenter and were displayed in this way in front of the child. However, as outlined in the Methods section (Chapter 3), the principle behind the task was subsequently explained carefully to all subjects who had been unsuccessful, so it was not necessary to exclude these children from the main experimental section. Thus the performance, by age, of all subjects on the following 'bottle grouping' trial is illustrated in Figure 4.4.

Figure 4:4 Subjects' Groupings of the Bottles



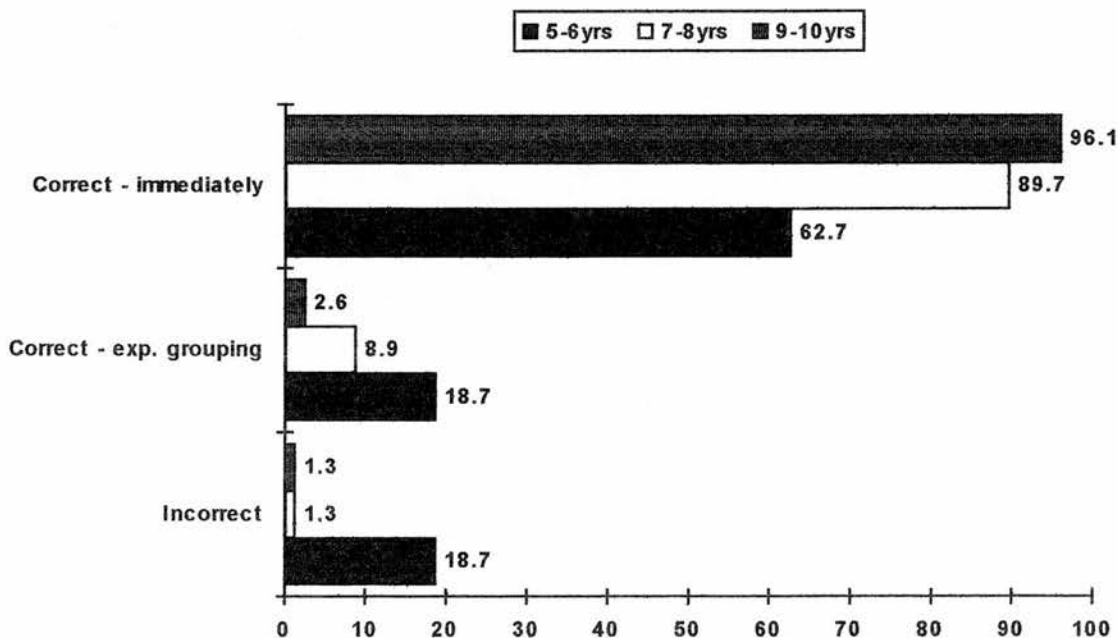
In total, 186 subjects (81.2%) successfully dichotomised the eight bottles according to the alcohol/non-alcohol division, without requiring assistance from the experimenter. Eleven subjects (4.8%) performed an alternative but nevertheless systematic grouping of the bottles and an additional 32 (14.0%) failed to arrange the bottles at all or did so in an idiosyncratic, non-logical way. The majority of those children who failed to perform the correct divisions belonged to the youngest age group ($\chi^2=33.618$, 2df, $p<0.00001$).

The majority of those subjects who had grouped the bottles correctly, then went on to give an appropriate explanation based upon the alcohol concept. However ten of these children subsequently gave an incorrect explanation. On the other hand, four subjects who had initially grouped the bottles in an apparently illogical way, then went on to give an alcohol-based explanation, before the experimenter regrouped the bottles. This would seem to indicate that while these four children were aware that the criterion for differentiating between the bottles was related to their alcoholic

content, may have been unfamiliar with one or more of the bottles with which they were presented.

For those remaining subjects who failed to demonstrate satisfactorily an awareness of the alcohol/non-alcohol distinction, either in terms of their physical groupings and subsequent verbal explanations or solely in terms of their verbal explanations, the experimenter then placed the bottles into the appropriate groups. Each of these children was then given an opportunity to attempt to explain this new grouping. The results following this second trial, together with the amended success rates for the other subjects, are shown in Figure 4:5. Over 88% of the total study group were now successful, with only 11.4% failing to demonstrate an understanding of the alcohol concept.

Figure 4:5 Subjects' Explanations of Groupings



Logistic regression was carried out in order to identify any between-subject differences in awareness of the alcohol concept. These results are shown in Table 4:6. Two significant main effects emerged. As expected, the older subjects were more likely than the youngest subjects to demonstrate an awareness of the concept of alcohol (the odds for 7-8yr olds were 6 times and for 9-10yr olds 33 times those of 5-6yr olds). In addition, the odds of children from Birmingham successfully performing this task were only 0.18 times those from Edinburgh. Furthermore, ability to perform the 'fruit' task, was not a significant predictor of ability to perform this task.

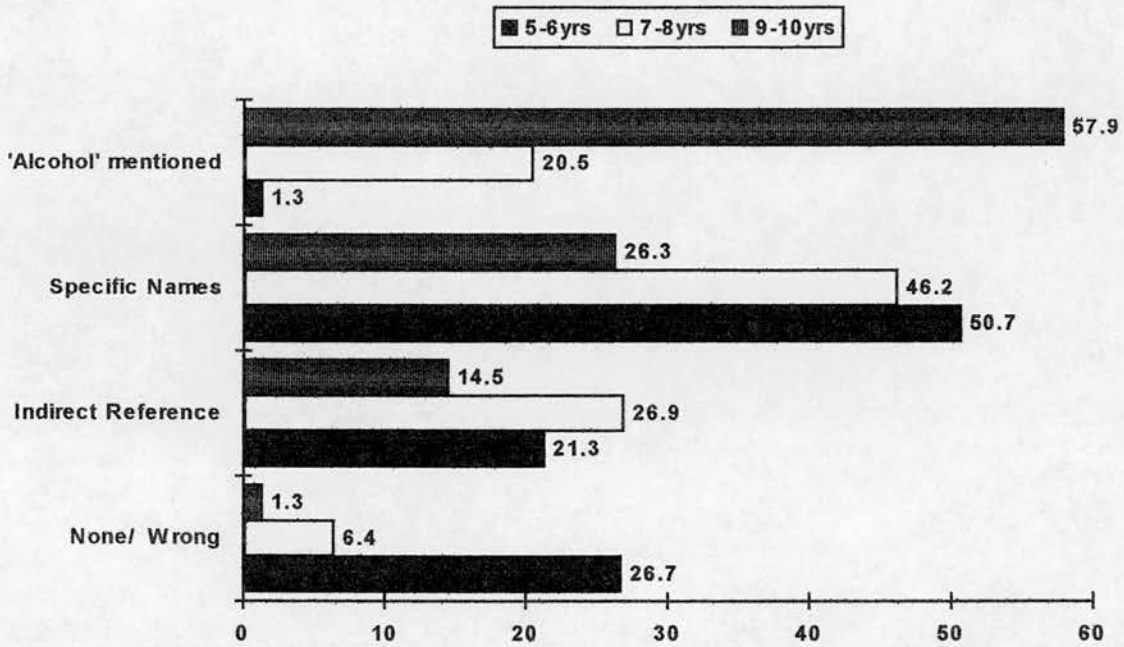
Table 4:6 - Ability to Explain 'Bottle Groupings'

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SES (Middle class)				
SES (2) - Working class	0.01605	-1.2732	1.3053	1.17
RELIGION (Catholic)				
Religion (2) - Non-Den.	-0.5377	-1.7651	0.6897	0.58
AGE (5 - 6 yrs)				
Age (2) - 7 - 8 yrs	1.8450	0.7186	2.9714	6.33
Age (3) - 9 - 10 yrs	3.4980	1.3960	5.6000	33.05
CITY (Edinburgh)				
City (2) - Birmingham	-1.7320	-2.8508	-0.6132	0.18
SES * RELIGION				
SES (2) * Religion (2)	2.1050	-0.0430	4.2530	8.21

(Predicting the likelihood of giving the correct explanation for the bottle groupings)

Finally, having excluded the 26 subjects who had previously failed to demonstrate an understanding of the concept of alcohol, the way in which the remainder of the children phrased their explanations was examined. These results are shown in Figure 4:6. The most popular response overall was to mention the names of specific alcoholic drinks, with 46.3% of the sample employing this technique. Only 61 children (30%) mentioned the term 'alcohol', while the remaining 23.6% gave phrases containing more indirect references to alcohol e.g. 'they're grown-ups' drinks'.

Figure 4:6 Subjects' Phrasing of Explanations



Of particular interest were those subjects who were familiar with the verbal concept of alcohol. For this reason, logistic regression was again carried out, in order to identify those subjects most likely to be familiar with this term. As can be seen from Table 4:7, predictably the odds of using the term 'alcohol' increased with age of subject (namely 17.7 times (7-8yr olds) and 159 times (9-10yr olds) those for 5-6yr olds). Similarly, the odds of high scorers on the BPV Scale doing so were 4.7 times those of low scorers. Overall, the odds for subjects from Birmingham mentioning 'alcohol' were 5.6 times those from Edinburgh. However, in Edinburgh those subjects with high scores on the British Picture Vocabulary Scale (BPVS) were more likely than low scorers to use the term 'alcohol', whereas in Birmingham, the effect of verbal ability on the likelihood of using this term was reversed. Finally among Catholic subjects, those from working class backgrounds were less likely than those from middle class backgrounds to mention 'alcohol'. Moreover, this SES effect was increased among non-Denominational subjects.

Table 4:7 - Phrasing of Explanations

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SES (Middle Class)				
SES (2) - Working class	-0.9665	-2.1843	0.2513	0.38
CITY (Edinburgh)				
City (2) - Birmingham	1.7180	0.4802	2.9558	5.57
RELIGION (Catholic)				
Religion (2) - Non-Den.	0.3639	-0.7291	1.4569	1.44
BPVS (low score)				
BPVS (2) - high score	1.5380	0.1648	2.9112	4.66
AGE (5 - 6 yrs)				
Age (2) - 7 - 8 yrs	2.8760	0.7880	4.9640	17.74
Age (3) - 9 -10 yrs	5.0700	2.9460	7.1940	159.17
SES * RELIGION				
SES (2) * RELIGION (2)	-2.2600	-4.0872	-0.4328	0.10
CITY * BPVS				
City (2) * BPVS (2)	-2.3080	-4.0684	-0.5476	0.10

(Predicting the likelihood of using the term 'alcohol' to explain the bottle groupings)

As the final 'animals' task was included only to reduce in subjects' minds, the salience of the alcohol theme, the results of this section will not be presented here.

4.2.2 DISCUSSION

The term 'concept' has been defined by Clark (1983) as designating 'a set of properties that are associated with each other in memory and thus form a unit...', and as such, '...the instantiation of a concept is a category' (p.789). Thus, to categorise an object is to say that the object 'bears a particular relation to a particular set of ideas' (Neisser, 1987). Furthermore, categorisation can occur at three different levels: superordinate; basic; and subordinate. This can be illustrated by taking, for example, the object 'dog'. The latter is a member of a basic level category, where animal is the superordinate category and labrador is a member of the subordinate category. Categories at the

basic level are more readily recalled, more easily recognised and more easily named than categories at either of the other two levels. This is because the basic level is the one at which category members are most like each other and least like other neighbouring categories in terms of physical appearance, physical interactions and/or attributes. Studies have shown that children as young as one or two years already possess certain categories of objects (as well as situations and states) to which they can attach words as they acquire the necessary language (Clark, 1983). Moreover, it has been postulated that basic-level categories are the first kind to be acquired by young children. However, others have argued that for this to be the case, it must be assumed that children's basic-level categories are the same as those of adults, which may not always necessarily be the case (Clark, 1978; Mervis and Mervis, 1982).

For very young children, the primary basis for categorisation is the physical appearance of objects (Vygotsky, 1962). Evidence from other studies that have examined children's ability to sort objects into conceptual groups, has also indicated that young children may be more disposed to construct patterns or scenes with objects with which they are presented. However, while it may be the case that young children are more prone to categorising objects in such ways, this should not be interpreted as implying an inability to perform alternative groupings (Keil, 1983). Markman, Cox and Machida (1981) tested this theory by asking children to sort objects into plastic bags, which would impede the construction of patterns or scenes, rather than onto separate pieces of paper which would facilitate this process. They found that under these conditions, children were less likely to construct patterns or scenes according to their personal preferences, and more likely to produce adult-like categories of objects.

In the current exercise, both the 'fruit' task and the 'bottle' task required subjects to organise subordinate-level members into their respective basic-level categories. While

it has been mentioned that basic-level categories are generally more readily distinguishable, the present tasks were further complicated by the fact that the two sets of subordinate category members were not obviously similar to each other in terms of readily observable *physical* characteristics. Instead, for the tasks in the current exercise, subjects would have to be aware of the non-visible, internal attributes of the category members.

In addition to requiring subjects to look beyond physical characteristics in order to ascertain the shared properties of the objects, a further possible complication was the fact that neither the non-fruit items nor the non-alcoholic drinks constituted similarly distinct categories. For example, for the non-alcoholic drinks there was no other common property other than that they were all 'soft' drinks i.e. they were not all fizzy drinks, they were not all 'healthy drinks' etc. Similarly, the non-fruit items shared no other immediately obvious characteristics apart from the simple fact that they were all examples of foodstuffs which were not fruit. In contrast, a task in which children were confronted with a mixture of dogs and cats for example, might be easier to perform successfully because it consisted of two more clearly distinct categories. However, the advantage of retaining this format in the current study was that it would be more difficult for children to successfully perform the groupings on the basis of the alcohol distinction, by default. The inclusion of the question asking children to explain their groupings could further ensure against the possibility of this happening unnoticed, if this were the case.

An examination of the performance of the current sample, revealed that all but eight subjects were successful on the initial 'fruit' trial, either during the preliminary presentation of the pairs of fruit/non-fruit items, or once all these items were placed on the table in their two groups. For these eight children, time was taken to explain

carefully the fruit/non-fruit distinction, and only when the experimenter was satisfied that the children had understood this, did the main 'alcohol' trial then proceed.

As a result, over 81% of the total sample went on to group the bottles accordingly, although it was a slightly lower proportion who subsequently indicated that their groupings had been selected intentionally on the basis of the alcohol distinction. In addition, subsequent to the experimenter's regrouping of the bottles, performed only where necessary, a further 23 subjects were able to explain the division correctly, giving an overall success rate of 88.6%. As a point of interest, of those 26 children who failed to demonstrate an understanding of the concept of alcohol, four had been unsuccessful on the previous 'fruit' task. Nor was there any relationship between inability to perform the 'fruit' task and inability to perform the 'alcohol' task. As predicted, the youngest children were significantly less familiar with the concept of alcohol than were the older subjects. Nevertheless, over 81% of this youngest group were successful. Similarly, children from Birmingham were less successful than their counterparts in Edinburgh. This may be due to the fact that the Birmingham sample as a whole showed less verbal ability than subjects from Edinburgh, and contained a high proportion of children from ethnic minority backgrounds within whose culture alcohol probably plays a more minor role. Differences between these two groups also emerge in several of the other tasks, and will be discussed in the concluding chapter.

Examination of the type of explanatory phrases given, revealed three categories of response. The first of these consisted of indirect references to alcohol, commonly containing references to the fact that these types of drinks were 'grown-ups' drinks. The second category, and the one in which the greater number of responses fell overall, consisted of references to specific types of alcohol beverage e.g. 'they're all beers'. The third and final response category consisted of all subjects, predominantly

those from the oldest age group, who gave answers in which the term 'alcohol' was mentioned.

Age of subject again exerted a significant influence on responses to this question, with only one child from the youngest age group applying the label 'alcohol' to the grouping of bottles. In addition, children with high verbal ability were more likely than those with low ability to be familiar with this verbal concept. Although social class did not emerge as a single major influence on responses, the interaction effect with religious affiliation showed that working class children generally were less likely to use this term than were middle class subjects. These findings are perhaps not too surprising, as all three factors have been shown to be associated to a greater or lesser extent with cognitive ability. However, the fact that subjects from Birmingham were also more likely than those from Edinburgh to mention 'alcohol' is more difficult to explain, and runs counter to the previous finding which showed the former children to be less likely to perform the alcohol concept groupings.

Another possible explanation for the results in this task may be related to different strategies for informing children about alcohol. Developmental studies have suggested that adults typically use basic-level terms when describing objects to young children (Clark, 1983). For example they are more likely to use the word 'dog', rather than the superordinate term 'animal' or the subordinate term 'labrador', or 'apple' instead of 'fruit' or 'Granny Smith'. However, the fact that in the current study the majority of children mentioned the names of specific alcoholic drinks i.e. subordinate-level category members, suggests that in relation to alcoholic drinks, adults may be more likely to refer to this essentially basic-level category by using the names of its more prototypical subordinate-level category members e.g. 'they're all beers'. An alternative strategy that appears to have been adopted by a proportion of the children in this study, is to apply a basic-level definition in terms of alcohol's function in relation to

young children, e.g. 'grown-ups' drinks', and it is only as children become older, does the term 'alcohol' then tend to be more commonly applied.

Finally, in comparison with Jahoda and Cramond's findings, the younger children in the present exercise demonstrated a greater ability both in terms of performance on the bottle grouping task and in terms of ability to explain the groupings. Moreover, a considerably greater proportion of subjects in the present study demonstrated familiarity with the label 'alcohol' as the defining term for the grouping. It would appear that children are currently learning more about alcohol at this young age than was the case twenty years ago, a trend which has been confirmed throughout this study, and one which might reasonably be assumed to be associated with the fact that per capita alcohol consumption has risen by 27% in the intervening years (Brewer's Society, 1993).

CHAPTER 5

**CHILDREN'S ATTITUDES TOWARDS AND PERCEPTIONS OF
NORMATIVE DRINKING BEHAVIOUR**

5.1 ATTITUDES TOWARDS ADULT DRINKING BEHAVIOUR

The majority of the tasks in this study were designed to examine subjects' knowledge on various issues relating to alcohol. However, another important but rather neglected facet of children's alcohol cognitions concerns their attitudes towards drinking behaviour. Although information about the development of alcohol-related attitudes amongst young children remains limited, it would appear that there is a slower rate of development for alcohol-related attitudes than for alcohol-related knowledge. Moreover, the tendency for these early attitudes to be characteristically moralistic, becoming more so with increasing age of subject, appears to be a consistent trend. In contrast, studies of children above the age of ten years have shown that beyond this age, the orientation of attitudes towards alcohol reverses, becoming more positive during adolescence (Davies and Stacey, 1972; Aitken, 1978).

As has been discussed previously in the Methods section, the study of young children's attitudes poses a number of methodological difficulties. Young children do not commonly engage in the process of reflecting upon their attitudes towards others (Livesley and Bromley, 1973). More generally any method of testing children that relies heavily on verbal ability renders itself vulnerable to the risk of misinterpretation on two levels: the child's interpretation of the question and the experimenter's intended meaning; and the experimenter's interpretation of the response and the child's intended meaning. Therefore, a non-verbal and indirect measure in which inferences about the attitude can be drawn from performance on apparently objective tasks, was adopted as the method of inquiry. This took the form of a series of photographs of men and women engaged in either an alcohol-related activity (drinking beer, whisky or wine) or a non-alcohol-related activity (e.g. reading, eating, having a non-alcoholic drink), which were presented to subjects over the course of two separate testing sessions. In the second session, those men and women previously portrayed drinking

alcohol or smoking were now engaged in a neutral activity, and vice versa. Children were required to place each photograph into one of four compartments of the response box - 'Like very much' 'Like a little' 'Do not like a little' and 'Do not like at all' - according to what they thought of it.

The major difference between the present task and that of Jahoda and Cramond was the new inclusion of photographs depicting 'drinking wine'. The same photographs for depicting 'drinking whisky' were used for 'drinking wine', and thus half of the study group assessed for their attitudes towards 'drinking whisky' and the other half for 'drinking wine'. Although all photographs were re-shot in order to ensure that styles of clothing, hair etc. were up-to-date, they were similar to those used by Jahoda and Cramond in all other respects. A second difference related to the verbal commands accompanying the task, in that subjects in the present exercise did not receive the additional prompt: 'some of these [*photographs*] are nice and some are not so nice'. The reasons for these innovations have been given elsewhere.

5.1.1 RESULTS

In order to compare the results of the present study with those obtained by Jahoda and Cramond, scores were calculated according to the procedures adopted by the latter authors. A consistency check was also incorporated into this task in order to ascertain whether children's responses were conforming to a general pattern and were not just arbitrary. This was measured by means of four pairs of duplicate photographs. Consistency was thus defined as a pair of responses to the same photograph falling on the same side of the like/dislike division in at least three of the four possible matching pairs in each session. On this basis, the consistency of responses for each age group was as follows: six years = 66.66%; eight years =

89.12%; ten years = 90.66%. These scores are slightly, but not significantly, lower than those reported by Jahoda and Cramond. As expected, the youngest subjects were more likely to be inconsistent in their responses, although not to the extent that their attitude scores then became invalidated.

In accordance with the procedures employed by Jahoda and Cramond, scores for the main part of the experiment were derived by assigning arbitrary values of 1 to 4 to the responses 'do not like at all' 'do not like a little' like a little' and 'like very much' respectively. Thus each photograph from both sessions had a score of between 1 and 4. Overall scores for each child were then generated by calculating the mean of the differences between the 'drinking' and 'non-drinking' versions of each photographed person. This provided each child with separate attitude scores for each category of drink and drinker e.g. men and women drinking beer and men and women drinking either whisky or wine. The resulting pooled mean scores were then multiplied by 10 and increased by 40 simply in order to eliminate the decimal point and minus sign. This final computation produced scores ranging from 10 (indicating a very positive attitude toward drinking) to 70 (indicating a very negative attitude toward drinking), with a neutral score of 40. Table 5:1 shows the attitude scores of all subjects for all drinking items.

Table 5:1 - Subjects' Attitudes Towards Adult Drinking

		AGE							
		5 - 6yrs		7 - 8yrs		9 - 10yrs		5 - 10yrs	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Beer	Men	42.60	11.91	49.81	12.41	54.17	9.99	48.87	12.39
	Women	44.67	13.64	49.55	12.77	54.10	9.40	49.44	12.63
	Both	43.63	10.82	49.68	10.95	54.00	8.35	49.11	10.93
Whisky	Men	43.38	8.75	42.41	9.81	47.05	8.37	44.31	9.14
	Women	45.09	10.76	47.94	10.73	55.77	9.53	49.69	11.22
	Both	44.23	8.50	45.17	9.23	50.83	8.52	46.80	9.16
Wine	Men	38.64	8.37	42.33	8.59	45.88	9.71	42.22	9.28
	Women	43.86	10.04	47.66	11.26	52.82	11.38	48.02	11.40
	Both	41.53	7.89	44.99	9.14	49.35	9.71	45.21	9.40

On the whole, attitudes towards adult drinkers were consistently negative, regardless of the type of alcoholic drink consumed and regardless of the sex of the person depicted drinking. However, beer drinkers elicited more intense and consistently negative attitudes than did drinkers of the other beverages. In addition, subjects appeared to be more disapproving of female drinkers than of male drinkers.

In order to establish whether some subjects were significantly more negative than others towards drinkers, and also to examine the possibility that the sex of the person drinking might also influence attitudes, analyses of variance were carried out on these data. For each of the three drinking categories a separate ANOVA was conducted, the rationale behind this being that while all subjects were tested on their attitudes towards beer drinkers, half of the study group were then tested on attitudes towards wine drinkers while the remaining half were tested on their attitudes towards whisky drinkers. The results of these analyses are shown in the following three tables. Only the main between-subject effects, and the two-way interactions with the within-subject factor (gender of drinker) were examined. For the sake of brevity, only those interaction effects which were significant have been included.

Table 5:2 - Attitudes Towards Beer Drinkers

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	25880.83	146	177.27		
Constant	1046900.62	1	1046900.62	5905.82	0.000
Age (A)	8622.31	2	4311.16	24.32	0.000
Sex (B)	1815.10	1	1815.10	10.24	0.002
SES (C)	102.48	1	102.48	<1	NS
City (D)	372.69	1	372.69	2.10	NS
Religion (E)	115.31	1	115.31	<1	NS
BPVS (F)	160.22	1	160.22	<1	NS
Within-Subjects					
Within Cells	10370.83	146	71.03		
Sex of Drinker (G)	21.87	1	21.87	<1	NS
C * G	316.46	1	316.46	4.46	0.037

Table 5:2 shows that both age and sex of subject had significant effects on attitudes towards beer drinkers. In order to identify the nature of these effects (for this table and all other ANOVA results), tables of the raw mean scores as well as the parameter estimates and their 95% confidence intervals were examined. In this way it was found that both the 7-8 year old and 9-10 year old children were more negative towards beer drinkers than were the youngest subjects. That is, as age of subject increased, so attitudes became more negative. Similarly girls were more judgmental than boys of beer drinkers. Gender of drinker exerted a significant effect on attitudes only when social class of subject was also taken into account, with middle class subjects being more disapproving than working class subjects when the drinker was a woman.

When attitudes towards whisky drinkers were examined (see Table 5:3), the only main between-subject effect to occur was in relation to age of subject. Again of the three age groups, it was the oldest subjects who demonstrated the most negative attitudes towards the drinkers. However, on this occasion, gender of drinker also had a significant main effect upon subjects' attitudes. Female whisky drinkers were judged more harshly than male whisky drinkers by all subjects, although this was markedly so amongst the two older age groups. When verbal fluency scores were taken into account it was found that higher scorers on this Scale were less disapproving than low scorers of male whisky drinkers.

Table 5:3 - Attitudes Towards Whisky Drinkers

Between-Subjects	SS	DF	MS	F	SIG(P)
Within Cells	4416.82	41	107.73		
Constant	482286.61	1	482286.61	4476.92	0.0001
Age (A)	2367.30	2	1183.65	10.99	0.0001
Sex (B)	350.25	1	350.25	3.25	NS
SES (C)	0.11	1	0.11	<1	NS
City (D)	174.83	1	174.83	1.62	NS
Religion (E)	336.37	1	336.37	3.12	NS
BPVS (F)	9.78	1	9.78	<1	NS
Within-Subjects					
Within Cells	1496.77	41	36.51		
Sex of Drinker (G)	1720.02	1	1720.02	47.12	0.0001
A * G	493.90	2	246.95	6.76	0.003
F * G	153.38	1	153.38	4.20	0.047

In relation to attitudes towards adults drinking wine (see Table 5:4), the same age-related increase in negativity emerged. Children who gained high scores on the British Picture Vocabulary Scale were also more disapproving than low scorers of all wine drinkers, but more so in the case of the women. Indeed, the female wine drinkers tended to elicit more extreme negative attitudes overall, in comparison to the male drinkers. Interestingly, the female subjects were even more disapproving than the boys of female wine drinkers. This might appear surprising in view of the original hypothesis that wine drinking would be less readily perceived as a stereotypically 'male' drink.

Table 5:4 - Attitudes Towards Wine Drinkers

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	6260.21	41	152.69		
Constant	438906.78	1	438906.78	2874.53	0.000
Age (A)	2611.23	2	1305.62	8.55	0.001
Sex (B)	346.20	1	346.20	2.27	NS
SES (C)	173.81	1	173.81	1.14	NS
City (D)	477.72	1	477.72	3.13	NS
Religion (E)	340.25	1	340.25	2.23	NS
BPVS (F)	791.84	1	791.84	5.19	0.028
Within-Subjects					
Within Cells	1152.48	41	28.11		
Sex of Drinker (G)	2273.31	1	2273.31	80.87	0.000
B * G	129.22	1	129.22	4.60	0.038
F * G	342.73	1	342.73	12.19	0.001

Finally, two-sample t-tests were carried out in order to compare attitude scores obtained in the present study with those previously obtained by Jahoda and Cramond. Overall, the results of both studies were very similar. However, male drinkers were judged significantly less unfavourably by the eight year old ($t=2.61$, $p<0.02$) and the ten year old ($t=2.54$, $p<0.02$) children in the present study, compared to the children in the original study. Even so, the scores from the present study group remained quite clearly negative. There were no significant differences between the two samples with regard to female drinkers. These results are illustrated in Table 5:5.

Table 5:5 - Between-Study Comparison of Attitude Scores

	AGE					
	5 - 6 yrs		7 - 8 yrs		9 - 10 yrs	
	Mean	SD	Mean	SD	Mean	SD
Present Study						
Attitudes to men	41.65	8.24	¹ 45.35	9.17	² 49.56	8.45
Attitudes to women	44.55	10.05	48.40	10.40	54.25	8.98
Jahoda & Cramond						
Attitudes to men	40.84	8.50	¹ 47.49	8.59	² 51.69	9.65
Attitudes to women	44.09	7.82	48.61	8.37	54.40	9.25

¹ $t = 2.6067$; $p < 0.02$ ² $t = 2.5351$; $p < 0.02$

5.1.2 DISCUSSION

The findings reported here are similar to those found by Jahoda and Cramond over twenty years earlier. As age of children increased so the negativity of their attitudes towards alcohol rose. However, male drinkers were judged slightly less unfavourably by the older children in the present study than by the older children in Jahoda and Cramond's sample. It had been predicted that the inclusion of the item 'drinking wine' might elicit less negative attitudes towards female drinkers. However, both female wine drinkers and female whisky drinkers were judged more harshly than their male equivalents, by all children. Even more surprising was the finding that female subjects were more condemnatory than male subjects of these female wine drinkers.

Despite the relatively low consistency levels recorded for the attitudes of the youngest age group of subjects, their overall scores revealed a small but nevertheless significant negative attitude towards adult drinkers. However, as age of subject increased, the negativity of these attitudes became more intense.

There are various ways in which attitudes can be formed: upon direct questioning; directly by means of personal experience and reinforcement; indirectly by social learning or classical conditioning i.e. learning through association; or indirectly by socialisation and observation. Socialisation highlights the process of acquisition of social knowledge and attitudes from important others, such as parents, teachers, peers, and media figures. With regard to young children, it would be expected that their expression of attitudes towards alcohol will reflect this latter process - 'attitudes toward (the attitude object) are now chiefly determined not by contact with (the attitude object), but by contact with the prevalent attitude towards (the attitude object)' (adapted from Horowitz, 1947: 517).

Concerning the structure of attitudes there are two traditional approaches. One school of thought (Katz and Stotland, 1959; Rajecki, 1982) proposes that attitudes are comprised of three components: the 'cognitive' component refers to the beliefs and ideas one has acquired about the attitude object; the 'affective' component is the emotional feelings one has toward the attitude object; and finally the 'behavioural' component refers to one's action tendencies with regard to the attitude object. However, an alternative to these two approaches is described by Brigham (1991), who has suggested that attitudes can be defined as 'schemas', which usually include affect, which are used to evaluate objects. A schema or cognitive structure represents a way in which people organise their social knowledge and has been defined as: 'an organised pattern of thought or action that an individual develops to make sense of some aspect of one's experience' (Shaffer, 1989: 59). Therefore, a person's schema will determine how he/she categorises or evaluates an object.

Thus the attitude scores for the youngest children would appear to reflect the acquisition of a rudimentary schema for alcohol that is being developed on the basis of observation and indirect social learning from those social role models that are salient for the child's affective and social requirements. At this early stage it might reasonably be expected that this role would be filled by the parents. It would also appear that the structure of the schemas is primarily cognitive, with the evaluation of alcohol containing little personal affect at this time (although the slightly negative overall scores suggest that some children have incorporated into their schemas some negative overtones associated with alcohol).

However, as age increases so children's cognitive capacity and opportunities for elaboration of the schema increase. The increasingly negative attitudes of the older children suggests that their schemas for alcohol are becoming more elaborate and are broadening to include an affective component, with the negativity of affect itself thus

being understood in terms of children's perception of and identification with the attitudes of social role models (Smith, Bruner and White, 1956; Kelman, 1958; Katz, 1960), be they conventional authority figures such as parents or indeed the experimenter (Aitken, 1978). On the occasions in which social class and verbal intelligence also affected attitude scores in the present study, both middle class children and those of higher verbal ability also tended to be the more negative. It might be speculated that these too are the result of similar processes responsible for the age-related effects i.e. they may have more highly developed schemas than the working class and lower verbal intelligence subjects.

In the present exercise, female drinkers were judged more harshly than were male drinkers by all children. Initially this finding may appear somewhat incongruous with the increasing prevalence and social acceptance of alcohol use by women. It should be noted that recent survey evidence indicates that 89% of women in Britain consume alcohol, even if only in small amounts (Foster, Wilmot and Dobbs, 1990). However, it may be that such 'politically correct' messages are not so evident within the home environment. Moreover, if one considers that in most drinking cultures men still remain the more frequent and more heavy drinkers (Dight, 1976; Wilson, 1980; Goddard, 1991) and are relatively more likely to experience alcohol-related problems (Plant, 1990; Plant and Plant, 1992), then such attitudes are less surprising. That alcohol consumption is primarily a male prerogative is a concept that is continually reinforced in British culture. In a study of parental attitudes toward teenage drinkers, Hawker (1978) found that parental approval of drinking did not differ with respect to the sex of the child. Nevertheless, studies have consistently shown that boys tend to report lower ages than girls for occasion of first drink (Aitken, 1978; Davies and Stacey, 1972; Plant, Peck and Samuel, 1985; Bagnall, 1988), and that fathers are commonly the providers of the first drink (Aitken, 1978; Casswell, 1983). Moreover, a recent survey has shown that as a group, married women with dependent children

have one of the lowest levels of alcohol consumption (Foster, Wilmot and Dobbs, 1990). It is possible that such behaviours might implicitly influence young children's early attitudes to female drinking. Additional evidence that young children's schemas concerning alcohol use incorporate these traditional learned sex differences, comes from this study and others which show that children interpret the social norms for drinking as characteristically more male than female (Penrose, 1978; Greenberg, Zucker and Noll, 1985; Noll, Zucker and Greenberg, 1990), and attribute significantly greater liking of alcohol to men than to women (Jahoda and Cramond, 1972; Spiegler, 1983; Fossey, 1993).

The results from the current study also revealed that female subjects judged both women drinkers and women smokers (as will be shown in Chapter 8), significantly more harshly than did the male subjects. That girls and boys are equally sensitive to social reinforcement and are equally adept at learning from social role models is commonly supported by scientific evidence. Also, the majority of studies reveal an absence of sex differences in children's conformity (Maccoby and Jacklin, 1974). However, Martin and Halverson (1981, 1983) have proposed that young children's comprehension of gender and gender-roles can be understood in terms of the development of cognitive schemas for gender-appropriate behaviour. By the age of two or three years, children are aware of their own genders and are able to organise other people into two corresponding categories: own sex and other sex. At around five to six years the idea that gender is permanent is understood. At this stage information concerning their own gender-appropriate behaviour becomes more salient to children (Ruble, Balaban and Cooper, 1981) and this leads to the development of more elaborate gender schemas. Furthermore, a study by Fagot (1985) has shown that while boys were more sensitive to reinforcements about gender-role behaviour from other boys, girls were more sensitive to reinforcements from teachers and other girls. What appears to be happening with the girls in this study is that they are acquiring and

developing a schema about their own gender through social role models, which in turn reinforces the belief that alcohol consumption is not only an activity to be frowned upon but also that it is a 'non-feminine' activity, thus shaping the attitude. Thus, because women are more likely than men to drink wine (Foster, Wilmot and Dobbs, 1990), it is possible that girls' greater disapproval of drinking in general can then be targeted towards this more salient activity. This is not to say that boys do not also learn about female-appropriate behaviours, (as is illustrated above by the more negative attitudes towards women drinkers displayed by both girls and boys), but that information regarding one's own sex will be more salient. This oversimplification or stereotyping of behaviour appears to be a necessary process in the eventual development of more comprehensive and flexible schemas (Martin and Halverson, 1983).

These interpretations of the findings tie in closely with the integrative model of moral development and socialisation formulated by Garbarino and Bronfenbrenner (1976). This model takes into account the influences of both developmental and social factors in the process of moral socialisation. Previous theories have tended to concentrate on either one (Kohlberg, 1969) or the other (Bronfenbrenner, 1962) respectively. Thus such a model can adequately account for the fact that the development of attitudes does not proceed either at a uniform rate nor in the same direction for all children. It can also explain why individual children's attitudes towards various attitude objects do not necessarily develop at the same rates. In the present study, the former can be seen simply in the variation and similarity of responses for children within and between each age group. The significant variations in attitudes between the different socio-economic status, sex and verbal fluency groups also lend weight to this. The latter point is illustrated by the attitude scores on the smoking items (see Chapter 8). Although similar attitude trends can be seen in both the drinking and smoking scores, the negativity towards smoking is already more clearly established in the youngest age

group. The source and content of health messages concerning alcohol are varied and often conflicting. In contrast, messages concerning smoking are less confused and therefore more coherent.

Finally, young children's attitudes towards alcohol have changed surprisingly little during the past twenty years. This stability is remarkable since, as already stated, alcohol consumption in the United Kingdom has risen markedly since the early 1970's. Only two significant differences emerged between the two studies: in the current sample older children were slightly less negative towards male drinkers; and female drinkers were judged more negatively by girls than by boys only in the current sample.

The finding that girls were more condemnatory than boys of women drinkers, in the present sample only, was contrary to expectations, in light of recent increases in the number of women now consuming alcohol, and more generally in view of the increasing value imposed by society on the issue of sexual equality. As speculated previously, it is possible that young girls are simply more likely to see women drinking wine than either beer or whisky, and as such they represent a more salient target to judge. The proliferation of the mass media and their role in the communication of socio-cultural values has also provided children with an additional source of information. The now ubiquitous image of the attractive 'macho' drinker portrayed in the media (Finn and Strickland, 1982) may thus in part account for the small decrease in negativity towards male drinkers. It may also be the case that while the media are perpetuating a more positive image of the male drinker, they are at the same time endorsing an unrepresentative image of the female drinker. That is not to say that the mass media are responsible for these attitudes, but rather that they may serve to reinforce children's early perceptions. However, on the whole the findings of the current exercise would seem to imply that the social messages concerning alcohol

which are effectively transmitted to children, on the whole have remained relatively stable over this period with few exceptions.

5.2 PERCEPTIONS OF NORMATIVE DRINKING BEHAVIOUR

Drinking habits have changed markedly since the time of Jahoda and Cramond's study. The level of per capita consumption in the United Kingdom reached a post-war peak in 1979. Since then, despite a slight decline, this level has been slowly drifting upwards, although it still remains lower than in 1979. Beer remains the most commonly consumed alcoholic drink in the UK, although the popularity of wine has increased considerably over the past thirty years. Spirit consumption has increased more slowly and more erratically over the years and remains at a considerably lower level than that for other alcoholic drinks. Currently over 90% of British adults drink alcohol at least occasionally: younger adults drink more than older adults; men drink more frequently and more heavily than women (Goddard and Ikin, 1988). However, there is now a tendency for more British women (89%) to consume alcohol, if only in small amounts (Foster, Wilmot and Dobbs, 1990). The 'Perceived Likes and Dislikes Task' was designed to examine children's understanding of social norms such as these above relating to drinking behaviour. That is, to discover children's perceptions of what constitutes 'normal' alcohol-related behaviour in three social groups, namely men, women and children. It was predicted that the data collected in the present investigation, when compared with Jahoda and Cramond's earlier study, might reflect these changes.

Again, the inappropriateness of direct verbal questioning necessitated an indirect approach. For this reason, the method of inquiry adopted was based upon eliciting children's perceptions of how much men, women and children liked or disliked certain activities related to drinking alcohol. On the basis of their preference attributions it would then be possible to construe basic images of the social norms held by these subjects.

In accordance with the approach employed by Jahoda and Cramond, in the present exercise this task was carried out over two sessions, each of which consisted of three trials examining child preferences, adult female preferences and adult male preferences. In the first session a pre-recorded tape of a list of non-alcohol-related activities suitable for male and female adults and children was played to the subjects. All responses were registered on a computer. The second session was conducted in a similar way, the only difference being that the lists now contained the following alcohol-related activities: drinking beer; drinking whisky; drinking wine; going to a public bar; and finally, being drunk.

Again, the item 'drinking wine' was a new addition to the task, and was inserted in place of one of the original buffer items which would not subsequently be used in the analysis. Similarly, responses were now recorded by means of a computer, as opposed to the response box (with buttons which when pressed activated a light and buzzer) used by Jahoda and Cramond. Finally, the child-lady-man sequence was now altered slightly so that while the child stage remained the first, the lady-man sequence was systematically alternated. A more comprehensive description of the methodology of this exercise is given in Chapter 3.

5.2.1 RESULTS

For the purpose of comparing the current results with those found by Jahoda and Cramond, these scores were again computed according to the procedures adopted by those authors. As before, during the 'Judgment of Photographs' task, consistency of responses on this task was measured by means of the repeated items. Four items/activities were repeated in both of the sessions, resulting in a total of eight pairs of repeated items for each of the three trials. Consistency was thus defined as six of

the eight possible pairs falling on the same side of the like/dislike division. Not surprisingly, subjects' responses to children's likes/dislikes showed the highest consistency overall, at 93%. When the role was that of women, consistency was 87%, while for men the figure was 86%. Crosstabulations of consistency scores by age revealed a significant age effect for women only ($\chi^2=13.96$, 6df, $p<0.03$), with the youngest age group reporting more inconsistent responses when the role involved was the adult woman. Although there was no direct comparison between male and female consistency scores, this finding would seem to support the contention that female roles may be somewhat less clearly delineated than those of males.

Table 5:6 - Mean Perception Scores by Age of Subject

		AGE							
		5 - 6yrs		7 - 8yrs		9 - 10yrs		5 - 10yrs	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Beer	Child	21.22	12.04	17.12	10.83	13.67	7.77	17.31	10.77
	Woman	18.58	10.22	20.26	11.16	18.80	9.51	19.23	10.31
	Man	32.70	10.41	34.10	9.00	34.20	7.93	33.68	9.15
Whisky	Child	18.31	11.48	15.83	9.31	13.00	6.31	15.70	9.47
	Woman	22.50	11.91	23.21	11.05	23.27	10.08	23.00	10.99
	Man	29.19	11.62	29.94	9.48	30.00	9.62	29.71	10.23
Wine	Child	22.57	13.25	19.62	11.22	16.53	9.51	19.56	11.63
	Woman	27.70	12.88	30.00	11.95	28.13	10.87	28.63	11.91
	Man	30.00	12.39	31.15	10.81	29.33	10.95	30.18	11.37
Pub	Child	24.05	13.34	18.33	11.67	16.93	11.03	19.74	12.37
	Woman	24.05	13.94	21.67	12.42	21.60	10.14	22.42	12.26
	Man	33.51	11.39	33.08	11.09	34.40	9.04	33.66	10.53
Drunk	Child	15.54	10.36	12.56	7.46	12.13	6.64	13.39	8.38
	Woman	15.54	9.81	13.08	7.44	13.07	7.88	13.88	8.46
	Man	20.00	12.82	21.54	13.00	20.00	12.41	20.53	12.71

(scores range from 10 (maximum dislike) to 40 (maximum liking))

Scores for the main task were derived by assigning arbitrary scores of 1 to 4 to the response categories 'Do not like at all', 'Do not like a little', 'Like a little' and 'Like a lot' respectively. Mean scores were then calculated for the pooled 'food' items and for each of the 'alcohol-related' and 'smoking-related' items. The remaining buffer items

were ignored. Mean scores were then multiplied by 10 in order to produce rounded whole numbers, producing in turn, a range of possible scores from 10 (extreme dislike) to 40 (maximum liking) with a neutral point of 25. Thus, the mean scores for each of the alcohol-related items are shown in Table 5:6.

Overall, children were perceived to dislike all five alcohol-related activities. Women were perceived as liking only drinking wine, while men were perceived as liking all alcohol-related items with the exception of 'being drunk'. In fact, a dislike of 'being drunk' was attributed to all three roles/identities (ie. to men, women and children). However, men were perceived as disliking this activity significantly less than women and children, who were perceived as disliking this activity equally.

In accordance with Jahoda and Cramond's analysis and to enable comparisons with the analyses of attitude scores, separate analyses of variance were carried out for all five alcohol-related activities, in order to establish what factors, if any, might have significantly influenced children's perceptions. These results are shown in the following tables. Again only main between-subject effects and two-way interactions with the within-subject factor (ie. drinker identity) were considered, while tables of raw mean perception scores and coefficients and 95% confidence intervals were examined to determine the nature of the effects. As before, for the purpose of minimising the presentation of this information, only those interaction effects which were significant are shown.

Table 5:7 - Attributions of Likes/Dislikes for 'Drinking Beer'

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	19686.67	145	135.77		
Constant	348763.62	1	348763.62	2568.78	0.000
Age (A)	524.66	2	262.33	1.93	NS
Sex (B)	858.55	1	858.55	6.32	0.013
SES (C)	120.78	1	120.78	<1	NS
City (D)	0.01	1	0.01	<1	NS
Religion (E)	214.42	1	214.42	1.58	NS
BPVS (F)	332.29	1	332.29	2.45	NS
Within-Subjects					
Within Cells	17390.00	290	59.97		
Drinker Identity (G)	34785.43	2	17392.71	290.05	0.000
A * G	1935.90	4	483.97	8.07	0.000
B * G	1519.30	2	759.65	12.67	0.000
C * G	415.35	2	207.68	3.46	0.033

Perceptions of likes/dislikes for the item 'drinking beer' differed significantly according to the sex of subjects, with girls perceiving greater dislike than boys of beer drinking, regardless of the social identity of the drinker (ie. whether the person was a man, woman or child). However, when the identity of the drinker was taken into account, it was found that the female subjects attributed greater dislike of drinking beer to girls than did the male subjects to boys (NB. when the trial relating to children's preferences was conducted, the female subjects were presented with a female doll only, while the male subjects were presented with a male doll only). Similarly, when the role was again that of a child, older subjects attributed greater dislike of this activity to children than did the younger subjects, as did middle class subjects in comparison to working class subjects. Finally, the identity of the drinker significantly affected performance overall, with children generally attributing greater liking of beer to men, in contrast to women and children who were perceived to dislike this activity.

Similarly, the identity of the drinker also had a significant impact on liking scores for the item 'drinking whisky'. Children were perceived as disliking whisky more than women, and men were perceived as liking whisky more than women and children.

Table 5:8 - Attributions of Likes/Dislikes for 'Drinking Whisky'

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	25659.17	145	176.96		
Constant	333925.77	1	333925.77	1887.02	0.000
Age (A)	193.87	2	96.94	<1	NS
Sex (B)	134.58	1	134.58	<1	NS
SES (C)	50.93	1	50.93	<1	NS
City (D)	146.41	1	146.41	<1	NS
Religion (E)	23.09	1	23.09	<1	NS
BPVS (F)	28.29	1	28.29	<1	NS
Within-Subjects					
Within Cells	17435.00	290	60.12		
Drinker Identity (G)	21037.18	2	10518.59	174.96	0.000
A * G	958.58	4	239.64	3.99	0.004
B * G	1521.30	2	760.64	12.65	0.000

Also in Table 5.8, there were significant interactions again in terms of the different age groups and gender groups. In both cases older children and girls perceived greater dislike of drinking whisky among similar children, than did their respective counterparts. The youngest children also attributed less dislike to women than did the older subjects. However, there were no corresponding differences in terms of social class on this occasion.

In relation to the third specific type of alcoholic drink, men and women were both perceived to enjoy drinking wine, in contrast to children who were again perceived to dislike this activity (see Table 5:9). In particular, the middle class children perceived drinking wine to be an activity that was generally enjoyed more so than did the working class children. Interaction effects occurred again when the identity of the drinker was that of a child. Older children and children from Edinburgh were more

likely than younger subjects and those from Birmingham respectively, to attribute to children a dislike of wine.

Table 5:9 - Attributions of Likes/Dislikes of 'Drinking Wine'

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	27316.11	145	188.39		
Constant	438242.14	1	438242.14	2326.29	0.000
Age (A)	719.03	2	359.52	1.91	NS
Sex (B)	607.93	1	607.93	3.23	NS
SES (C)	1247.72	1	1247.72	6.62	0.011
City (D)	406.56	1	406.56	2.16	NS
Religion (E)	16.29	1	16.29	<1	NS
BPVS (F)	25.44	1	25.44	<1	NS
Within-Subjects					
Within Cells	29455.56	290	101.57		
Drinker Identity (G)	14210.33	2	7105.16	69.95	0.000
A * G	1015.18	4	253.80	2.50	0.043
D * G	621.26	2	310.63	3.06	0.048

The following table refers to subjects' perceptions of likes/dislikes of going to a public bar. Men were perceived as liking this activity more than women and even more so than children, both of whom were perceived to dislike this activity. Both older children and girls perceived a greater general dislike of this activity than did younger subjects and boys, irrespective of social identity, although these trends were particularly apparent when the role under consideration was that of the child. Edinburgh subjects and those from Birmingham differed in their perceived likes/dislikes when the drinker identity was a child and a man. The former subjects attributed greater dislike of this activity than the latter subjects when the role was that of the child, but perceived less dislike when the role was that of the man.

Table 5:10 - Attributions of Likes/Dislikes of 'Going to the Pub'

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	30254.44	145	208.65		
Constant	406799.94	1	406799.94	1949.66	0.000
Age (A)	1319.44	2	659.72	3.16	0.045
Sex (B)	1371.39	1	1371.39	6.57	0.011
SES (C)	27.80	1	27.80	<1	NS
City (D)	193.73	1	193.73	<1	NS
Religion (E)	87.99	1	87.99	<1	NS
BPVS (F)	394.75	1	394.75	1.89	NS
Within-Subjects					
Within Cells	25678.89	290	88.55		
Drinker Identity (G)	23168.14	2	11584.07	130.82	0.000
A * G	1148.87	4	287.22	3.24	0.013
B * G	739.72	2	739.72	4.18	0.016
D * G	2425.17	2	1212.59	13.69	0.000

In relation to the final item 'being drunk', age and sex of subject made no difference to the scores. That is, subjects of all ages and both sexes attributed similar levels of dislike irrespective of the social identity of the drinker. However, middle class children gave higher disliking scores for 'being drunk' than did working class children. So too did those children scoring higher on the British Picture Vocabulary Scale when compared with low scorers. In addition, social identity also significantly influenced perceptions, with men generally perceived to dislike being drunk less than women and children. Finally, when the role was that of the child, subjects attending Roman Catholic schools attributed greater dislike of this activity to children than did those subjects attending non-denominational schools. The results are shown in Table 5:11.

Table 5:11 - Attributions of Likes/Dislikes for 'Being Drunk'

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	20209.44	145	139.38		
Constant	158034.81	1	158034.81	1133.88	0.000
Age (A)	552.68	2	276.34	1.98	NS
Sex (B)	454.26	1	454.26	3.26	NS
SES (C)	1412.46	1	1412.46	10.13	0.002
City (D)	113.17	1	113.17	<1	NS
Religion (E)	47.78	1	47.78	<1	NS
BPVS (F)	1110.60	1	1110.60	7.97	0.005
Within-Subjects					
Within Cells	18778.89	290	64.75		
Drinker Identity (G)	6632.04	2	3316.02	51.21	0.000
E * G	534.35	2	267.18	4.13	0.017

5.2.2 DISCUSSION

The results from this task confirm that from an early age children are developing conceptions about normative drinking behaviour. Overall, children were perceived to dislike all five alcohol-related activities. With the exception of the item 'drinking wine', both boys and girls perceived that women generally disliked alcohol. Subjects also perceived that women disliked being drunk as much as children did. Men were perceived as liking all alcohol-related activities with the exception of 'being drunk'.

There were very few differences in relation to perceived adult preferences between the three subject age groups, indicating that at least in relation to adult behaviour, by the age of five-and-a-half years children have already acquired sufficient relevant 'social category knowledge' (Higgins, Feldman and Ruble, 1980) to establish drinking norms for these role categories. However, several subject-group differences emerged when the child role was considered. Female subjects generally perceived a greater dislike of alcohol-related activities for girls, than did male subjects for boys. In addition, children's perceived dislike of alcohol-related activities increased with rising

age of subject (although it is important to stress that the mean scores of even the youngest children fell into the 'dislike' category).

Several other subject differences also emerged for the individual drinking activities. These factors included verbal intelligence, social class, city and religious affiliation differences. With regard to all between-subject trends there are two possible explanations for why they should occur. One is associated with the types strategies which children make use of when making social judgments. The other refers to the type of knowledge they possess which forms the basis for making these judgments.

As children's grow older and their cognitive development progresses, their repertoire for making social judgments also becomes more elaborate. The process of 'social reference' (Higgins, Feldman and Ruble, op cit) refers to the technique of choosing a more representative category member with which to judge the normality of another category member's behaviour, over one that is simply more salient. For example, it has been suggested that younger children generally tend to refer to their parents when asked to make judgments concerning adult preferences, whereas older children and adults are more likely to choose popular media figures. Taking this into account with subjects' perceptions of children's preferences in the current exercise, it may be that the older children have learnt to reject the more salient member of the category (ie. themselves) in favour of a more representative/typical category member. If this were the case in this sample, then one might assume that the like/dislike perceptions of the older children would be more consistent and more accurate. Nevertheless age-related differences in consistency scores were only significant in association with adult females. However an alternative strategy may have been an 'assumed similarity' on the part of the children, between their own preferences and those of their peers. In the study by Higgins, Feldman and Ruble (1980), three groups of subjects - four to five year olds; eight to nine year olds; and undergraduates - were required to select from a

variety of objects, the one which they themselves would prefer. On subsequent trials, these same subjects were then required to select the object which they felt was most likely to be preferred by their peers and again, the object they felt would be most preferred by non-peers. Higgins and his colleagues found that subjects within each age group would select their own preference for peers, significantly more often they would select their own preference for non-peers. Furthermore, within each age group, the consensus in selecting the most preferred item for each target group was significantly greater than by chance.

The second possible explanation for the between-subject differences in the results lies in both the extent of information and the nature of the information which these subjects possess. That is, children may be differentially exposed to opportunities for various aspects of social learning which will expand and shape their schemas for alcohol. Using the age of subject differences as an illustration of this, it may be that due to their age-related increase in exposure to such opportunities, the older subjects have been able to reinforce the fact that alcoholic drinks are not appropriate for children but are the exclusive domain of adults.

If one considers the attitudes of these same children towards adult drinking in general, discussed in the first half of this chapter, it can be seen that the younger subjects were less likely than those who are older, to have formed firm attitudes towards alcohol consumption. However, attitudes towards adult drinking became increasingly negative as the children grew older. As was stressed previously, although the perceived dislike among children for alcohol-related activities increased with age of subject, the perceptions of the youngest subjects, while less consistent overall, were however already negative. Thus, it appears likely that neither increasing judgement ability nor accuracy per se are wholly responsible for the age-related changes in norm perceptions, but rather that the latter are also likely to be subject to the increasing,

and increasingly negative, content of children's schemas for alcohol in relation to their relevant 'social category knowledge'. Such a theory is confirmed by the children's scores for the smoking preference perceptions (see Chapter 8). In relation to the smoking items, there were no significant differences in scores with regard to age when the role was that of the child. The youngest children had already established that children as a group do not like smoking either cigarettes or a pipe.

An explanation in terms of type and extent of knowledge would also be consistent with the other between-subject differences such as religion, city and sex of subject, as it is unlikely that these differences would be the result of clear-cut corresponding differences in social judgment strategies. Main effects for sex of subject when the role was that of the child showed a sex-stereotyped pattern. When the role was that of the child, boys and girls differed significantly in their perceptions of dislike. Girls attributed greater dislike of alcohol-related activities for girls as a group, than did boys for boys as a group. Unfortunately it was not possible to perform a cross-sex comparison to ascertain whether female subjects perceived boys' likes/dislikes of alcohol-related activities to the same extent as the male subjects did and vice versa, or whether the female subjects do believe that girls as a group do in fact dislike such activities more than boys. Other studies which have incorporated a cross-sex comparison have generally found no such sex differences (Penrose, 1978; Greenberg, Zucker and Noll, 1985; Zucker, Fitzgerald and Noll, 1991). However, in the first part of this chapter it was demonstrated that the female subjects did display more negative attitudes than did the male subjects towards adult female drinkers.

The social class effects were also particularly interesting. While middle class subjects attributed greater dislike than working class children to the activities drinking beer and being drunk, the former subjects gave significantly higher liking scores for drinking wine. This would seem to indicate that wine fulfils a markedly different

function as perceived by these two groups of subjects. Recent OPCS data shows that non-manual working men and particularly women are more likely than manual workers to be consumers of alcoholic drinks generally (Foster, Wilmot and Dobbs, 1990). Moreover, although Foster and her colleagues did not differentiate between the type of drink preferences of these two social groups, the data which do exist confirm that the type of alcoholic drink most often consumed by women generally is wine. Therefore it might be construed that middle class families are more likely than working class families, to drink wine, a trend recently supported by Loretto (1993b) in relation to drinking preferences in young people.

The two study areas, Birmingham in the West Midlands and Edinburgh in the Lothian Region have a markedly different mix of ethnic populations. The West Midlands has one of the highest concentrations of ethnic minorities outside of the South East of England, at 6.8% or around 1 in 15 of the population. In contrast, only 1.1% of the total population of Scotland as a whole is made up of ethnic minority races. In both areas, the majority of the ethnic population is made up of peoples from India/Pakistan and Bangladesh who, for religious reasons, may be more likely to abstain from alcohol consumption. In addition, percentage of household expenditure on alcohol and tobacco products vary between the two areas. The figure for the West Midlands is 6.1% with the higher figure of 7.3% for Scotland as a whole. For these reasons, it might reasonably be predicted that the Birmingham half of the sample would likewise display lower liking scores for drinking alcohol than those from Edinburgh. However, this was not the case. In fact, if anything, subjects from Edinburgh tended to attribute greater dislike of certain alcohol-related activities, when significant differences between the two study areas were found.

Although the study group as a whole demonstrated very high dislike scores in relation to the item 'being drunk' as expected, some subject groups attributed greater dislike

than others. Both middle class children and those who scored higher on the British Picture Vocabulary Scale, gave significantly greater disliking scores for this item irrespective of the identity of the drinker. Again this is of little surprise in view of class and verbal ability differences in relation to attitudes towards drinkers. However, Roman Catholic children perceived greater dislike of 'being drunk' than did children attending non-Denominational schools only in relation to children. In contrast, preliminary data from Loretto (1993b) suggests that Northern Irish Roman Catholic teenagers may be less disapproving of drunkenness than their Protestant counterparts.

Finally, in comparison with Jahoda and Cramond's findings, the present results suggest that children's perceptions of cultural norms associated with drinking habits have changed somewhat over the past twenty years. Alcohol was perceived as being more enjoyed by men and less disliked by women and children by the children in the present study than by the children in Jahoda and Cramond's study. Nevertheless, in view of national trends, these current perceptions still appear to vastly under-represent actual adult preferences. The present sample also persisted in a rather stereotyped image of women in relation to alcohol-related activities. Unfortunately, Jahoda and Cramond did not report on differences relating to social class, city etc. thus preventing the possibility of further comparisons.

As stated previously, Martin and Halverson (1981; 1983) have proposed that children's comprehension of gender and gender-roles can be understood in terms of their development of cognitive schemas for gender-appropriate behaviour. By the age of five or six years, information about their own gender becomes more salient to children (Ruble, Balaban and Cooper, 1981), and by social learning from prominent role models this leads to the formation of more elaborate gender schemas. Thus, the perceptions of the boys and girls in this study can be understood in terms of their acquisition of relevant social category knowledge via social learning from significant

role models, and therefore, in accordance with Borgida, Locksley and Brekke (1981), such social stereotypes can be viewed 'as products of normal everyday cognitive processes of social categorisation, social inference, and social judgement'.

As a final note, it should be pointed out that in Jahoda and Cramond's study, the analysis of the 'food' items within the lists of activities, was included as a control measure to ensure that children were performing this task correctly. These authors proposed that if differences in children's perceptions for liking food occurred between the three social groups, then this would invalidate their subsequent scores for the main items consisting of the alcohol-related activities. The reasoning behind this was that if children differentiated between preferences for food for these roles, this would imply that their perceptions were based upon individuals eg. themselves or their parents, for, as these authors argued, there are no recognised social role norms relating to food preferences. In the current study, analysis of the data relating to the food items revealed no significant main effects in terms of between-subject groups but a significant effect in terms of the social group was revealed. However in contrast to Jahoda and Cramond, it is argued that this does not necessarily invalidate the remaining data. As can be seen in the description of items used in this task (shown in Appendix 2), these lists contained a variety of such items referring to various vegetables, non-alcoholic drinks, sweets etc. It is clear that these comprise a number of items that are more likely or less likely to be liked/disliked by children. In addition, women/mothers may commonly be seen to encourage other family members to eat certain foodstuffs which their family or indeed they themselves do not particularly enjoy. Finally, men in general might commonly be perceived to have less discriminating appetites. These are evidently examples of what may be perceived to constitute 'normative' eating behaviours, and for this reason, analysis of the remaining data was continued.

CHAPTER 6

**CHILDREN'S FAMILIARITY WITH MOTIVES FOR AND
CONSEQUENCES OF DRINKING**

6.1 FAMILIARITY WITH THE PHYSICAL MANIFESTATIONS OF DRUNKENNESS

When children are asked about the consequences of drinking alcoholic beverages, they invariably refer to the acute effects of intoxication and in particular, the state of being drunk. Moreover, very rarely do they qualify drunkenness in terms of quantity of alcohol consumed (Casswell et al., 1983). However, although children appear to be familiar with the verbal label 'drunk' from an early stage, it does not necessarily follow that they have a full grasp of the concept of drunkenness i.e. that they are familiar with the repertoire of the possible social and behavioural implications of alcohol consumption.

In the present study this task took on a similar format to that designed by Jahoda and Cramond. However, it was decided to include a version of the film featuring a female, in order to examine the possibility that the sex of the drunk person might affect children's responses. It was hypothesised that a film of an intoxicated female would evoke different responses to those elicited by that of a male drunk, in two ways: firstly, children would be slower to attribute drunkenness to the female because children may not readily associate drunkenness with women in general; and secondly, because previous evidence has indicated that children are more condemnatory of female alcohol use, children's attitudes towards the drunk woman would be more critical. More generally, it was predicted that attitudes towards the drunken characters would become increasingly hostile among older children, in accordance with their attitudes towards adult drinking.

The methods employed in the current study have been described in Chapter 3, but in brief, this task was divided into three phases, each involving the presentation of a video film designed to portray different bodily and mental states. The first phase consisted of a training film to familiarise children with the task procedure, the second

was the main experimental task dealing with drunkenness, and the third was included to reduce the salience of the alcohol theme.

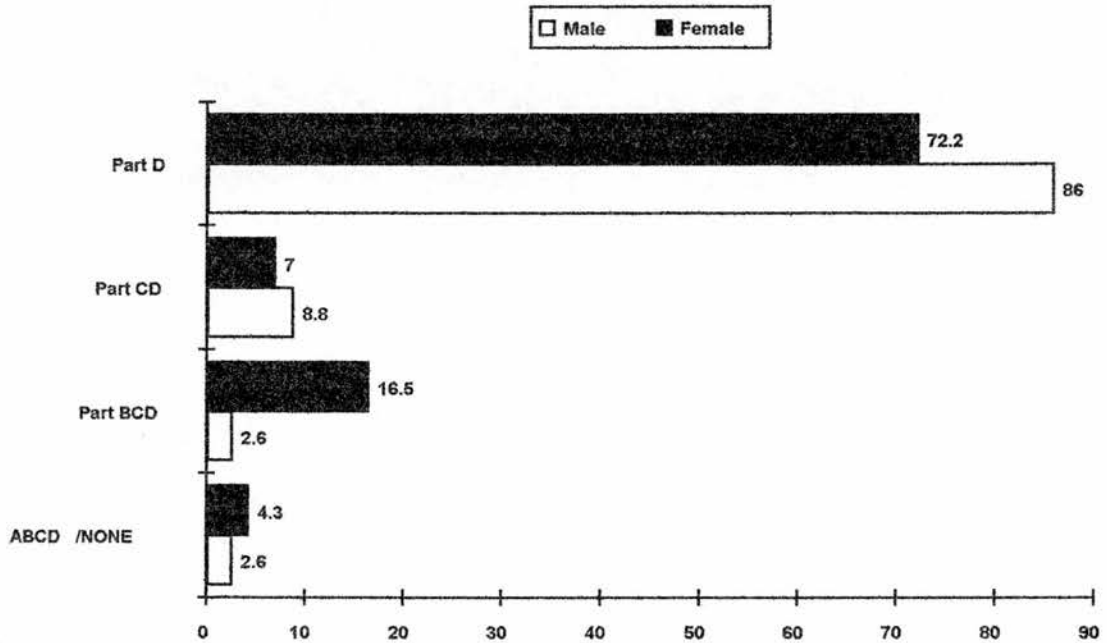
The current study did have the facilities to add a sound track. However, because of the high success rate shown by Jahoda and Cramond's sample even without sound cues, it was decided that the newly made VHS films would also be silent. The contents of these new films adhered strictly to the format of Jahoda and Cramond's original three films. Female versions of both the drunkenness film and the exhaustion film had not been present in Jahoda and Cramond's study, but in the present exercise these versions were constructed so as to be as similar as possible to their male version equivalents. This was the only difference between the two studies in terms of this task. Finally as before, all films were constructed so that they could be played in reverse chronological order, cumulatively i.e. the final clip of the film or section D would be shown first, followed by sections C and D, then sections BCD and finally the entire film ABCD.

6.1.1 RESULTS

As this task was carried out during the second testing session, at which time nine children were absent from school, the total study group numbered 229 subjects. The rate at which male and female subjects successfully recognised the physical manifestations of drunkenness is shown in Figure 6:1. The majority, (79%), did so following only the initial presentation of section D of the film. Only eight children (3.4%) failed to identify the drunkenness theme following presentation of the entire film, four of whom mentioned drinking but clearly did not understand that the person was drunk, and four of whom completely failed to understand the theme. In comparison with the subjects in Jahoda and Cramond's study, the present sample were

significantly less successful following the initial presentation of the film ($\chi^2=23.383$ 1df $p<0.00001$).

Figure 6:1 Rate of Recognition of Drunkenness



In order to tease out possible differences in subjects' performance between 1) the male and female versions of the film and 2) the various subgroups of subjects in the sample, logistic regression analysis was carried out on the data, the results of which are shown in Table 6:1.

Table 6:1 - Recognition of Drunkenness

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SEX OF DRUNK (Male)				
Sex of drunk (2) - Female	-2.6800	-4.0330	-1.3270	0.07
AGE (5 - 6 yrs)				
Age (2) - 7 -8 yrs	-0.1474	-1.5430	1.2482	0.86
Age (3) - 9 -10 yrs	-0.0810	-1.5318	1.3698	0.92
SEX OF SUBJECT (Male)				
Sex of subject (2) - Female	-0.7844	-1.9782	0.4094	0.46
SES (MC)				
SES (2) - WC	3.2670	1.5684	4.9656	26.23
CITY (Edinburgh)				
City (2) - Birmingham	0.5168	-0.7974	1.8310	1.68
SEX OF DRUNK * AGE				
Sex of Drunk (2) * Age (2)	2.4100	0.5292	4.2908	11.13
Sex of Drunk (2) * Age (3)	3.133	1.0990	5.1670	22.94
SEX OF SUBJECT * CITY				
Sex (2) * City (2)	2.1580	0.5150	3.8010	8.65
SES * CITY				
SES (2) * City (2)	-4.3670	-6.4270	-2.3070	0.01

(Predicting the likelihood of recognising drunkenness after the initial film presentation only)

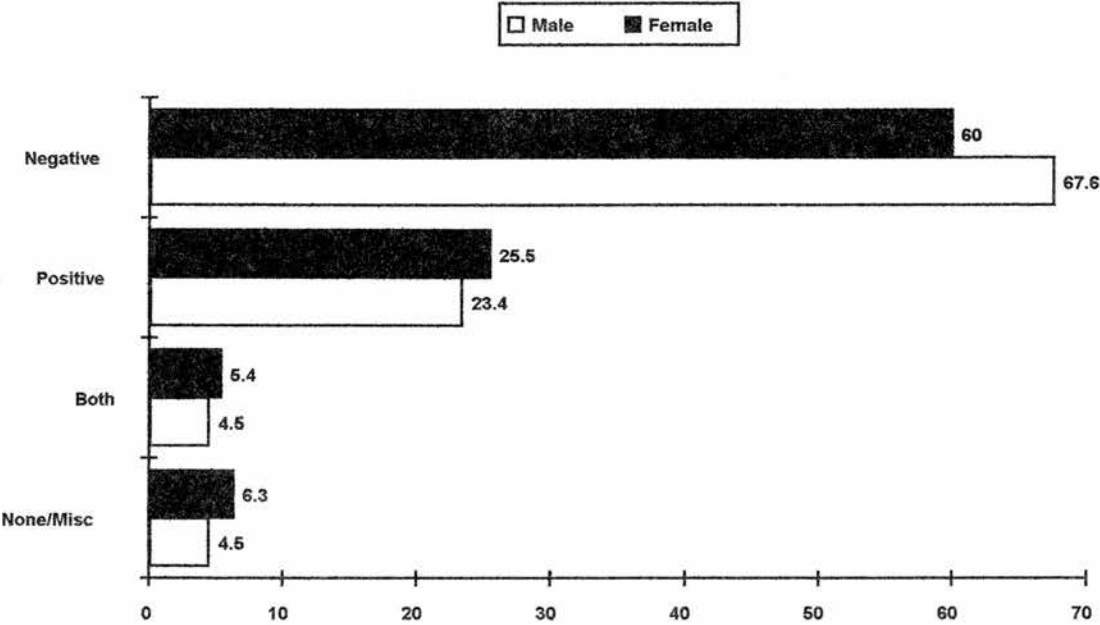
Both the social class of the subject and the sex of the intoxicated character significantly affected performance on this task. The odds of working class children identifying the drunkenness theme after only the initial part of the film were 26.2 times those for middle class subjects. This social class difference was particularly evident among the Edinburgh subjects. With regard to the gender of the drunk character, the odds of the female actor being immediately identified as drunk were only 0.07 times those for the male actor. In addition, the older the children the more likely they were to be quick to attribute intoxication to the female character's behaviour (the odds were 1.9 times (7-8 yrs) and 4.3 times (9-10 yrs) those of the youngest children - not shown in this table). This might have explained why the present sample as a whole were slower at recognition overall compared to Jahoda and Cramond's sample, as the latter did not incorporate a 'female' version. However, a chi-

square comparison between the two studies (i.e. responses to the 'male' version of the film in the present exercise compared with all responses in Jahoda and Cramond's study), revealed that subjects in the current study were still significantly slower than those in the former ($\chi^2=7.33$; 1df; $p<0.01$). Finally, while both male and female subjects from Birmingham were more likely than those from Edinburgh to be quick at recognition, this city difference was particularly noticeable for female subjects.

Children's opinions of the drunk person

Excluding the eight children who failed to show sufficient understanding of the drunkenness theme, just under 64% (n=141) expressed a negative opinion towards the drunk person. Although 24.4% expressed a positive opinion, a further 12 children (5.4%) felt that they did not have sufficient information to make such a judgment. Subjects' opinions with respect to the sex of the drunk character are shown in Figure 6:2.

Figure 6:2 Opinions of Drunk Character



To facilitate a logistic regression analysis of these data, children's responses to this question were divided into two categories: 'negative' and 'other'. The latter included all responses that were not negative. Unfortunately it was not possible to produce a satisfactory model of the data and instead separate chi-square analyses were performed. Table 6:2 shows the results of these analyses.

Table 6:2 - Opinion of Drunk Character

AGE	5 - 6 yrs	7 -8 yrs	9 -10 yrs	Total
Other	36	27	17	80
Negative	33	49	59	141
Total	69	76	76	221

$$\chi^2 = 13.9338; 2df; p<0.0009$$

SES	MC	WC	Total
Other	49	31	80
Negative	61	80	141
Total	110	111	221

$$\chi^2 = 6.6059; 1df; p<0.0102$$

CITY	Edinburgh	Birmingham	Total
Other	46	34	80
Negative	62	79	141
Total	108	113	221

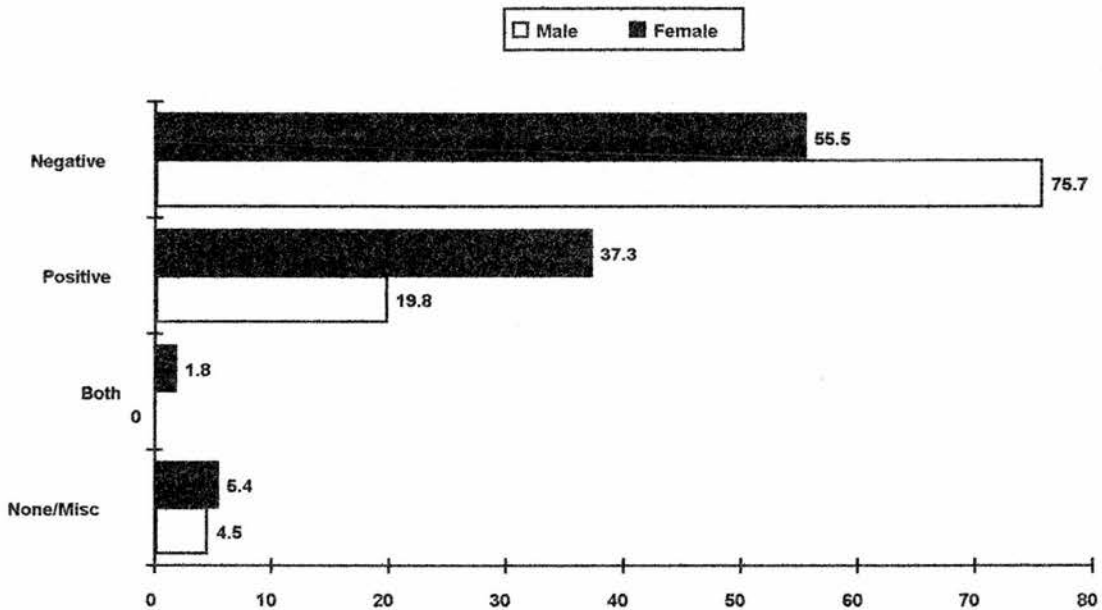
$$\chi^2 = 3.7384; 1df; p<0.0532$$

Interestingly, subjects did not differ in their opinions when responses to the male film were compared with responses to the female film. However, the probability of giving a negative opinion increased with age of subject. In addition, both working class children and those from Birmingham were more likely than their respective counterparts to express a negative opinion.

Feelings attributed to the drunk character

When subjects were asked how they thought the drunk person felt, just under two-thirds (65.6%) of the sample gave a negative response. Just over one fifth of the sample (25.3%) gave a positive response. This was only just significantly less than the proportion of children in Jahoda and Cramond's sample who thought that the drunk person 'felt good' ($\chi^2=6.745$ 2df $p<0.05$). These results, in terms of the sex of the intoxicated character, are shown in Figure 6:3.

Figure 6:3 Feelings Attributed to Drunk Person



Again, for the purpose of regression analysis, the response categories were condensed into two distinct categories: 'negative' and 'other' i.e. all other responses. Again, this failed to produce a satisfactory model and so separate chi-square analyses were conducted. The results are shown in Table 6:3.

Table 6:3 - Perceived Feelings of Drunk Person

Sex of Drunk Character			
	Male	Female	Total
Other	27	49	76
Negative	84	61	145
Total	111	110	221

$$\chi^2 = 10.0124; 1df, p < 0.0016$$

City by Sex of Drunk Person			
Edinburgh	Male	Female	Total
Other	9	27	36
Negative	45	27	72
Total	54	54	108

$$\chi^2 = 13.5000; 1df, p < 0.0002$$

Birmingham	Male	Female	Total
Other	18	22	40
Negative	39	34	73
Total	57	56	113

$$\chi^2 = 0.73367; 1df, \text{Not Significant}$$

Social Class by Sex of Drunk Person			
Middle Class	Male Drunk	Female Drunk	Total
Other	20	18	38
Negative	33	39	72
Total	53	57	110

$$\chi^2 = 0.4604; 1df, \text{Not Significant}$$

Working Class	Male Drunk	Female Drunk	Total
Other	13	25	38
Negative	42	31	73
	55	56	111

$$\chi^2 = 5.4384; 1df, p < 0.0197$$

The gender of the drunk character had a significant impact on subjects' perceptions of the drunk person's feelings. The male drunk was more likely to elicit a negative response than was the female drunk. Two interaction effects also occurred with this factor, with subjects from Edinburgh and those from working class backgrounds, both more likely to attribute negative feelings to the male drunk than towards the female drunk.

Experience of drunks

Just under 65% of subjects claimed to have previously seen a drunk person, as shown in Table 6:4.

Table 6:4 - Previous Sightings of Drunks

	Age				Total
	5-6 yrs	7-8 yrs	9-10 yrs	5-10 yrs	
	N	N	N	N	%
Yes	35	48	60	143	65
No/DK/None	34	28	16	78	35
	69	76	76	221	100

In this table, 'DK' represents the response 'Don't Know'

Because this was a lower figure than expected, 'sex of drunk' was retained as a factor in the following logistic regression analysis, in order to ascertain whether or not children presented with the female version of the film were giving responses in terms of drunk women rather than in terms of drunk people generally. However, as can be seen in Table 6:5, the lack of significant effect for 'sex of drunk' would indicate that this was not the case.

Table 6:5 - Experience of Drunks

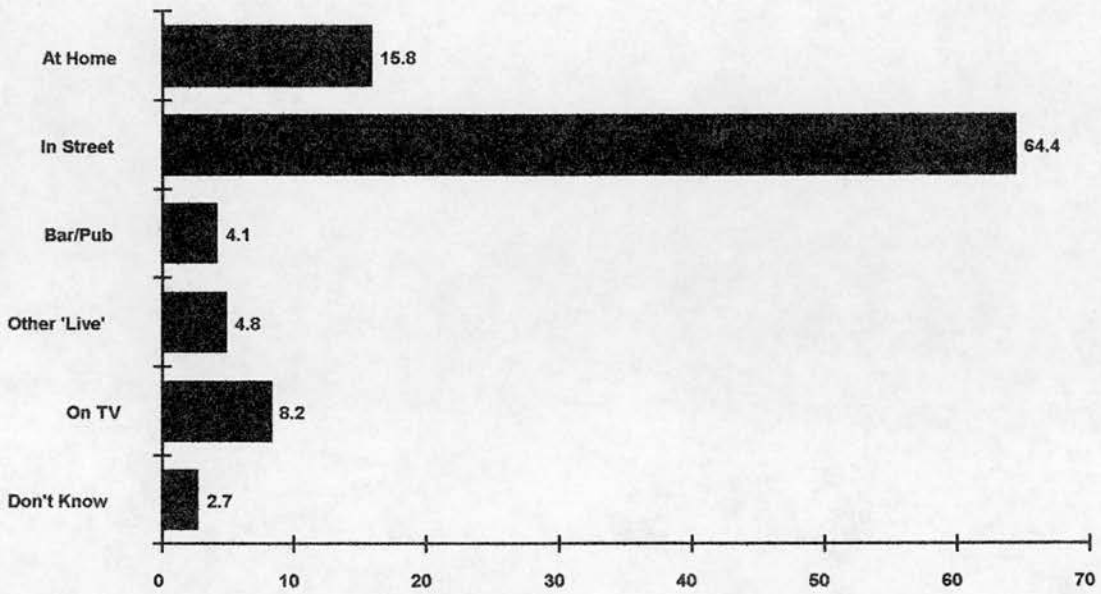
PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SES (MC)				
SES (2) - WC	0.6323	-0.2843	1.5489	1.88
RELIGION (Catholic)				
Religion (2) - Non-Den.	-0.8768	-1.7470	-0.0066	0.42
AGE (5 -6 yrs)				
Age (2) - 7 -8 yrs	0.6420	-0.1258	1.4098	1.90
Age (3) - 9 -10 yrs	1.5500	0.7104	2.3896	4.71
CITY (Edinburgh)				
City (2) - Birmingham	-1.5750	-2.2596	-0.8904	0.21
SES * RELIGION				
SES (2) * Religion (2)	1.3900	0.0694	2.7106	4.01

(Predicting the likelihood of previous sightings of drunks)

Not surprisingly, the odds of the oldest children having seen a drunk person were greater (4.7 times) than those for the youngest ones. In contrast, the odds of children from Birmingham having done so were only 0.2 those of Edinburgh subjects, and of non-Denominational subjects only 0.4 times those of Catholic subjects. Moreover, while working class subjects were more likely than middle class children from both Catholic and non-Denominational schools to have done so, this social class effect was greater among non-Denominational subjects.

Figure 6:4 shows the location of previous sightings of drunks reported by the subjects. Having excluded from analysis those subjects who reported never having seeing a drunk person, 89% of the remaining sample reported having seen a drunk person in the flesh. While the majority of these 'live' sightings had occurred in the streets, just under 16% had occurred in the family home. Only 8% mentioned the television as the source of their experience of drunk people and just under 3% could not recall where they had seen drunk people.

Figure 6:4 Location of Sightings



The main point of interest in this table, is the number of children witnessing drunkenness in the home. For this reason, logistic regression was conducted in which 'at home' responses were compared with all other responses (see Table 6:6). Subsequent results revealed that the odds of children from Birmingham reporting witnessing drunkenness in the home were nine times those of Edinburgh subjects. In contrast, for subjects of high verbal ability the odds of mentioning drunkenness in the home were only 0.26 times those for low scorers.

Table 6:6 - 'At Home' Sightings Compared with All Other Sightings

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
CITY (Edinburgh)				
City (2) - Birmingham	2.2400	1.0600	3.4200	9.39
BPVS (low score)				
BPVS (2) - high score	-1.346	-2.6926	6. ⁻⁰⁴	0.26

(Predicting the likelihood of drunkenness in the home)

6.1.2 DISCUSSION

Seventy-nine percent of the total sample required only the final section of the film in order to be successful on this task. Only eight children, (3.4%), failed to successfully recognise the drunkenness theme. Surprisingly, the rate at which subjects in the present study successfully identified the physical manifestations of drunkenness was slower than that reported by Jahoda and Cramond in their study. This was in part due to the fact that in the current exercise subjects, particularly the younger ones, were significantly slower to recognise the drunk woman than the drunk man, a contaminating factor which had not been present in Jahoda and Cramond's study design. However even accounting for this factor, the current study group remained slower at recognition. While this finding may appear somewhat counter-intuitive, it is supported by the fact that only 64% of subjects in the present study reported having previously seen a drunk person, in contrast to 97% of Jahoda and Cramond's study group.

While it had been predicted that subjects would be slower to attribute excessive drinking as the cause behind the woman's behaviour, it was also expected that subjects' responses to the questions 'What do you think of this person - is he/she nice or not nice?' and 'How do you think they are feeling - good or bad?' would also differ according to the sex of the drunk character in question. In fact, subjects' opinions did not differ overall with respect to the character's sex. Moreover, when the sex of the drunk person was shown to significantly affect the type of feelings subjects attributed to the drunk, this did not occur in the predicted direction. The female drunk was less likely than the male drunk to elicit negative attributions.

Although the possibility exists that there were some subtle differences between the 'male' and 'female' versions of the films which may have contributed to subsequent

differences in responses, the results discussed thus far suggest that the children, particularly those who were younger, were unfamiliar with the notion of drunkenness in women. Moreover, although as a whole the sample was generally condemnatory in their opinions of the drunk characters irrespective of the sex of character, they were less likely to attribute negative feelings to the drunk woman. This appears to conflict with subjects' attitudes overall towards drinking by adult women, and their perceptions of female normative behaviour in relation to drunkenness (see Chapter 4). However while the majority of subjects strongly disapprove of drunkenness in any adult, and tend to attribute negative feelings to intoxicated people, there appears to be a tendency to perceive the state of intoxication in women to be more lighthearted or less sinister.

With regard to reports of sightings of drunks, just under 65% of subjects claimed to have seen an intoxicated person, prior to the film presentation. This was a lower figure than had been predicted. As this particular question was phrased: Have you ever seen anyone like that? - it may have been the case that the children who had been shown the film of the drunk woman believed that they were being asked about drunk women specifically. However, there were no differences in responses in relation to sex of drunk person. Moreover, the fact that all but eight children had successfully identified drunkenness in the films, suggests that responses to this question were not truly representative of children's familiarity with drunk people. Of those children who said that they had seen a person who was intoxicated on some occasion previous to this testing session, 89% said they had encountered such an individual in the flesh, with by far the majority of these 'live' sightings occurring in the streets. Only 8.2% of subjects mentioned the television as the source of their familiarity with drunks. Of particular interest was the fact that just less than 16% of children reported drunkenness in the home. That is not to say that drunkenness is necessarily more of a problem within these families because as mentioned previously, young children have a

tendency to associate drunkenness with alcohol consumption regardless of actual quantity consumed. It may simply be that these occasions in the home were more salient to subjects at the time of testing than other, less immediate, occasions.

With respect to the main between-subject differences, age of subject commonly appeared to be a significant factor in terms of the types of responses given. In comparison with older subjects, younger children were slower to recognise the drunk female, less negative in their attitudes towards and perceptions of the drunk character, and less likely to have seen a drunk person on a previous occasion. This age-related trend has been apparent in a number of the tasks in this study. For example it will be seen in the following chapter that younger children are typically less knowledgeable about alcohol and drunks due in all probability to their age-limited abilities and opportunities for exposure to relevant information. Similarly, younger subjects have also been shown to hold less negative attitudes towards adult drinking in general, which ties in well with the theory that children of this young age have yet to fully develop an affective component in the context of their alcohol schemas.

With regard to the two socio-economic status groups, several differences were also observed. Middle class subjects were slower to recognise the physical manifestations of drunkenness, less inclined to hold negative opinions of drunks and were less likely to have previously seen a drunk, than were working class children. It might be speculated that children from the former backgrounds may indeed be less likely to encounter such scenes of intoxication and more likely to see drunkenness from a different, possibly lighter perspective than children from more socially deprived areas. Thus they would not readily associate their previous experiences with the characterisation of drunkenness depicted in the films. Alternatively, it may be that these subjects were giving what they perceived to be a calculated 'socially desirable' response.

Finally, differences were also observed when inter-city factors were examined. Children from Edinburgh were more likely than those from Birmingham to have previously seen a drunk person. In contrast children from Birmingham were the more likely to report incidents of drunkenness in the home, more likely to hold a negative opinion of the drunk person and with particular reference to the female subjects, were quicker at recognising drunkenness. The number of persons found guilty of offences of drunkenness (including both cautions and convictions) in England and Wales for the year 1990, was 86,392 (@ 17 per 10,000 total population). The corresponding figure for Scotland was 2,820 or 5.5 per 10,000 total population. While these figures are by no means a definitive account of the incidence of drunkenness, nor do they relate specifically to the two cities under investigation, they do give some indication of the differences in the recorded occurrence of drunkenness offences between the two countries. However, the fact that this pattern of incidence contrasts with the pattern of subjects' responses for previous sightings suggests that some other factor or factors must be responsible for these city differences. The fact that Birmingham subjects were more likely to report drunkenness in their own homes, might possibly be a contributory factor in terms of the more negative opinions held by these subjects. The divergent results overall may also be in part, a consequence of asking young subjects open-ended questions.

6.2 ALCOHOL EXPECTANCIES

In 1969, a report by MacAndrew and Edgerton was published, entitled 'Drunken Comportment: A Social Explanation'. In what was to become an extremely influential piece of work within the field of alcohol studies, these authors argued that the disinhibiting effects of alcohol consumption upon behaviour were not the direct result of alcohol's pharmacological action, but rather that such effects could be understood in terms of culturally learned responses:

'People learn about drunkenness what their society 'knows' about drunkenness; and, accepting and acting upon the understanding thus imparted to them, they become the living confirmation of their society's teachings' (p.88)

Marlatt and Rohsenow (1980) conducted a comprehensive review of a series of studies which set out to test this theory. To enable comparisons to be made between the possible pharmacological effects and those socially learned effects of alcohol upon behaviour, these studies incorporated a 'balanced-placebo design', as follows: one group of subjects received a number of drinks which they were told contained alcohol and which did in fact contain alcohol; a second group received drinks which did not contain alcohol and which they were told did not contain alcohol; the third group of subjects were given drinks which they were told contained alcohol but which did not in fact contain any alcohol; and finally, the fourth group were presented with drinks which they were told did not contain alcohol, but which did in fact contain alcohol. The results of these investigations provided persuasive evidence to support the proposition that simply believing that alcohol has been consumed can induce in individuals, behaviours characteristic of intoxication.

While the majority of experiments such as these have been targeted at individuals who are already drinkers, less is known about the development of alcohol-related expectancies among younger populations for whom alcohol consumption has yet to

become established. However, the evidence to date suggests that relatively sophisticated expectancies are apparent in non-drinking adolescents, after which direct experience of alcohol serves to consolidate them (Christiansen, Goldman and Inn, 1982).

The procedure for the task in the present study was similar to that employed by Gaines et al. (1988). Three stories incorporating each of three themes - social anxiety, celebration and escape - were retained. However, in addition to these, a fourth vignette was included, the theme of which involved drinking for reasons of consolation i.e. after having lost one's job. Specific details of these vignettes and the methodology of the task have been given in the Methods section of this thesis (see Chapter 3).

6.2.1 RESULTS

In the study by Gaines et al. (1988), a scoring system was developed whereby subjects received a cumulative score for their understanding of both the motivation for and consequences of drinking alcohol. This point system was as follows: 0 - don't know/no response; 1 - general antecedent or consequence; 2 - specific biological antecedent or consequence; 3 - specific psychological antecedents or consequences; 4 - both psychological antecedents and consequences of drinking. However, in the current exercise the inter-rater reliability check using this scoring technique resulted in an extremely low agreement rate between the scorers (i.e. approximately 50%). Following discussion between the two scorers it was decided to treat the motive questions and the consequence question separately using the following separate response categories for each, individually: 1. psychological/emotional; 2. to get drunk/being drunk; 3. general explanation unrelated to the specific context of the situation; 4. physical or biological; 5. don't know/no response. These scores were not cumulative.

Following the initial examination of the scores using this new criterion, agreement between the two raters was 84.6% for the 'motives' responses and 82.9% for the 'consequences' responses. The rationale behind the differing scores was then discussed by the two examiners, after which the rate of agreement reached was 87.3% and 91.7% respectively, the remainder consisting of more ambiguous responses on which the raters failed to agree.

Motives

Children's responses to the questions: 'Why do you think this person had three drinks of beer/whisky/wine?' and 'How do you think they were feeling before they had these drinks?' were examined together, as both questions attempted to ascertain children's explanations for the motives for drinking. The best response was to give a psychological or emotional response to either or both of these questions. In total there were four main response categories for this task, more explicit details of which are given below:

1. Emotional/Psychological:

Why did he/she have these drinks - 'To make her confident' (Anxiety); 'To congratulate himself' (Celebration); 'To console himself' (Consolation); 'She got a bit of a fright' (Escape)

How was he/she feeling before having the drinks - 'Sort of shy' (Anxiety); 'Very happy at winning' (Celebration); 'Downcast and miserable' (Consolation); 'A bit shocked' (Escape)

2. To get drunk: All responses which mentioned getting drunk as the motive behind drinking alcohol and which did not refer to emotional/psychological reasons at any point, fell into this category.

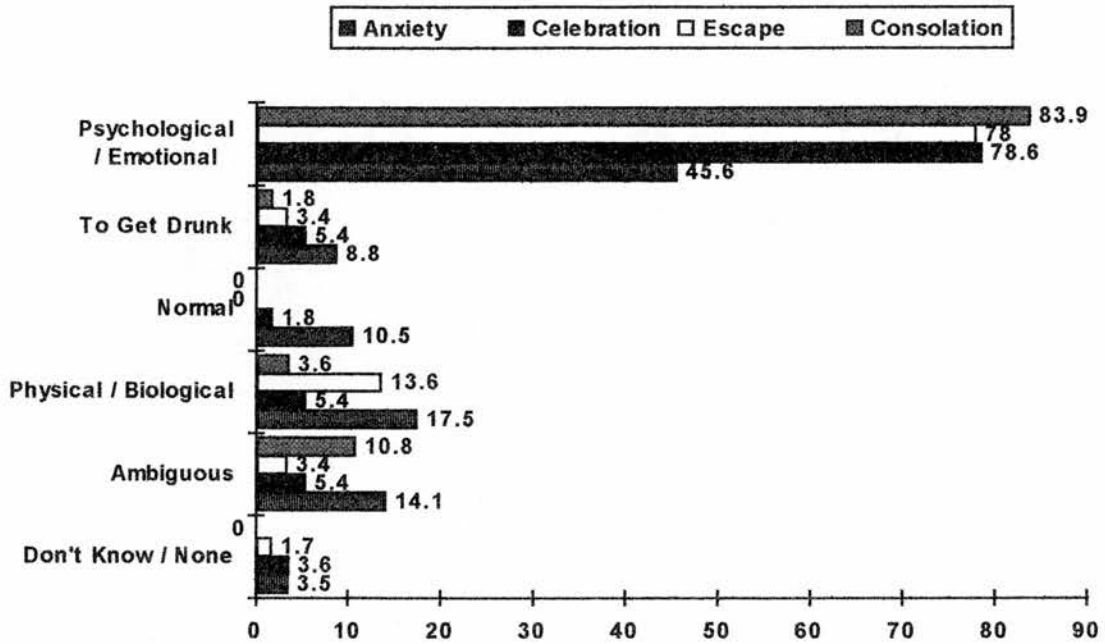
3. Normal: In this category all responses incorporated the belief that the drinking was not motivated by anything other than because the person wanted to, that is, there was no other particular reason behind this behaviour e.g. 'she felt like it'.

4. Physical/Biological: Responses in this category consisted of those in which sleepiness or thirst etc. were put forward as motivational factors e.g. 'he was thirsty'.

As can be inferred from this classification of responses, many of the 'motives' responses were phrased in terms of actual consequences of drinking. However, this study was concerned with the types of explanation given by children (e.g. psychological, physical etc.) rather than with children's understanding of motives versus consequences.

Figure 6:5 shows subjects' scores for the 'motives' questions for each of the four vignettes. For general interest, this figure also includes the proportions of subjects who gave ambiguous answers or no response at all. As can be seen from this figure, the majority of subjects gave a recognised psychological/emotional motive for the drinking for each of these situations.

Figure 6:5 - Motives for Drinking



Of particular interest were those subjects who had attributed a psychological or emotional motive to the drinking behaviour. For this reason, logistic regression was carried out, comparing subjects who had given this type of response with all other subjects. In addition, subjects' responses to the question of consequences of drinking were also included, in order to ascertain whether subjects' awareness of psychological consequences of drinking was a predictor of their awareness of psychological motives. The results of this analysis are shown in Table 6:7. It should be pointed out that due to the limitations of the statistical package used, (SPSS), it was not possible to examine all interaction effects, and as a result only the main effects were included in this analysis.

Table 6:7 - Subjects' Understanding of Adult Motives for Drinking

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
VIGNETTE (Anxiety)				
Vignette (2) - Celebration	1.9650	0.8822	3.0478	7.13
Vignette (3) - Escape	1.3980	0.2878	2.5082	4.05
Vignette (4) - Consolation	2.2650	1.1062	3.4238	9.63
AGE (5-6 yrs)				
Age (2) - 7 - 8 yrs	2.5880	1.5908	3.5852	13.30
Age (3) - 9 -10 yrs	3.1530	2.0382	4.2678	23.41
CITY (Edinburgh)				
City (2) - Birmingham	1.1650	0.3532	1.9768	3.21
BPVS (low score)				
BPVS (2) - high score	0.8781	0.0329	1.7233	2.41
CONSEQUENCE (emotion)				
Consequence (2) - other	-2.0710	-3.1316	-1.0104	0.13

(Predicting the likelihood of giving an emotional/psychological motive)

Examination of the responses in relation to the particular vignette subjects were presented with, revealed that the 'Social anxiety' vignette was less likely than the other three vignettes to elicit emotional/psychological motives for drinking. The odds of giving emotional motives for drinking, irrespective of the type of vignette, were greater for the following categories of subjects than those for their counterparts: older subjects (7-8yrs=13 times and 9-10yrs=23 times); those from Birmingham (3.2 times); and those scoring high on the verbal fluency test (2.4 times). Neither the sex of the character in the vignette nor the type of alcoholic drink involved appeared to affect children's responses. However, children who gave an emotional consequence were also more likely to give an emotional motive for drinking.

Consequences

The scoring system for these responses was similar to that used for the motives responses. A few examples are given below:

1. Emotional/Psychological:

How did he/she feel after having the three drinks of beer/whisky/wine - 'confident' (Anxiety); VERY happy (Celebration); Sort of better (Consolation); A bit relaxed (Escape).

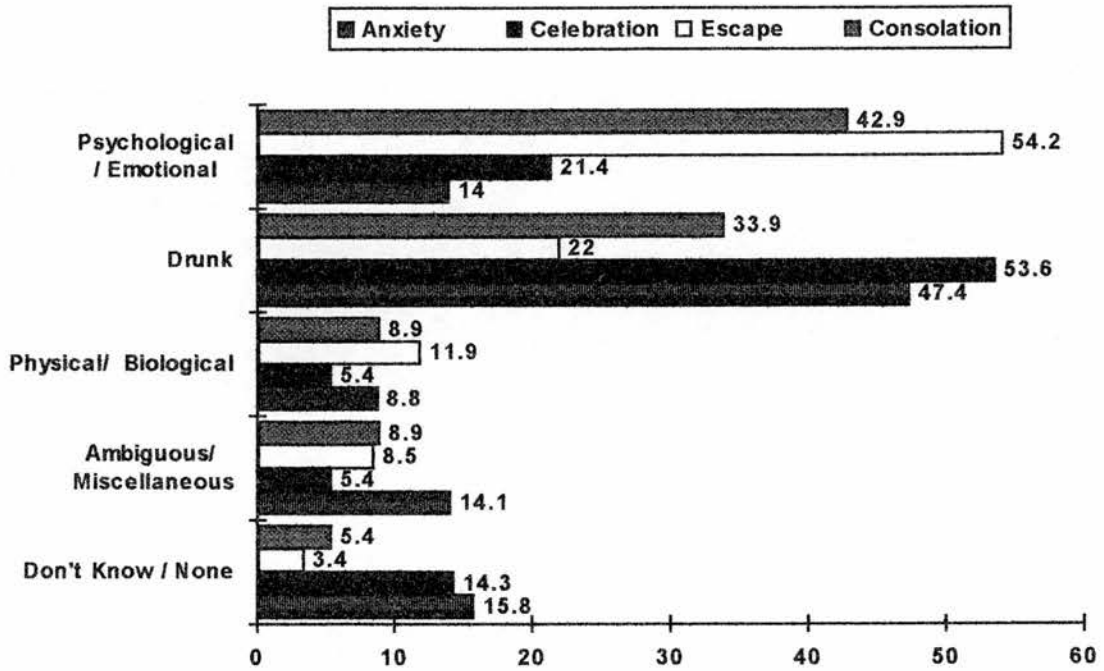
2. References to intoxication: 'Drunk'; 'dizzy'; 'Headache and things going round' etc.

3. Normal: In this section, there were no responses which fell into this category

4. Physical/Biological: Responses in this category referred to physical consequences other than those which were obviously associated with intoxication e.g. 'Lazy'; 'A bit better' (after being thirsty).

Figure 6:6 shows the patterns of subjects' responses in relation to the question: How do you think the person felt after having the three drinks of beer/whisky/wine? The most common consequence of drinking involved references to intoxication, although one third of the sample mentioned a psychological/emotional consequence. Again, for interest, ambiguous responses and response falling into the 'Don't Know/None Given' category have been included in this figure.

Figure 6:6 - Consequences of Drinking



As before, logistic regression was conducted in order to identify the main factors affecting subjects' performance on this question. This time, subjects' response to the motives question were included in the analysis, in order to ascertain whether an awareness of possible psychological motives for drinking predicted an awareness of the psychological consequences of drinking. These results are shown in Table 6:8.

Table 6:8 - Subjects' Understanding of the Consequences of Drinking

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
VIGNETTE (Anxiety)				
Vignette (2) - Celebration	0.0773	-0.9999	1.1545	1.08
Vignette (3) - Escape	1.7420	0.7462	2.7378	5.71
Vignette (4) - Consolation	1.1090	0.0916	2.1264	3.03
TYPE OF ALCOHOL (Beer)				
Type of Alcohol (2) - Wine	0.5640	-0.2666	1.3946	1.76
Type of Alcohol (3) - Whisky	1.0520	0.2310	1.8730	2.86
AGE (5 - 6 yrs)				
Age (2) - 7 - 8 yrs	-1.2260	-2.1374	-0.3146	0.29
Age (3) - 9 - 10 yrs	-0.6945	-1.5657	0.1767	0.50
MOTIVES (Emotion)				
Motives (2) - Other	-1.9130	-2.9292	-0.8968	0.15

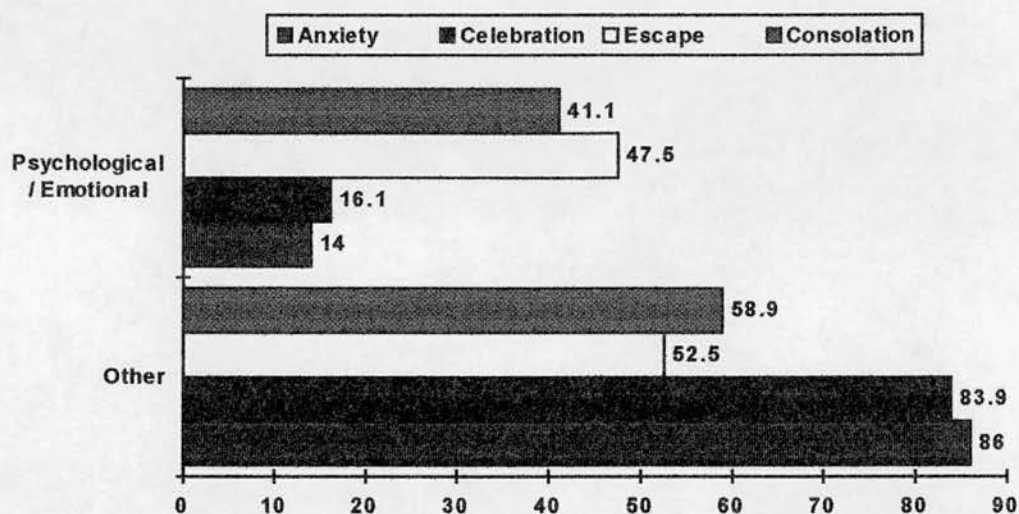
(Predicting the likelihood of giving an emotional/psychological consequence)

When the type of vignette presented was examined, it was found that the 'Social anxiety' story was again the least likely to elicit a psychological response together with the 'Celebration' story, with the 'Escape' vignette being the most likely to do so. In addition, a significant effect emerged in terms of the type of alcohol which the character in the vignette was drinking. The odds of subjects attributing psychological/emotional consequences to the drinker when the alcoholic drink was whisky were nearly three times those for when the drink was beer. As before, the sex of the character in the vignettes had no influence on the type of consequences which subjects predicted. Surprisingly, the odds for the middle age group of subjects giving an emotional consequence were only 0.3 times those for the youngest ones, while there was no significant difference between the oldest and the youngest children. This might be explained in part by the fact that the older children were more likely to give an emotional motive for drinking, and that in general those who gave such a response were also more likely then to give an emotional consequence.

Finally, the scores for the 'motives' question and the 'consequences' question were

combined. The proportions of coordinated replies according to the type of vignette are shown in Figure 6:7.

Figure 6:7 - Coordinated Motives and Consequences of Drinking



Only 68 subjects (29.8%) gave coordinated psychological responses. Logistic regression revealed no between-subject differences among those who fell into this category. However, for both the 'Consolation' and the 'Escape' vignettes the odds of eliciting coordinated psychological responses were respectively 5.7 times and 6 times those for the 'Social anxiety' vignette. In addition, the odds of eliciting this type of response for wine drinking and whisky drinking were 2.5 times and 4 times respectively, those for beer drinking (see Table 6:9).

Table 6:9 - Coordinated Psychological Responses

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
VIGNETTE (Anxiety)				
Vignette (2) - Celebration	0.1553	-0.9143	1.2249	1.17
Vignette (3) - Escape	1.7860	0.8382	2.7338	5.97
Vignette (4) - Consolation	1.5470	0.5858	2.5082	4.70
TYPE OF ALCOHOL (Beer)				
Type of Alcohol (2) - Wine	0.9130	0.0902	1.7358	2.49
Type of Alcohol (3) - Whisky	1.3860	0.5716	2.2004	4.00

(Predicting the likelihood of giving coordinated emotional/psychological responses)

6.2.2 DISCUSSION

This final task in the test battery was perhaps the hardest one for subjects, for two reasons. Firstly, this was the only main activity, in contrast to the informal questioning following several of the tasks, which was dependent upon a certain level of verbal ability on the part of subjects, and which consisted of a set of unprompted, open-ended questions. Secondly, it attempted to measure a more subtle understanding of alcohol, in comparison to the previous tasks which assessed children's more general knowledge of this topic. Nevertheless, very few subjects were unable to give any response following presentation of the vignettes.

With regard to children's perceptions of the motives for drinking alcohol, the majority of responses were of a psychological nature. Even so, several between-subject differences emerged. Not surprisingly, younger children and those with lower scores on the British Picture Vocabulary Scale were less likely than their counterparts to attribute psychological explanations to the subsequent drinking behaviour. These trends have been noted in several of the other tasks in this study and appear to be indicative of age-related limitations in both opportunities for social learning and cognitive ability to assimilate such information. The finding that Edinburgh subjects were less likely to give psychological explanations is more difficult to account for. The results from several of the previous tasks had indicated that children from Birmingham are somewhat less knowledgeable about certain aspects relating to alcohol, although the alcohol consumption rate per head of population in the West Midlands is somewhat higher than that for Scotland. It may be that in Scotland, drinking for motives other than emotional/psychological ones, are simply more predominant, or at least more salient to young children.

When children's responses to the consequences question were examined, only one third

of the sample mentioned psychological consequences, the majority of which related to the 'Escape' vignette. However, the greater proportion of responses overall referred to the intoxicating effects of alcohol, with the 'Anxiety' vignette most likely to elicit this type of response. Not one subject believed that the drinker would feel 'normal' after having three alcoholic drinks. In addition, when the specific drink portrayed in the story was beer, this type of drink was less likely than whisky or wine to elicit psychological responses from the subjects.

In contrast to the motives questions, the only difference in responses according to the between-subject groups was in terms of age of subject. Surprisingly, it was the youngest children who were more likely to mention an emotional consequence. However, this was probably due to the fact that when subjects' responses to the question of motives was entered in the analysis - the majority of whom giving psychological motives being the older children - this in itself may have influenced the proceeding results.

Examination of the combined responses for both the motives and consequences questions revealed that only 29.8% of the sample had given coordinated psychological responses. Interestingly, the 'Social Anxiety' vignette proved to be the most difficult to understand in terms of psychological/emotional motivations and consequences when responses were considered separately and in combination. A similar finding was reported by Gaines and his colleagues. It has previously been shown that the role of alcohol in the facilitation of social interaction is one that is often highlighted by many 12-year old children (Brown, Goldman and Inn, 1980; Christiansen, Goldman and Inn, 1982). However, it may be that for young children for whom similar concerns are yet to become important, it is less obvious to them as passive observers that an activity commonly associated with parties, gatherings etc. should be driven by more subtle motivations. Also of equal interest were responses to the 'Celebration' vignette. It

would appear that regardless of whether or not children attribute psychological motives for having several drinks in relation to celebrating, getting drunk is commonly perceived as an end in itself, whereas drinking for reasons of escape and to a lesser extent, for reasons of consolation, are more readily understood in terms of alcohol's 'perceived' ability to affect emotions.

When the motives and consequences were combined, the between-subject differences which had emerged for the motive responses were no longer apparent. While this may in part be due to the fact that the majority of children from all subject sub-groups referred to the intoxicating effects of alcohol when discussing the consequences of consumption, it may also partly be the result of misinterpretation of responses. It has already been pointed out that although young children do not readily reflect on the inner state of other individuals, this does not necessarily imply that they are unable to do so. Similarly, the assumption that adults interpret verbal messages from children in the way children intend them to be interpreted and vice versa can often be erroneous, especially when such open statements may contain certain ambiguous colloquialisms. Thus, in spite of the high inter-rater reliability in the scoring of responses, these results should be treated with caution.

Finally, it is worth noting that the sex of the person in the vignette exerted no discernible influence on children's responses. This is surprising in view of the evidence from the previous tasks which shows subjects to differentiate consistently between male and female drinkers. Specifically in terms of the 'Drunkenness' task, subjects were slower to attribute intoxication as the cause behind the observed behaviour when the character in the film was female. However, Gaines et al. (op cit) also reported no significant differences in subjects' scores between the male and female versions of the vignettes. On the other hand, the type of drink portrayed in the story did have an effect on responses. Beer was less likely than either wine or whisky to be associated with

coordinated psychological responses, possibly suggesting that while beer drinking is typically considered a more commonplace activity, wine and spirits or the so-called 'stronger drinks' are more readily associated with drinking to solve psychological or emotional problems.

In conclusion, it would appear that for many children, regardless of sex, social class, verbal intelligence and so on, intoxication is the most salient consequence of consuming this amount of alcohol. It would be interesting to know whether the same pattern would have emerged were the number of alcoholic drinks to have been reduced to one or two, although there is evidence to suggest that children rarely take into account the amount of alcohol involved when considering the effects of alcohol consumption upon drinkers (Casswell et al., 1988).

CHAPTER 7

INFORMAL SURVEY FINDINGS

7.1 EXPERIENCE OF ALCOHOL

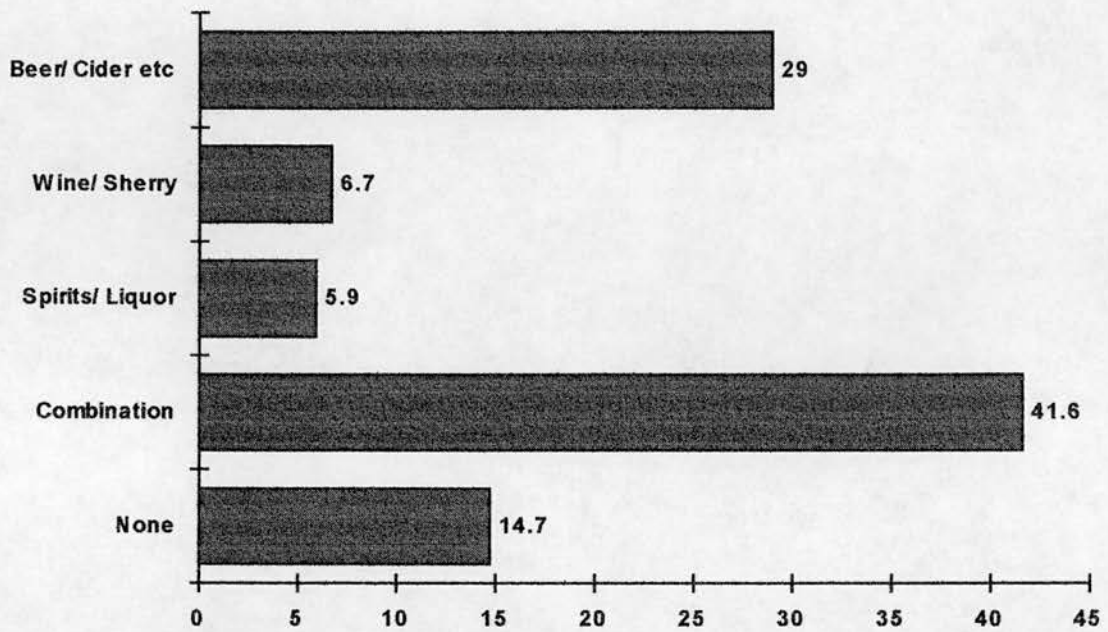
At specific stages during the main experimental tasks, subjects were asked a number of direct questions about their personal experience of alcohol. Both the 'Recognition of Smells' task and the 'Concept Task' provided ideal opportunities for questioning children about their previous contact with alcohol, without raising their suspicion as to the true aims of the study. There were no differences with regard to the format of these questions and the point at which they were asked, between the present study and that of Jahoda and Cramond.

7.1.1 RESULTS

a) 'Recognition of Smells' Task

During the 'Recognition of Smells' task, subjects were asked whether they could identify, on the basis of smell, a variety of substances including two alcoholic beverages - beer and whisky. If they labelled any of the odours as alcoholic beverages, correctly or otherwise, the opportunity was taken to ask children if they had ever tasted the kinds of drinks they had mentioned and if so whether they liked or disliked them. Although 13 children failed to correctly identify either of the alcoholic odours, eight of them did incorrectly guess that one or more of the non-alcoholic odours were alcoholic. Thus these additional questions could be asked to all but five children in the sample. Moreover, during the identification part of the task, children often mentioned alcoholic drinks other than beer or whisky. For example, on a number of occasions children mentioned drinks such as wine, sherry, vodka etc. although in fact none of these were present. As a result information relating to subjects' previous contact with a variety of alcoholic drinks was collected. Their responses to the question 'Have you tasted (this kind of drink) before?', are shown in Figure 7:1.

Figure 7:1 Subjects' Experiences of Alcoholic Drinks (1)



It is clear from this figure that the majority of children (n=198; 85.3%) claimed to have tasted alcohol, with those drinks most commonly tasted being beer, lager or cider. Logistic regression was performed in order to compare all subjects claiming to have tasted alcohol with those claiming not to have done so. These results can be seen in Table 7:1.

Table 7:1 - Children's Experience of Alcohol (1)

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
SEX (Male)				
Sex (2) - Female	-1.5890	-2.7900	-0.3880	0.20
RELIGION (Catholic)				
Religion (2) - Non-Den.	-0.6666	-1.9586	0.6254	0.51
SES (Middle Class)				
SES (2) - Working class	-0.9730	-1.7716	-0.1744	0.38
SEX * RELIGION				
Sex (2) * Religion (2)	1.7460	0.1050	3.3870	5.73

(Predicting the likelihood of having tasted one or more alcoholic drinks)

As a result of this analysis, two main significant effects emerged. The odds of girls having tasted alcohol were only 0.2 times those of boys, while the odds of working class subjects having done so were only 0.4 times those of middle class children. In relation to the sex-religion interaction, among the non-Denominational children there was a small difference between boys and girls who had tasted alcohol. However among the Catholic study group, the boys were significantly more likely than the girls to have done so.

Referring further to Figure 7:1 it can be seen that a substantial proportion of subjects mentioned having tasted more than one type of alcoholic drink. For this reason, the 'combination of drinks' category was broken down in order to examine the number of subjects who mentioned having tasted each specific type of drink (see Table 7:2). Whenever subjects claimed to have tasted one or more alcoholic drinks, they were also asked which of the drinks they liked and which they disliked. The number of occasions on which subjects reported that they liked or disliked these drinks are also shown in Table 7:2.

Table 7:2 - Children's Likes and Dislikes of Alcoholic Drinks (1)

	Tasted	%	Like	%	Dislike	%
Beer, Lager, Cider	165	55	78	47	87	53
Wine, Sherry	49	16	24	49	25	51
Spirits, Liquor	87	29	24	28	63	72
	301	100	126	42	175	58

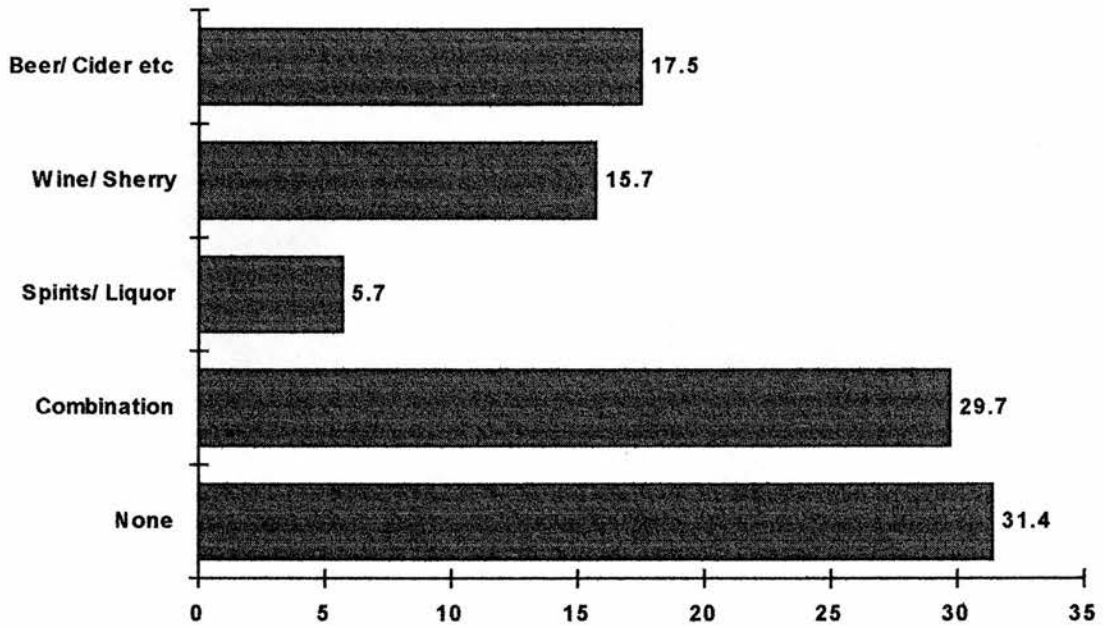
It should be noted that when the 'Combined' category of drinks was broken down, the number of children who claimed to have tasted spirits/liquor in relation to having tasted the other types of drinks, was greater than had been previously indicated in Figure 7:1, although 'beers' remained the category of drinks most frequently tasted. However, it should be borne in mind that subjects were not presented with wine during

this task, so the total number of subjects claiming to have tasted this type of alcoholic drink may be under-representative of their true experience of this particular type of beverage. On the whole, alcoholic drinks were more likely to be disliked than liked. This was mainly due to subjects' greater dislike of spirits/liquor ($\chi^2=10.263$; 2df; $p<0.01$) than of beers or wines, for which responses were more or less evenly distributed between the 'Like' and 'Dislike' options.

b) The 'Concept Task'

During the Concept Task, a second opportunity arose to ask subjects about their previous contact with alcohol. After the main experimental section of the task had been completed and while the various bottles of alcoholic beverages were still on display, children were asked to indicate which of these kinds of (alcoholic) drinks they had ever tasted before. Subjects who had previously failed to demonstrate an understanding of the concept of alcohol were not excluded from this questioning, as failure to do so did not necessarily imply a general lack of awareness of alcoholic drinks. However, bearing in mind that this task took place during the second session, at which time nine subjects were unavailable for testing, the responses of the remaining 229 subjects are given in Figure 7:2.

Figure 7:2 Subjects' Experiences of Alcoholic Drinks (2)



Interestingly, on this occasion a greater proportion of the sample now claimed not to have tasted alcohol, with just over 31% of the sample, saying that they had never tasted these kinds of drinks (in contrast to 15% following the 'Recognition of Smells' task). However, this particular result should be treated with caution. It may be that subjects were responding to this question in terms of the specific bottles of alcoholic beverages with which they were presented, and not in relation to the type of alcoholic drink these bottles generally represented. Again, logistic regression was performed on these data as shown in Table 7:3. Whether or not children had indicated previous experience of alcohol during the 'Recognition of Smells' trial was also incorporated into this analysis.

Table 7:3 - Children's Experience of Alcohol (2)

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
CITY (Edinburgh)				
City (2) - Birmingham	-1.3040	-2.6010	-0.0070	0.27
AGE (5 - 6 yrs)				
Age (2) - 7 - 8 yrs	-1.7310	-3.0226	-0.4390	0.18
Age (3) - 9 -10 yrs	0.3223	-1.3035	1.9481	1.38
SES (Middle Class)				
SES (2) - Working class	1.0770	0.2298	1.9242	2.94
BPVS (low score)				
BPVS (2) - high score	1.0510	0.1322	1.9698	2.86
EXPERIENCE TRIAL 1 (no)				
Experience (2) - yes	1.3860	0.4892	2.2828	4.00
AGE * CITY				
Age (2) * City (2)	1.5280	-0.1016	3.1576	4.61
Age (3) * City (3)	-1.3920	-3.2994	0.5154	0.25
SES * BPVS				
SES (2) * BPVS (2)	-1.7630	-3.2962	-0.2298	0.17

(Predicting likelihood of having tasted alcohol)

The pattern of subjects' experience with alcohol which now emerged, was quite different to that which had appeared during the previous task. Working class children were now more likely than middle class subjects to report having tasted alcohol, as were high scorers on the BPV Scale in comparison with low scorers. In addition, among the middle class subjects, those with high verbal ability were more likely than those with low ability to say they had tasted alcohol, whereas to a lesser extent among working class children, those with high ability were now less likely to have done so. Edinburgh children were more likely than the Birmingham subjects to have tasted alcohol, in relation to the youngest and oldest age groups. However, the finding that children who had previously indicated prior experience of alcohol during the 'Recognition of Smells' task were also more likely than those who said 'no' to report experience during this second line of questioning (the odds for this group giving this response were four times those for subjects with no prior experience), suggests some degree of consistency.

Moreover the pattern of responses of those who did claim to have tasted these drinks during both tasks was similar. As before, the majority of children who said that they had tasted alcoholic drinks claimed to have tasted a variety of them, so as before the type of drink categories were broken down according to the number of occasions on which the drinks were mentioned. This is shown in Table 7:4, together with details of the 'Like/Dislike' responses.

Table 7:4 - Children's Likes and Dislikes of Alcoholic Drinks (2)

	Tasted	%	Like	%	Dislike	%	DK	%
Beer, Lager, Cider	96	39	70	73	25	26	1	1
Wine, Sherry	85	34	62	73	22	26	1	1
Spirits, Liquor	67	27	39	58	27	40	1	2
	248	100	171	69	74	30	3	1

Again, the types of drink most commonly tasted either separately or in conjunction with other alcoholic drinks, were beers. However this time, when 'wine' had actually been present during the task, a greater proportion of subjects now said that they had tasted wine and a smaller proportion said that they had tasted spirits or liquor, than was the case following the 'Recognition of Smells' Task. Also on this occasion when not confronted with the odour of alcohol, subjects were more likely to claim to like all three types of alcoholic drink (excluding the single subject who claimed not to know), although as before, spirits/liquor elicited significantly fewer positive responses than either beers or wines ($\chi^2=11.657$; 2df, $p<0.005$).

In addition to these questions during the Concept Task, subjects were examined further about their experiences of alcohol. Their responses to the question 'Who gave you this/these taste(s)?' are shown in Table 7:5, excluding the 72 subjects who said they had not tasted alcohol.

Table 7:5 - Provider of Taste of Alcohol

	Age							
	5 - 6 yr		7 - 8 yr		9 - 10 yr		5 - 10 yr	
	N	%	N	%	N	%	N	%
Father only	28	51	25	50	16	31	69	44
Mother only	14	26	8	16	12	23	34	22
Both Parents	7	13	7	14	13	25	27	17
Relative/Friend	5	9	10	20	8	15	23	15
Self/Don't Know	1	2	0	0	3	6	4	3
	55	100	50	100	52	100	157	100

One or both parents were commonly reported to be the initiator of children's experience of alcohol (83%), and in particular the father was mentioned most often as the provider of the taste, either separately or in conjunction with the mother. Only one child aged five years could not remember who had provided the drink, and one eight year-old child claimed to have been given a taste by his 12 year-old brother. A further three children said that they had helped themselves to the alcohol.

Finally in this section, children were asked the location of this taste of alcohol. These responses are shown in Table 7:6.

Table 7:6 - Location of taste of alcohol

	Age							
	5 - 6 yr		7 - 8 yr		9 - 10 yr		5 - 10 yr	
	N	%	N	%	N	%	N	%
At Home	38	69	40	80	35	67	113	72
Relative/Friend's Home	4	7	5	10	8	15	17	11
Bar, Restaurant etc.	9	16	4	8	6	12	19	12
Other ¹	2	4	0	0	1	2	3	2
Don't Know	2	4	1	2	2	4	5	3
	55	100	50	100	52	100	157	100

¹ Usually an outside location e.g. a picnic, on holiday, or during a special occasion where the location was not specified by the subject

Of the 113 children who said that they had tasted alcohol while at home, seven mentioned that this had also occurred while at a bar or restaurant, and one while at her aunt's house. Two children also gave a combination of responses which did not include drinking at home - one girl claimed to have drunk alcohol in a bar and in the grounds of her school, while another boy mentioned drinking at a bar and at a party. When subjects who mentioned tasting alcohol at home were compared with all other subjects, the following significant trend appeared (see Table 7:7). The odds of children from Birmingham having tasted alcohol in the home were only 0.3 times those for Edinburgh subjects.

Table 7:7 - Location of Subjects' Taste of Alcohol

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
CITY (Edinburgh) City (2) - Birmingham	-1.1340	-1.8842	-0.3838	0.32
RELIGION (Catholic) Religion (2) - Non-Den.	0.7453	-1.9 ⁻⁰³	1.4925	2.11

(Predicting the likelihood of having tasted alcohol in the home)

7.1.2 DISCUSSION

As mentioned in the preceding section, the reliability of the responses to the question of experience with alcohol during the Concept Task should be treated with caution. A number of children (11.4%) had failed to demonstrate an understanding of the concept of alcohol during the main part of the task, or had given indirect references to alcoholic drinks (21%). In contrast, only five children failed to refer to alcohol during the 'Recognition of Smells' Task. As explained previously, failure to demonstrate an understanding of the concept of alcohol would not necessarily imply an associated lack

of awareness of alcoholic drinks in general, so these subjects were not then excluded from these additional questions. However, it may be that as a result some of these children experienced some difficulty with this line of questioning. In addition, it might be speculated that the latter task provided a more accurate reflection of direct contact simply because while alcoholic beverages can be packaged in a variety of colours and shapes of containers, the essential odour remains constant and more distinctive. For these reasons the following discussion on subjects' experience of alcohol will be biased toward the results from the 'Recognition of Smells' task, where applicable. However, the fact that children who reported having tasted alcohol in the first test were also more likely than those who had not to report experience with alcohol in the following test, suggests that there was some overall consistency in children's responses.

The vast majority of subjects in the study (85%) claimed to have tasted one or more types of alcoholic beverage, following the 'Recognition of Smells' task. This is substantially greater than the proportion documented by Jahoda and Cramond, in whose study 40% of subjects claimed not to have tasted alcohol following the 'Concept Task'. This was in spite of the fact that half of Jahoda and Cramond's sample had been tested following Christmas - a period during which one would expect children to be more likely to have tasted alcohol. (Even when results from the two studies were compared on the basis of the 'Concept Task' the present study yielded a lower proportion of non-tasters - 31.4%). On the other hand, a higher proportion of 'tasters' to that found in the present exercise, was reported by Casswell et al. (1983). Of Casswell's study group, 93% of young New Zealand children claimed to have tasted alcohol - a figure which was confirmed by reports from the mothers of these same subjects. However, it should be noted that in Casswell's study, the sample was slightly over-representative of socio-economically advantaged children, compared to the social structure of New Zealand as a whole, and in the present study, subjects from working-

class areas were more likely to be among those who said that they had not tasted alcohol (at least following the 'Recognition of Smells' task).

As expected on the basis of evidence from surveys of adolescents, as documented in Chapter 2, and in accordance with Jahoda and Cramond's findings, when a sex difference occurred in the present study boys were more likely than girls to have tasted alcohol. In addition, working class subjects were less likely than middle class children to have tasted alcohol. The latter trend may be a function of the difference between parental practice, as manual workers are more likely than non-manual workers or professionals, to be abstainers. However, these gender- and social class-related differences were found only following the 'Recognition of Smells' task. Following the Concept Task, the social class effect was in the opposite direction. In addition, a between-subject difference emerged in relation to the two cities. It is not clear why this finding should have emerged. The fact that the population of Birmingham consists of a considerable proportion of people from Asian backgrounds who for reason of religious affiliation and culture may be more likely to abstain from taking alcohol, may in some way account for these city differences. However, this trend may also in part be related to the finding that children from Birmingham were also less able than those from Edinburgh to group the bottles according to the alcohol/non-alcohol division during the earlier part of this task. This latter suggestion may also help to explain why the gender and class differences did not recur (or were different) during the 'Concept Task', as both boys and girls, and middle class and working class subjects were all equally adept at the bottle sorting task. Thus, there is added support in favour of the 'Recognition of Smells' task, as providing more accurate estimates of previous experience with alcohol. Nevertheless the interpretation of these results should be regarded as tentative.

The beverages most frequently associated with these early experiences of alcohol,

accounting for just under 50% of all drinks mentioned either exclusively or in conjunction with other types of beverage, were beers, lagers and ciders. This is in accordance with Jahoda and Cramond's report in which 55% of subjects in their study group had tasted these types of drinks only. It is worth noting however that many young children appear to use the term 'beer' to denote various alcoholic beverages (Noll and Zucker, 1990; Fossey, 1993), and thus this figure may be over-representative of the sample's real experience of beer *per se*. Moreover in Jahoda and Cramond's study, no mention was made of combinations of drinks, making it difficult to compare results accurately or alternatively suggesting that today children are more likely to experience a wider range of such drinks. In terms of what children thought about alcoholic drinks overall, the majority of responses for all drinks fell into the 'Dislike' category when degree of liking was examined following presentation of the odours. However, during the 'Concept Task', the majority of subjects said that they liked these drinks. It is likely that in the former task, the tendency for subjects to dislike the alcoholic drinks especially spirits/liquor is associated with the potent and off-putting odour of these drinks.

The initiator of subjects' experiences of alcohol was commonly reported to be one or both parents. On the occasions when only one parent was mentioned, it was the father who was mentioned most often. This is not surprising when one considers that married mothers constitute one of the lowest consumption rate groups (Foster, Wilmot and Dobbs, 1990). Nevertheless, the overall increase in the number of British women who do drink alcohol (Foster, Wilmot and Dobbs, *op cit.*) may account for the fact that a relatively higher proportion of children in the present study, did name their mother as the provider, either in combination with their father or separately.

As expected from looking at the provider of the taste, most children said that their experience of alcohol had occurred in their home, another trend that appears to have

remained stable since Jahoda and Cramond's report. The finding that children from Edinburgh were more likely than those from Birmingham to drink within the home, might again possibly be due to differing cultural practices of the ethnic minority children in Birmingham. Finally, although the tendency to drink outside of the home might initially give cause for concern, only two subjects gave a combination of responses which did not include drinking at home, and of these, only one gave a reply that suggested on one occasion her drinking had probably not occurred under the supervision of a responsible adult.

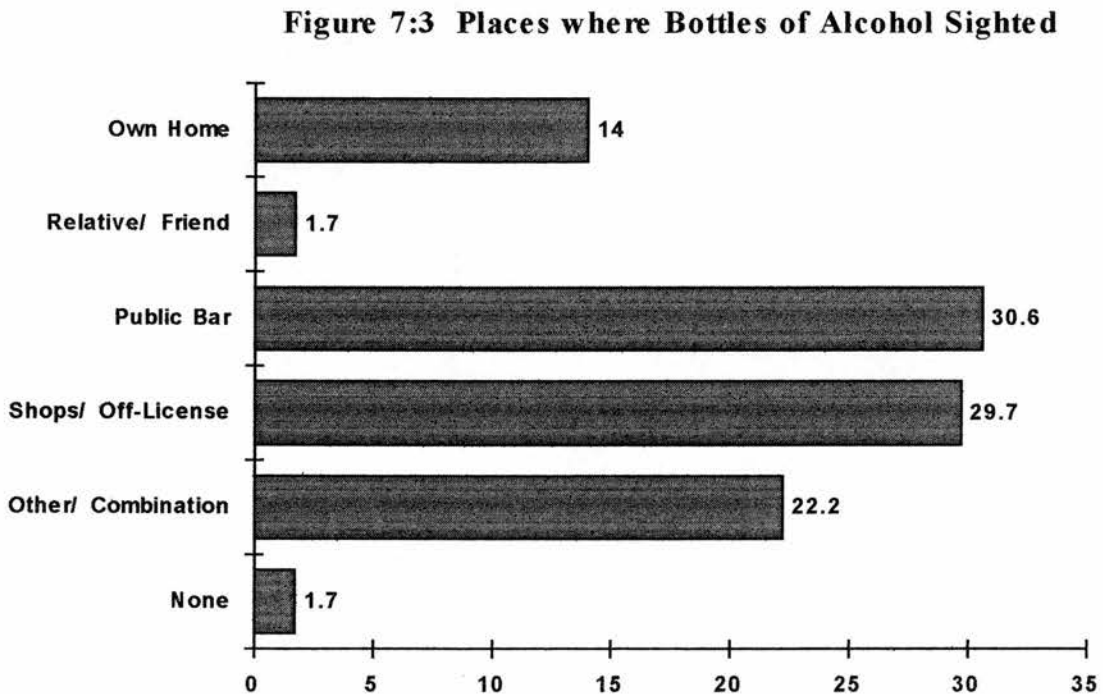
7.2 GENERAL KNOWLEDGE OF ALCOHOL

At various opportune points during the main experimental tasks, each child was also asked a number of additional, semi-formal questions. These particular questions were included in order to assess subjects' general knowledge of alcohol and drunkenness, as well as to gauge subjects' future orientations regarding their personal use of alcohol. This line of questioning adhered faithfully to that employed by Jahoda and Cramond.

7.2.1 RESULTS

a) Children's knowledge of alcohol

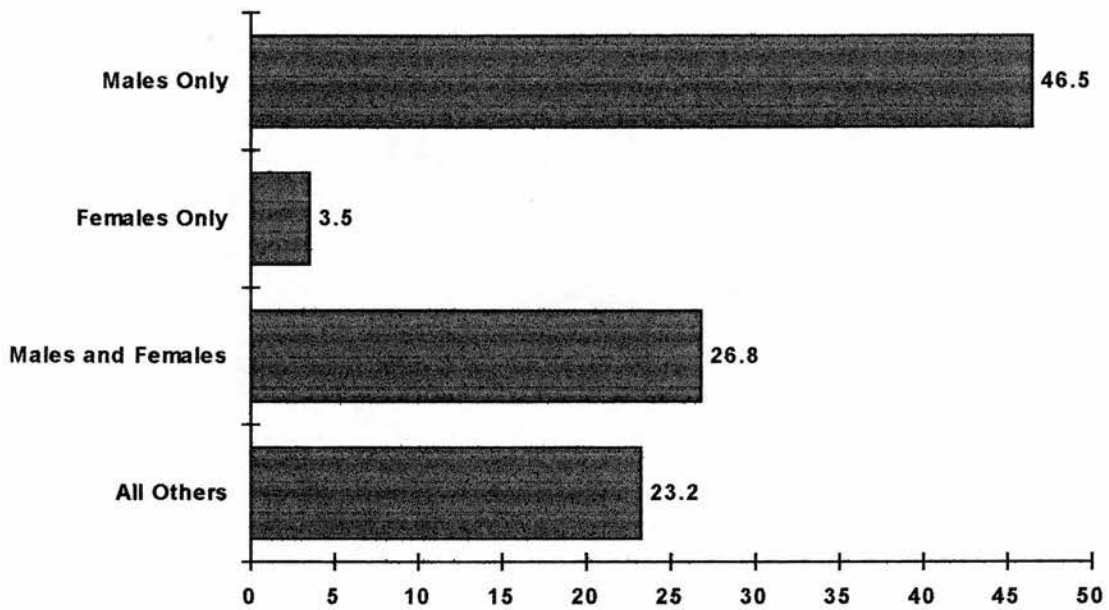
As part of the 'Concept Task', subjects were presented with an array of bottles of various alcoholic drinks. After completing the main task, children were then asked a series of additional questions. The first of these was: 'Where have you seen these bottles (of alcoholic beverages) before?' Their responses are shown in Figure 7:3.



The single most popular response was to mention a public bar or club. This was followed closely by 'shops', including both general stores and off-licenses, with subjects' own homes being the third most common single location. Not surprisingly a proportion of children also mentioned a combination of places where they had previously sighted bottles of this kind, their own home commonly being one of these.

When subjects were asked: 'Who drinks these types of drinks?', the majority (51.3%) made specific reference to their parents and other relatives, although one quarter of the study group widened their answers to incorporate the idea that alcoholic drinks are used by adults in general. Five children made reference to the observation that people who used these drinks were typically 'drunks' or 'winos'. The remainder gave either a combination of responses or none at all. Upon further examination of subjects' responses to this question, it became apparent that many children differentiated between male and female drinkers. For this reason Figure 7:4 illustrates subjects' responses in terms of whether they made specific mention of the sex of drinkers. As can be seen, men were considerably more likely than women to be associated with the consumption of alcohol.

Figure 7:4 Subjects' Beliefs about Who Drinks Alcohol



During the 'Concept Task' subjects were also asked: 'What have you been told or what have you heard about these kinds of (alcoholic) drinks?' Some examples of their responses are given below, together with the total number of subjects who gave this type of response and details of the respondents who made these particular statements:

Positive (n=1): They taste good (girl aged 8).

Factual (n=85): They get you drunk easily, especially strong ones (girl aged 10); You can buy them from a pub (girl aged 6).

Negative (a) Instructions not to drink (n=8): Not to drink them, not to taste them, and not to open the bottle (girl aged 6); Not to have those kinds of drinks (girl aged 6); Don't drink beer (boy aged 6).

Negative (b) For adults only (n=5): Children don't drink them, its bad for children (girl aged 8); Only grown-ups can drink them (girl aged 8); They're not right for kids (boy aged 10).

Negative (c) Physical Harm (n=39): They're not good for you - you could die (boy

aged 10); They're not very healthy for you (girl aged 10); When you wake up they give you a sore head (girl aged 10).

Negative (d) Miscellaneous (n=9): Beer's not nice (boy aged 6); It's horrible (girl aged 8yrs).

Although this question was asked in a semi-formal way, it was possible to categorise all responses into three distinct groups, as shown in Table 7:8.

Table 7:8 - Children's Knowledge of Alcohol

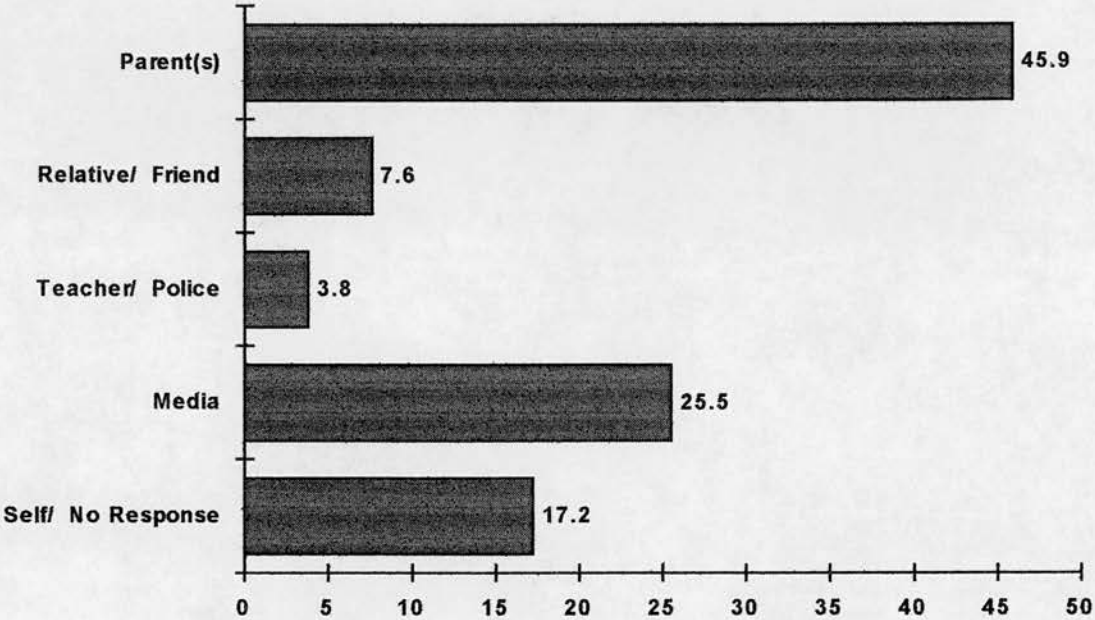
	Ages							
	5 - 6yrs		7 - 8 yrs		9 - 10yrs		5 - 10yrs	
	N	%	N	%	N	%	N	%
Positive/Factual	22	29	30	39	34	45	86	38
Negative	14	19	25	32	32	42	71	31
Nothing	39	52	23	29	10	13	72	31
	75	100	78	100	76	100	229	100

As can be seen from this table, the modal response was to give a factual statement, although a substantial proportion of subjects said that they knew nothing at all about alcohol. Within the positive/factual category, only one subject said something positive about alcohol. In order to ascertain whether subjects differed in terms of their responses to this question, a loglinear regression was carried out. This revealed several interesting trends. Subjects with low verbal ability were more likely to know nothing about alcohol and less likely to know something factual in comparison with high verbal ability subjects. As age of subject increased, the likelihood of knowing nothing decreased while the likelihood of knowing something negative or factual increased. This trend was particularly significant among the Birmingham sample and in relation to negative information. The table resulting from this analysis can be seen in Appendix 3.

Having established the type of alcohol information that subjects possessed, the source of this information was then examined. Excluding the 72 subjects (31.4%) who had

previously stated that they knew nothing, the responses of the remaining subjects are shown in Figure 7:5.

Figure 7:5 Source of Information about Alcohol



The major source of information for most subjects was either one or both of their parents. The next most popular response was that they had gained information about alcohol from the mass media. It should be pointed out that six of the children who mentioned the media also mentioned their parents. However, these were categorised under the 'media' category in the above table simply to give a more realistic picture of the proportion of children who mentioned this particular source. As this latter response category was the major alternative source to parents, and because previous research had suggested that responses falling into this category might have been greater (Casswell et al., 1985), logistic regression was conducted in order to compare all subjects who gave the 'media' response (including those six who also mentioned their parents) with all other subjects. The results of this analysis are shown in Table 7:9.

Table 7:9 - Source of Subjects' Knowledge of Alcohol

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
AGE (5- 6- yrs)				
Age (2) - 7 - 8 yrs	2.6600	0.5400	4.7800	14.30
Age (3) - 9 -10 yrs	2.8810	0.7810	4.9810	17.83
CITY (Edinburgh)				
City (2) - Birmingham	1.1020	0.2866	1.9174	3.01

(Predicting the likelihood of having learned about alcohol from the media)

Overall, the older children were significantly more likely than the youngest ones to say that the mass media were the source of their information (the odds were 14 times (7-8yrs) and 17.8 times (9-10yrs) those for the 5-6yr olds). In addition, the odds of children from Birmingham mentioning this particular source were three times those for the Edinburgh subjects. There was no association between the source of children's knowledge of alcohol and the type of information they gave, although it is worth noting the tendency for children from Birmingham to be both more likely to mention knowing something negative about alcohol and more likely to mention the media as being the source of this information.

b) Children's knowledge of drunks

A similar set of questions relating to drunk people was asked of subjects during the 'Films Task'. Once subjects had established that the character in the film was acting in a drunken manner, they were then asked what they had been told or what if anything they had heard about intoxicated people. Some examples of their statements are given below:

Factual (n=44): They just drink because they're sad (girl aged 10); They must be upset or under pressure (girl aged 10); They're alcoholics (girl aged 10); They fall over (boy aged 6).

Negative (a) Instructions not to drink (n=8): (You've) not to drink beer or you'll get

drunk (girl aged 6); When I'm big (I'm) not to drink so much (boy aged 8); (You) shouldn't drink because you'll get drunk like them (girl aged 10).

Negative (b) Instructions to avoid drunks (n=41): Stay away from them (girl aged 10, boy aged 8); (I've) not to go by them (boy aged 10).

Negative (c) Drunks as dangerous or aggressive (n=17): (You) shouldn't go near them as they could attack you (boy aged 10); Never go near them because they are dangerous (boy aged 10).

Negative (d) Miscellaneous (n=19): They're bad for drinking whisky (girl aged 6); They get silly (girl aged 8); If you see them go and tell mum and dad (boy aged 10).

Negative (e) Combined (n=9): Subjects in this category gave a combination of the above types of negative statements about drunk people.

Again, these responses were divided into three categories, as shown in Table 7:10.

Table 7:10 - Children's knowledge of 'drunks'

	Ages							
	5 - 6 yr		7 - 8 yr		9 - 10 yr		5 - 10 yr	
	N	%	N	%	N	%	N	%
Factual	14	19	17	22	13	17	44	19
Negative	14	19	28	36	52	68	94	41
Nothing/no response	47	63	33	42	11	15	91	40
	75	100	78	100	76	100	229	100

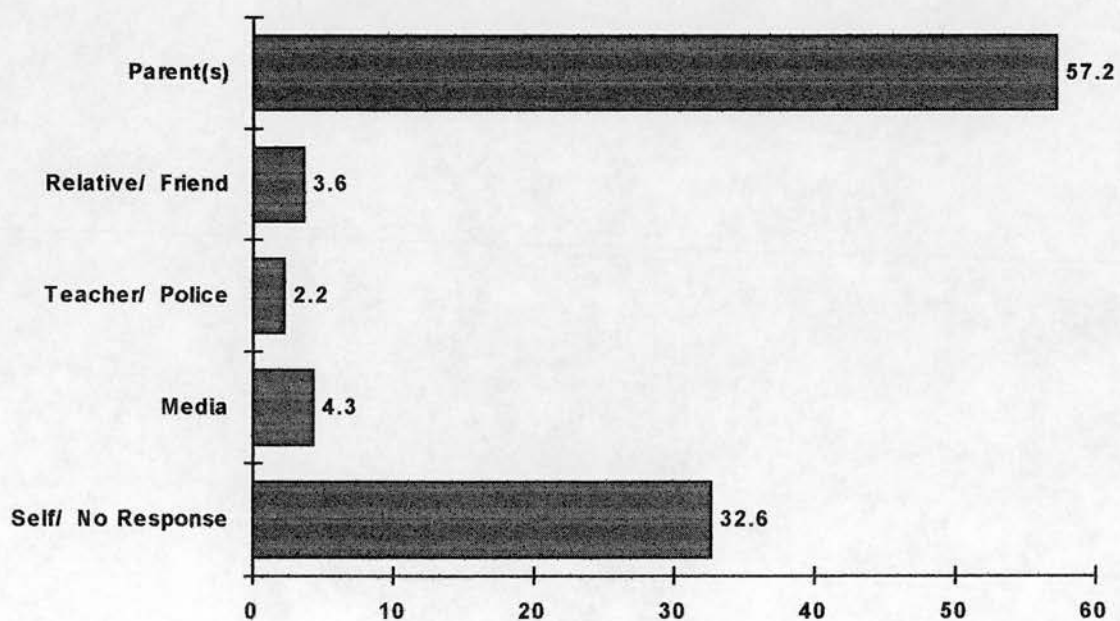
As before, a considerable proportion of subjects (39.7%) either gave no response or said that they had heard nothing about drunk people. Forty-one percent mentioned something negative, and only 19% gave some factual item of information. Not one child gave a positive statement about drunk people.

As with the question dealing with children's knowledge of alcohol, the responses to this question were analysed using loglinear regression (see Appendix 4). The same

three subject factors which emerged as significant predictors for knowledge of alcohol, also emerged for knowledge of drunk people, namely, age, city and verbal fluency of subjects. While both subjects of high and low verbal ability were more likely to know nothing than to know something about alcohol, the latter significantly less likely to mention something factual about drunks. Similarly, while both Edinburgh and Birmingham subjects were more likely to know nothing than to know something negative about alcohol, this difference was greater among the latter subjects. Finally, the older children were more likely than the youngest to know something, either negative or factual, about drunks.

Excluding the 91 subjects who reported having heard nothing about drunk people, the sources of children's information about drunk people are shown below in Figure 7:6. Again, the most common source for children of each age group was one or both parents, with very few children giving other positive responses. Interestingly, very few children cited the media on this occasion, in contrast to over a quarter of the subjects who mentioned this source in relation to information about alcohol.

Figure 7:6 Source of Information about Drunks



c) Children's Future Orientations Regarding Alcohol

Finally in this section, subjects were asked whether they thought they themselves were likely to drink when they became older. Responses are shown in Table 7:11.

Table 7:11 - Children's future orientations regarding alcohol use

	Ages							
	5 - 6 yr		7 - 8 yr		9 - 10 yr		5 - 10 yr	
	N	%	N	%	N	%	N	%
Definitely No	22	29	26	33	31	41	79	35
Possibly Yes/Maybe	2	3	10	13	15	20	27	12
On Special Occasions	2	3	5	6	7	9	14	6
Definitely Yes	47	63	29	37	17	22	93	41
Don't Know	2	3	8	10	6	8	16	7
	75	100	78	100	76	100	229	100

Just over one third of the sample said that they would not drink when they became older. While approximately two-fifths replied that they would drink in the future, a further 18% either said that they would probably do so, or qualified their response by indicating that they would only drink on special occasions. Only sixteen subjects were undecided as to their future drinking habits.

For the purposes of drawing comparisons between subjects, all qualified and unqualified 'yes' responses were grouped together with the 'don't know' responses. These were then compared with all 'no' responses. In addition to the standard between-subject variables such as age, sex and so on, subjects' knowledge of alcohol and of drunk people were also entered as variables in this analysis, in order to ascertain whether awareness of negative aspects of drinking alcohol might also have an effect upon children's future drinking intentions. The results are shown in Table 7:12.

Table 7:12 - Predictors of Subjects' Future Drinking Intentions

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
RELIGION (Catholic)				
Religion (2) - Non-Denominational	-1.1400	-2.2958	0.0158	0.32
BPVS (low score)				
BPVS (2) - high score	-2.1370	-3.4690	-0.8050	0.12
CITY (Edinburgh)				
City (2) - Birmingham	0.5263	-0.4857	1.5383	1.69
SEX (Male)				
Sex (2) - Female	0.7674	-0.1482	1.6830	2.15
SES (Middle Class)				
SES (2) - Working class	0.9645	-0.1953	2.1243	2.62
KNOWLEDGE OF ALC. (negative)				
Knowledge of alcohol (2) - other	-1.1870	-1.9332	-0.4408	0.31
KNOWLEDGE-DRUNKS(negative)				
Knowledge of drunks (2) - other	1.2330	0.4416	2.0244	3.43
AGE (5 - 6 yrs)				
Age (2) - 7 - 8 yrs	0.6242	-0.2052	1.4536	1.87
Age (3) - 9 - 10 yrs	1.3710	0.4346	2.3074	3.94
RELIGION * BPVS				
Religion (2) * BPVS (2)	1.7050	0.2120	3.1980	5.50
RELIGION * SEX				
Religion (2) * Sex (2)	1.3710	0.0150	2.7270	3.94
BPVS * SES				
BPVS (2) * SES (2)	2.8690	1.2400	4.4980	17.62
CITY * SES				
City (2) * SES (2)	-1.4940	-2.8546	-0.1334	0.22

(Predicting the likelihood of children not drinking in the future)

Looking at the main predictors only, four significant factors emerged. As might be expected, the odds of subjects knowing nothing/something factual about alcohol giving a negative response in terms of future drinking were only 0.3 times those of subjects knowing something negative. Surprisingly though, the odds of subjects knowing something which was not negative about drunk people saying they would not be future drinkers were 3.4 times those of their counterparts. With regard to age, the odds of the oldest subjects saying without qualification that they would not drink in the future were nearly 4 times those of the younger ones, while for high BPVS scorers the odds of giving this reply were only 0.12 times those of low scorers. Finally in relation to the

interaction effects: those with low verbal ability were more likely than high scorers to say no, whatever their religious affiliation but particularly among those attending Catholic schools; female subjects were more likely than boys to say no, again whether they attended a Catholic or a non-Denominational school, although this time this trend was greater for those attending the latter type of school; working class subjects were more likely to say no, whether they were of high or low verbal ability, but more so if they were of high ability; and finally in Edinburgh, working class subjects were more likely than middle class children to say no, while in Birmingham this class difference was of a smaller magnitude and in the opposite direction.

Finally, a simple chi-square analysis looking at responses to both the alcohol and drunks knowledge which children possessed, indicated that the majority of those knowing nothing or something negative about alcohol were also likely to know nothing or something negative about drunk people. However, the majority of those mentioning something factual about alcohol then mentioned something negative about drunk people ($\chi^2=31.29$; 4df; $p<0.00001$).

7.2.2 DISCUSSION

A relatively high proportion of subjects (31.4%) claimed not to have heard or not to have been told anything about alcohol, the majority of whom belonged to the youngest age group. Of the remaining subjects, most mentioned knowing something factual, and this was typically information referring to the possible intoxicating effects of alcohol consumption. Among the negative statements given, those relating to physically harmful aspects of drinking were made most frequently. Only one child said something positive about the taste of alcoholic beverages. The source of subjects' information about alcohol was commonly reported to be one or both parents, although just over one quarter of the sample referred to media sources.

Similar patterns emerged in relation to subjects' information concerning drunks, with just under 40% indicating that they could recall hearing nothing about such people. Moreover, there was a degree of consistency among those subjects who reported knowing nothing about alcohol and knowing nothing about drunk people. Again, the majority of these subjects were from the youngest age group. The most common type of statement from subjects who did give a response was negative, and within this category most subjects recalled instructions to avoid drunks. Not one subject mentioned something positive. Again, the most popular source of this information was one or both parents, followed this time by children's own first-hand observations. Interestingly very few children cited the mass media as the source of this aspect of their alcohol knowledge.

The between-subjects differences in terms of age, verbal fluency and city which emerged when knowledge of alcohol was examined, also occurred in relation to subjects' knowledge of drunks. On both occasions the youngest subjects and those with low verbal fluency scores were more likely than their counterparts to say that they knew either nothing or something negative about these topics. These consistent patterns strongly suggest that both age-related opportunities for exposure to and developmental differences in verbal ability to assimilate this type of information are important influences on these aspects of children's knowledge. However, the fact that similar patterns were not always evident during the main experimental tasks highlights the confounding effects of asking young children questions in an open-ended format. With regard to the between-city interaction effects, OPCS data indicate that the population of the West Midlands contains a greater proportion of heavy drinkers (29%) than does the population of Scotland (22%) as a whole (Foster, Wilmot and Dobbs, 1990). However, as mentioned before the differing trends might also be accounted for by the considerably greater proportion of ethnic minority peoples within the population of Birmingham, who as such are often likely to be affiliated to religions

or cultures which advocate complete abstinence from alcohol and/or the low verbal ability of these particular subjects.

Looking more closely at the kind of information children possessed, most of their statements commonly referred either to the fact that alcohol consumption leads to drunkenness or to physically harmful consequences, and that people who are drunk are generally to be avoided. In a study conducted in New Zealand by Casswell et al. (1983) children were asked a similar open-ended question: What do you know about what happens to people who drink beer, whisky or wine? In this sample too, the majority of responses concerned either the acute negative physical consequences of consumption or simply referred to the fact that alcoholic drinks induce drunkenness. Thus it may be that while the results from this and the other main tasks e.g. the 'Drinking Vignettes Task', demonstrated that many subjects in the present study, particularly older ones and those with high BPVS scores, were often aware of more subtle and more factual motives for drinking alcohol, the more negative aspects become especially salient to many children during this stage. This latter explanation certainly coincides with the overall pattern of rather negative attitudes towards adult drinking as shown in the 'Judgment of Photographs' Task.

By far the most frequently cited source of children's information was one or both parents. This contrasts with evidence from a recent study by Casswell et al. (1988), in which children cited the mass media more often than any other source. Even so, in the present study the media were cited by just over one quarter of the children who mentioned a source in connection with their knowledge of alcohol. These particular subjects were more likely to belong to the oldest age group, and on a number of occasions they would also mention the media in conjunction with other sources. It is worth noting that very few children referred to the provision of information about alcohol, formally or otherwise, in schools, and again, those that did tended to be older

children. However, as a potential source of information about drunk people, media influence was apparent only to a very small extent. This may have important implications for the argument concerning the type of social role models for drinking depicted by the mass media, i.e. depicting excessive drinking but without the negative consequences, but is probably more likely to be due to the result of more salient first-hand sightings of drunks by subjects, overshadowing other potential learning sources.

There are a number of differences between the findings reported here and those of Jahoda and Cramond. To begin with, the number of children in the present study who did know something about alcohol (68.6%) and drunks (60.3%) was considerably greater than the corresponding figures in Jahoda and Cramond's sample (33% and 38% respectively). Furthermore in the latter study, a greater majority of responses were of a negative nature. Moreover, while parents were most likely to be the source of this knowledge in both studies, a greater number of subjects in the current study cited alternative sources, especially those connected with the media. Speculation about the nature and extent of media influence in the transmission of socio-cultural norms and values has been discussed elsewhere in this thesis. Nevertheless, in relation to these particular aspects of children's alcohol cognitions, the media cannot necessarily be seen as particularly successfully endorsing a powerful positive image of alcohol or drunkenness, in that only one subject gave positive information about alcohol, the source of which was her parents. Moreover, although the present subjects appeared to be aware of more factual aspects of consumption rather than the more negatively-oriented subjects in Jahoda and Cramond's study, the type of knowledge the former possessed tended to be unrelated to their source. The only exception was with subjects from Birmingham, who, if they did know something were both more likely to know something negative about alcohol and more likely to mention the mass media as a source.

Finally in this section, children were asked about their future intentions to drink. This question was asked of subjects towards the end of the Concept Task but more importantly, before the Drunk Films. While the majority of children in each of the three age groups stated that it was their intention to drink when they grow older, just over one third of the study group said that they would not. Also worth noting is the fact that while children who said 'no' appeared to exhibit no element of doubt, there were varying degrees of affirmative responses. However, the fact that the vast majority of children do go on to drink alcohol during their adolescent years, suggests that for many of these children such expectations are quite unrealistic, and may represent responses perceived by subjects to be 'socially desirable'. Previous research has also suggested that the older children would be more likely than the younger children to say that they did not intend to drink (Jahoda and Cramond, 1972). Indeed in the present study this was also the case, with the older subjects more likely than the younger ones, to state unequivocally that they did not intend to drink. Furthermore, when sex and class differences emerged, it was the boys and the middle class subjects who were the more likely to predict that they would be drinking in the future. This gender difference corresponds to the overall picture of the attitudes and perceptions of alcohol use in relation to men and women, as reflected in the main tasks of the study. In addition, both the gender and the socio-economic status differences also tie in well with evidence from adult survey data, indicating higher rates of abstention among women and among those adults in manual professions. While it is understandable that children in possession of negative information about alcohol should be less likely to predict that they would be drinkers in the future, the opposite was true when information about drunks was considered. However, the type of negative information that children had acquired about drunks was most often exhortations by parents to avoid such people. Thus it may be that young children tend not to associate themselves, as future drinkers, with these specific types of people.

In conclusion, the results from this section are interesting from a methodological point of view as well as in terms of content. A high proportion of children, especially those from the youngest age group, felt unable to give an answer to these open-ended questions relating to alcohol and drunks. In contrast, their performance on the main experimental tasks indicated that they did indeed possess some knowledge about these issues. For example, only 11.4% of the sample had previously failed to demonstrate an awareness of the concept of alcohol, and an even smaller proportion (3.5%) had failed to recognise the physical manifestations of drunkenness during presentation of the films. Nevertheless it could be argued that this technique of questioning is useful in that it can reveal those aspects of children's alcohol cognitions which are more salient to them, in a way that questions containing prompts of some kind are unlikely to elicit.

CHAPTER 8

CHILDREN'S PERCEPTIONS OF TOBACCO USE

8.1 YOUNG CHILDREN AND TOBACCO

Jahoda and Cramond's study did not incorporate any questions relating to actual use of tobacco by subjects. However two of the tasks did present the opportunity of examining children's attitudes towards and perceptions of normative tobacco use. In brief, their results confirmed that young children were strongly disapproving of smoking. In addition, these subjects tended to attribute a significantly greater disliking of this activity to children than to adult men and women.

Although the present study was also primarily concerned with young children's alcohol cognitions, two of the tasks also incorporated several items designed to elicit information relating their ideas about tobacco use. These tasks were 1) the Judgment of Photographs - designed to elicit subjects' attitudes towards adult use of tobacco, and 2) the Perceived Likes and Dislikes task - designed to examine subjects' perceptions of what constitutes normative smoking behaviour in men, women and children. The original format in Jahoda and Cramond's study for the smoking items in both of these tasks was retained in the present exercise. In this chapter a brief overview of the literature pertaining to young children and tobacco use. This is followed by a detailed account of the results of the two tasks and discussion of the findings.

8.1.1 A BRIEF REVIEW OF THE LITERATURE

For the year 1991, total household expenditure on tobacco products in Britain, was just under £10m (Central Statistical Office, 1993). To put this into perspective, the corresponding figure for expenditure on TV and video entertainment was £7.710m and for books and newspapers etc. the total was £4.805m. On a more optimistic note, recent survey evidence suggests that the use of tobacco in Great Britain has shown a continual decline since 1972 (Foster, Wilmot and Dobbs, 1990). In the 1988 General Household Survey for Great Britain, Foster and her colleagues reported that 33% of

men and 30% of women aged 16 and over were current cigarette smokers, compared to the 1972 figures of 52% and 41% respectively. These current prevalence rates also illustrate the closing gap between the proportions of men and women who are now smokers. However, in Scotland alone, the prevalence of cigarette smoking among women is currently higher than that among men (Amos and Hillhouse, 1992).

Disappointingly, current trends in smoking habits amongst children are somewhat more worrying. Comprehensive information relating to smoking amongst British children is available from a series of surveys entitled 'Smoking Among Secondary School Children'. These have been conducted every two years since the first survey of this kind in 1982. The peak prevalence rates for regular smoking amongst school children in Britain occurred in 1984. During the following two years, the proportion of boys smoking regularly in England and Scotland had shown a decline. Although by the time of the 1990 survey these figures remained lower than those recorded in 1984, the decrease in prevalence had now reversed. In relation to the girls, the proportion of English smokers had decreased by the time of the 1988 survey, but is now showing an upward trend. In contrast, the proportion of Scottish female smokers has shown a continuous decline. Nevertheless, the current rate of smoking amongst Scottish secondary school children remains higher than that amongst pupils in England, with 19% and 20% of Scottish boys and girls respectively currently smoking either regularly or occasionally, compared to 15% and 17% of English boys and girls.

In general, it appears that although boys tend to experiment with cigarettes at a slightly earlier age than most girls, girls soon begin to catch up and may eventually overtake boys (Goddard, 1989; Currie and Todd, 1992; Loretto, 1993). For example, amongst the 11 year-old subjects in Goddard's sample, 86% of the boys and 90% of the girls claimed to have never smoked a cigarette. However, by the age of 15 years, these percentages had decreased to 36% and 34% respectively, with 17% of boys and 22%

of girls now claiming to be regular smokers (i.e. smoking at least one cigarette per week). Similar findings confirming this higher prevalence of smoking among older females have been reported by a number of British studies (Foster, Wilmot and Dobbs, 1990; Goddard, 1990; MORI, 1990; Bagnall, 1991). Nevertheless, it appears that young males are still more likely than young females to be among the heavier smokers i.e. those smoking more than ten cigarettes per day (Goddard, 1989; Goddard, 1990; Foster, Wilmot and Dobbs, 1990; Bagnall, 1991; OPCS, 1991; Loretto, 1993).

For young adolescents the key period during which initial experimentation with cigarettes occurs, is typically between the ages of 11 and 14 years. Even so, a proportion of children will have tried a cigarette at an earlier age. In Charlton's (1984) sample of school children in the north of England, 22.9% of boys and 15.7% of girls had already tried smoking before the age of 11 years. Although Goddard's survey of English schoolchildren indicated a decline in the proportion of 'early triers' since 1982, by 1988 17% of boys and 12% of girls had tried smoking by the time they were 11 years of age. Moreover, those boys and girls smoking *regularly* by the time of the 1988 survey, were considerably more likely than all other subjects to have first tried smoking before the age of 11. With regard to young Scottish children, Currie and Todd (1992) found significant regional differences among the proportions of children aged 11 years who had 'ever smoked'. These ranged from 5.9% of pupils in the Borders region to 23.5% for those in the Grampian region. The corresponding figure for children in the Lothian region was 16.2%.

There is a consensus among studies which have examined young children's beliefs about smoking, that most young children, irrespective of whether or not they currently smoke, are very much aware of the health risks associated with tobacco use. For example, in Oei and Burton's study of seven to nine year olds in Australia (1990), 34.1% of the sample claimed to have 'puffed' a cigarette. However, there was no

statistical difference between the high proportion of these 'puffers' and the high proportion of those who had never tried a cigarette, who agreed that smoking was 'bad for health'. Thus, for smokers it appears that the perceived positive aspects of smoking outweigh the negative implications for health.

A second consistent finding among studies of this topic is that young children generally possess extremely negative attitudes towards the use of tobacco (Charlton, 1984; Chassin et al., 1987; Goddard, 1990; Oei and Burton, 1990). In her study of 3,694 secondary schoolchildren, Goddard (op cit) reported that 82% of second-year high school children displayed negative attitudes and 18% displayed neutral attitudes towards smoking, while only one subject held clearly positive attitudes towards tobacco. Of the various positive attributes that might possibly be associated with smoking the one given most credence by these subjects was 'looking grown-up'. Similarly, Charlton (1984) surveyed over 15,000 children between the ages of eight and 19 years in the north of England. Of those older children who claimed to be regular smokers, the most common reason they put forward to explain their habit was that smoking calmed their nerves, whereas the younger smokers said that they smoked to enhance their image. In contrast, the non-smokers of the sample felt that others smoked simply to 'show off'.

While both smokers and non-smokers exhibit rather negative attitudes, there is evidence to suggest that smokers (Goddard, 1990), and female smokers in particular (Charlton and Blair, 1989), are more likely to hold slightly less negative views. Moreover, for some children, the extremely negative attitudes that they espoused when young, become less disapproving over time, eventually resulting in the uptake of smoking (Chassin et al., 1984; Goddard, 1990). In view of this trend it is perhaps less surprising that by the age of 15 years, approximately one fifth of British schoolchildren will be regular smokers. Moreover, Goddard's data in particular, suggests that the

majority of these young smokers will be girls. Other variables which appear to be important predictors include having brothers, sisters and/or parents who smoke; living with a single parent; having no intention of continuing in full-time education after the age of 16; and finally, giving credence to the possibility of becoming a smoker in the future (Goddard, 1990).

8.1.2 RESULTS

(a) Children's Attitudes Towards Adult Smoking

Included in the sets of photographs presented to subjects during the 'Judgment of Photographs' task, were several photographs of either men or women engaged in one of two smoking-related activities. In the case of the women, this activity was smoking a cigarette, while the men were shown either smoking a cigarette or smoking a pipe. Attitude scores for the smoking items were derived according to the same procedure as that used to derive attitude scores for the alcohol items, as outlined in Chapter 3. Thus, in the following table a score of below 40 indicates a positive attitude and a score of above 40 indicates a negative attitude towards smoking, with 70 being the maximum score possible. Table 8:1 shows the attitude scores for all subjects in relation to each smoking item.

Table 8:1 - Attitudes towards adult smokers by age of subject

	Age							
	5 - 6 yr		7 - 8 yr		9 - 10 yr		5 - 10 yr	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Cigarettes								
Men	50.63	12.96	56.69	10.23	58.80	11.53	55.39	12.06
Women	50.33	12.23	55.08	11.28	57.26	10.38	54.24	11.64
Both	50.45	11.32	55.65	10.25	58.08	10.14	54.74	11.00
Pipe								
Men	48.30	10.59	51.51	9.18	50.97	8.47	50.27	9.52

It can be seen from this table that the sample as a whole held distinctly negative attitudes towards smoking a cigarette. Attitudes towards pipe smoking were also clearly negative, but slightly less so than attitudes towards cigarette smokers. As mentioned above, only men were depicted smoking a pipe in these photographs.

Separate analyses were carried out on both of these smoking items, in order to identify which, if any, factors may have influenced subjects' attitudes. Table 8:2 shows the results of the analysis of variance for the item 'smoking a cigarette'. To minimise presentation of these results, only those interactions which were significant have been included in the following tables.

Table 8:2 - Subjects' Attitudes Towards Smoking a Cigarette

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	29406.34	146	201.41		
Constant	1316197.05	1	1316197.05	6534.81	0.000
Age (A)	4960.51	2	2480.26	12.31	0.000
Sex (B)	602.37	1	602.37	2.99	NS
SES (C)	9.96	1	9.96	<1	NS
City (D)	284.26	1	284.26	1.41	NS
Religion (E)	31.92	1	31.92	<1	NS
BPVS (F)	1571.24	1	1571.24	7.80	0.006
Within-Subjects					
Within Cells	4587.12	146	31.42		
Gender (G)	115.08	1	115.08	3.66	NS
B * G	709.53	1	709.53	22.58	0.000

Additional examination of the raw means data, coefficients and 95% confidence intervals revealed the following trends. As age of subject rose, attitude scores for 'smoking a cigarette' became increasingly negative, although it should be stressed that even the youngest children demonstrated quite clearly negative attitudes. In addition, subjects who recorded above average scores on the British Picture Vocabulary Scale held more negative attitudes than did low scorers, towards cigarette smoking. Whether the person smoking was male or female did not significantly affect overall attitudes.

However female subjects were more negative when the person shown smoking in the photograph was a woman.

A single anova was carried out for the item 'smoking a pipe', as only men were depicted in these photographs. Both main effects and two-way interactions were examined. The results of this analysis can be seen in Table 8:3.

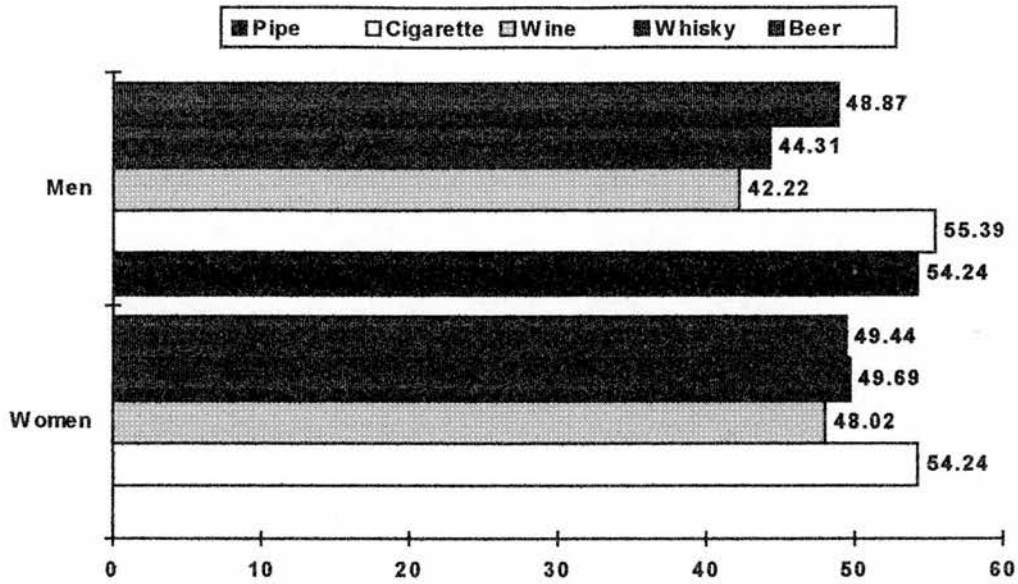
Table 8:3 - Subjects' Attitudes Towards Smoking a Pipe

Source of Variation	SS	DF	MS	F	SIG (P)
Main Effects	1245.64	7	177.95	2.012	NS
Age (A)	452.45	2	226.23	2.558	NS
Sex (B)	9.55	1	9.55	<1	NS
SES (C)	512.02	1	512.02	6.789	0.017
City (D)	105.53	1	105.53	1.193	NS
Religion (E)	8.99	1	8.99	<1	NS
BPVS (F)	3.27	1	3.27	<1	NS
2-way interactions	2048.19	1	2048.19	1.16	NS
B * C	358.46	1	358.46	4.05	0.046

Attitudes scores for this activity did not differ significantly in relation to age of subject. In fact, the only significant main effect to emerge from the analysis was in terms of social class. Middle class children, and in particular middle class boys, were more disapproving than working class children of smoking a pipe.

Figure 8:1 illustrates the sample's attitudes towards smoking in general with those towards alcohol. It can be seen that on the whole, the smoking activities elicited more extreme negative attitudes from the sample, with men smoking a cigarette receiving the highest score of all.

Figure 8:1 - Attitudes towards Tobacco and Alcohol Use



b) Children's Perceptions of Social Norms relating to Smoking

The pre-recorded lists of activities presented to subjects during the 'Perceived Likes and Dislikes' task also included one or other of the two smoking-related activities i.e. either smoking a cigarette or smoking a pipe. Thus, the lists presented to approximately half of the sample contained the item 'smoking a cigarette', while the other half of the group listened to a list of activities which included 'smoking a pipe'. On no occasion did any subject receive both of the smoking items. Again, the procedure for calculating scores for the smoking items was the same as that used for the alcohol-related items in this same task. Thus, in the following tables, scores range from 10 (maximum dislike) to 40 (maximum liking), with 25 being the neutral point.

Table 8:4 - Perceived Likes/Dislikes for Smoking

	AGE							
	5 - 6 yrs		7 - 8 yrs		9 - 10 yrs		5 - 10 yrs	
	mean	SD	mean	SD	mean	SD	mean	SD
Cigarettes								
Child	12.92	7.11	12.00	5.52	10.39	1.37	11.75	5.28
Woman	19.86	10.58	19.88	10.77	18.55	10.06	19.43	10.41
Man	22.64	9.96	22.75	11.21	19.74	10.19	21.71	10.49
Pipe								
Child	13.82	6.41	12.37	5.54	11.77	4.44	12.65	5.55
Woman	16.71	8.49	13.42	6.38	12.43	4.95	14.20	6.96
Man	23.55	10.89	24.34	9.53	24.86	9.01	24.25	9.78

Looking at the overall scores for the group as a whole, it should be emphasised that subjects' perceived all three roles (i.e. men, women and children) to dislike both smoking activities, although to varying degrees. A general pattern emerged, with the greatest perceived dislike for smoking both a cigarette and a pipe attributed to children. Less extreme dislike for both of the activities was attributed to women, although in relation to pipe smoking this occasionally reached a similar level to that attributed to children. Finally, men were perceived to dislike these activities least.

Table 8:5 - Perceived Likes/Dislikes for Smoking a Cigarette

Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	4543.06	45	100.96		
Constant	92499.12	1	92499.12	916.22	0.000
Age (A)	424.19	2	212.10	2.10	NS
Sex (B)	143.28	1	143.28	1.42	NS
SES (C)	319.93	1	319.93	3.17	NS
City (D)	181.09	1	181.09	1.79	NS
Religion (E)	10.48	1	10.48	<1	NS
BPVS	850.33	1	850.33	8.42	0.006
Within-Subjects					
Within Cells	4019.44	90	44.66		
Identity of Drinker (G)	4998.85	2	2499.42	55.96	0.000
B * G	337.15	2	168.58	3.77	0.027

Table 8:5 shows the results of the analysis of variance for 'smoking a cigarette'. In general, children attributed greater dislike of smoking to children than they did to either men or women. In addition it was found that the female subjects attributed greater dislike of smoking to young girls than did the male subjects to young boys. Finally, subjects who had previously attained a high score on the British Picture Vocabulary Scale, perceived greater general dislike of smoking a cigarette than did those with lower scores.

Table 8:6 - Perceived Likes/Dislikes of Smoking a Pipe

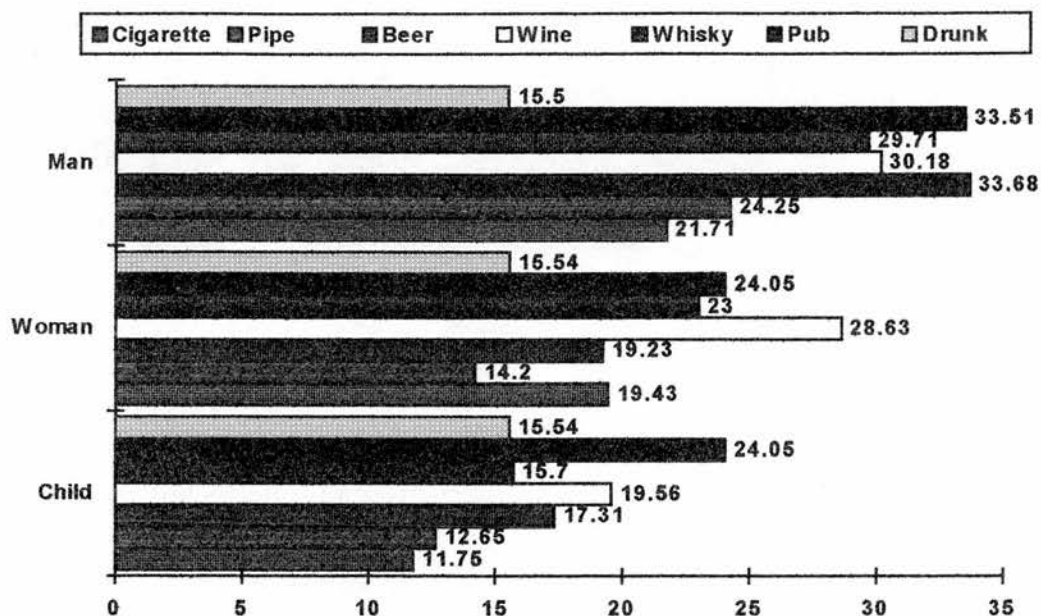
Between-Subjects	SS	DF	MS	F	SIG (P)
Within Cells	3462.50	44	78.69		
Constant	94627.08	1	94627.08	1202.48	0.000
Age (A)	193.98	2	96.99	1.23	NS
Sex (B)	43.96	1	43.96	<1	NS
SES (C)	9.63	1	9.63	<1	NS
City (D)	10.19	1	10.19	<1	NS
Religion (E)	147.79	1	147.79	1.88	NS
BPVS (F)	18.51	1	18.51	<1	NS
Within-Subjects					
Within Cells	3658.33	88	41.57		
Identity of Drinker (G)	8955.29	2	4477.64	107.71	0.000

Looking at Table 8:6 it can be seen that perceptions relating to smoking a pipe were quite unaffected by any of the six between-subjects factors. However liking scores did differ in terms of the type of smoker involved. As expected, children attributed less dislike of smoking a pipe to men than they did to women or children.

Finally, Figure 8:2 shows subjects' perceived likes/dislikes for both the smoking-related items and the alcohol-related activities. In comparison to drinking any of the three types of alcoholic beverage, subjects perceived dislike of smoking either a cigarette or a pipe was considerably greater. The only exception to this trend was subjects' more negative attributions for women drinking beer. However, 'being drunk' remained the

activity most commonly perceived to be disliked by men, women and children, overall.

Figure 8:2 - Perceived Likes/Dislikes for Tobacco and Alcohol



8.1.3 DISCUSSION

Overall, subjects displayed extremely disapproving attitudes towards smoking in general, although cigarette smoking elicited slightly more negative attitudes than did pipe smoking. Likewise, children's perceived dislike of such activities was also high, particularly when these were associated with young children like themselves. Again, a difference emerged in relation to the two types of smoking activity, with less dislike of pipe smoking than of cigarette smoking being attributed to men. Despite being generally more negative about tobacco use in comparison to alcohol consumption, the pattern of subjects' responses to both of these types of activity were very similar.

With regard to cigarette smoking, attitudes towards this activity were distinctly

negative even among the youngest children, although they became more disapproving as age of subject increased. As with the oldest children, those subjects who displayed greater verbal fluency on the British Picture Vocabulary Scale were also more disapproving than low scorers of smoking a cigarette. These children also gave higher perceived dislike scores than did low scorers, irrespective of whether the smoker was a man, woman or child. Alternatively, there were no corresponding age differences in relation to children's like/dislike attributions. All three subject age groups attributed similar levels of dislike for smoking a cigarette, nor did attitudes differ according to the gender of the smoker.

The finding that there were no main differences between subjects' attitudes towards male and female cigarette smokers was particularly interesting. A similar finding also emerged in relation to their attitudes towards beer drinkers (see Chapter 5), in which subjects were more negative about beer drinking generally and did not distinguish between male and female drinkers. However, when the possible influence on performance of the type of person engaged in smoking a cigarette was considered in association with the gender of subject, a significant trend did emerge. Firstly, just as girls had previously been found to be more condemnatory of female beer drinkers, in the current task it was found that girls were also particularly disapproving of female smokers. In addition, while children generally attributed a greater dislike of smoking to children than they did to adults, girls perceived greater dislike for smoking than boys, when the role was that of a child of the same sex. Unfortunately, it was not possible to perform a cross-sex comparison to examine whether these children either did in fact perceive a real difference between the preferences of girls and boys, or that girls were simply more disapproving than boys in general, of tobacco use.

Also of interest was the fact that subjects' attitudes did not differ in terms of social class. Although the OPCS surveys of children do not collect data corresponding to

social class differences, data relating to adults have shown a higher prevalence of smoking among manual workers than those in non-manual professions. However, information of this kind in relation to Scottish children has been examined by Currie and Todd (1992). These authors found that of the female smokers in their sample, those whose fathers were in manual employment (17%) were significantly more likely than those whose fathers were in non-manual professions (12%), to be current smokers. For this reason it might reasonably have been expected that the working class and middle class children in the present sample would have differing views of smoking in adults. However, this was not the case. Moreover, despite the fact that the prevalence of cigarette smoking is somewhat higher in Scotland than in Great Britain as a whole, for adults and adolescents, and males and females (Amos and Hillhouse, 1992), there were no corresponding differences in the attitudes and perceptions of smoking among the present study group.

In general, subjects' scores with regard to smoking a pipe were more or less uniform, with the exception of social class. Children from middle class backgrounds were more disapproving than those from working class backgrounds. Data from the 1991 OPCS survey has indicated that while cigarette smoking is lowest among adults in non-manual occupations and highest among those in manual occupations, there are no such differences in relation to pipe smoking. Indeed Foster, Wilmot and Dobbs (1989) found that only 4% of the adult men in their sample claimed to be pipe smokers. However, the finding in the present study does suggest that, at least for this study group, pipe smoking may be more predominant among the middle classes, and is therefore of greater issue to these particular children. With reference to subjects' perceptions of the social norms for pipe smoking, these results revealed no differences between subjects. However, as expected, children attributed less dislike of smoking a pipe to men than they did to women and to children.

The early development of both attitudes and norm perceptions in relation to alcohol has been discussed in greater detail elsewhere in this book (see Chapter 5), and for this reason, few additional comments will be mentioned here. However, there are two points which should be highlighted. The first is that children of this age range evidently consider the use of tobacco to be less acceptable and of more serious concern than the use of alcohol. The source and content of didactic messages concerning alcohol, both on a personal level and on a policy level, are varied and often conflicting. In contrast, similar messages relating to the harmful effects of tobacco are on the whole less confused and therefore more coherent to young children. Thus, unlike the almost neutral attitude scores of the youngest children following the 'alcohol' version of the 'Judgement of Photographs' task, their scores on the 'tobacco' version of this same task indicate more clearly established attitudes. Moreover, the tendency of the sample as a whole, not to differentiate between male and female smokers reinforces the idea that smoking under any circumstance and by any person, cannot be condoned.

This leads on to the second issue, which concerns the recurring theme of sexual stereotyping, and in particular that exhibited by the girls in the sample. As mentioned above, it is difficult to be certain as to the explanation behind the female subjects' stereotypical responses in the 'Perceived Likes/Dislikes' task. Do they reflect a genuine perception of gender-based differences or are they simply due to the fact that girls perceive tobacco and alcohol use in a more negative light than do boys? The finding that girls are generally particularly disapproving of female smokers when asked to judge both male and female adult smokers, suggests that the former explanation may be closer to the truth.

Finally, there is some evidence that children's ideas about smoking may have changed a little over the last twenty years. The negative attitudes of the younger children in the present study were relatively more pronounced than those of their age counterparts in

Jahoda and Cramond's sample. Thus it appears that the more recent introduction of nationwide campaigns against smoking are not only achieving success in terms of an overall decline in adult smokers, but are also continually reinforcing in children from an early age, negative messages concerning tobacco. This is echoed in the findings of several studies assessing the impact of smoking education on young children, in which modest positive achievements have been noted both in terms of the young children themselves (Wilcox and Gillies, 1981; Gillies and Wilcox, 1984) and in relation to their parents (Wilcox et al., 1981). In contrast the tendency for girls to be more disapproving of female smokers appears to be a persistent one. This trend was observed in both the present exercise and the study conducted by Jahoda and Cramond. It is more difficult to draw similar conclusions in terms of the perception scores, as these data were treated differently by the authors. In the current study analysis was carried out on the two smoking items separately, whereas Jahoda and Cramond combined the 'smoking a cigarette' and 'smoking a pipe' items in their analysis. Nevertheless, it appears that in comparison to the subjects in the original exercise, the children in the current study generally tended to perceive greater dislike of these smoking activities.

CHAPTER 9

CONCLUSIONS AND RECOMMENDATIONS

9.1 THE MAIN FINDINGS

Since the publication of Jahoda and Cramond's report in 1972, additional research into the development of young children's alcohol cognitions has been noticeably scarce. The assumption that children are innocent with regard to alcohol and would therefore constitute a somewhat irrelevant area of study, has probably been the major barrier to investigation of this topic. Opinion, both then and now, remains heavily influenced by this belief. Parents too, commonly assume ignorance on the part of their children (Fossey and Miller, 1994). However the findings of the present study, while not based upon a nationally representative sample, do however suggest that in Britain a substantial number of children will have tasted alcohol well before their teenage years. While this apparent divergence between opinion and practice may in part be due to a generational shift in parental conduct with regard to alcohol and young children, it is more likely to be due to imprecise recollections of parents' own early experiences with alcohol. As has been remarked upon elsewhere in this book, personal accounts of the age at which initial contact with alcohol occurred, tend to increase as a function of age.

It might also be argued that young children may be over-reporting the extent of their direct experiences with alcohol. The difficulties involved in interpreting children's responses to what may be perceived to be socially sensitive questions have been discussed previously in Chapter 1. However, it was for this reason that the present study was primarily designed to provide objective results, placing as little reliance on direct verbal questioning as was possible. With such a young age group, it was not possible to assess directly, the extent of children's personal contact with alcohol, as this would have necessitated asking subjects to taste alcoholic drinks. Instead, under these circumstances, a test involving the recognition of alcoholic odours provided the best alternative strategy.

9.1.1 DEVELOPMENTAL TRENDS

The results of the 'Recognition of Smells' task, having first accounted for shortcomings in ability to identify odours per se, revealed extremely high levels of familiarity with alcohol. Only thirteen children (5.5%) were unable to identify either one of the two alcoholic beverage odours. This finding indicates that familiarity with alcohol is indeed a pervasive phenomenon among young children, at least within the two study areas. Moreover the results suggest that any differences in subjects' performance were largely attributable to corresponding differences in ability to identify odours generally.

Although the two alcoholic beverages involved in the odour task - beer and whisky - were identified by similar numbers of children, there was a clear trend for subjects to use the term 'beer' to denote either of these drinks. This tendency to use specific names of alcoholic beverages as a generic term incorporating all such drinks was again highlighted in the 'Concept Task'. Only 26 children (11.4%) failed to demonstrate some awareness of the conceptual difference between alcoholic drinks and other drinks. However, while the majority of the oldest children were both more likely to separate the eight bottles according to the alcohol/non-alcohol division and were more likely to apply the correct verbal label to this concept (ie. 'alcohol'), for the sample as a whole, the most popular method of describing this difference was in terms of names of specific alcoholic drinks (ie. 'they're all beers').

The proportion of subjects who demonstrated an awareness of the operational concept of alcohol was 88.6%. Whereas nearly all of the subjects from the two older age groups were able to do so following assistance from the experimenter, a slightly, but nevertheless significantly, smaller proportion of the youngest subjects (81.4%) were also successful. Performance on the preceding training trial ie. the fruit/non-fruit' task, indicated that all but eight subjects understood the idea of category concepts.

Moreover, failure to understand the fruit/non-fruit groupings was not a predictor of failure to perform the alcohol/non-alcohol groupings. Thus it would appear that, while children as young as five-and-a-half years are cognitively able to categorise objects according to an accepted set of ideas, their performance will inevitably be dependent upon their familiarity with the objects in question and the category which they constitute. The finding that the verbal explanation applied to the alcohol groupings also differed according to the age of subject, provides further support of this. In addition, although the majority of all subjects were able to apply correctly, the term 'fruit' to the food groupings, a considerably smaller number ($n=61$; 30%) referred to the term 'alcohol', in relation to the bottles, only one of whom belonged to the youngest age group. Thus, while the operational concept of alcohol appears to become established at around six or seven years of age, the verbal concept appears at a slightly later age, when children are approximately eight or nine years of age.

Subjects' understanding of the consequences of consuming alcohol was examined by two of the tasks in the study. The ability of subjects' to recognise the physical manifestations of heavy alcohol consumption during the 'Drunkenness Films' task was extremely high. In fact, children were as familiar with drunken comportment as they were with the odour of alcoholic beverages. The finding that most subjects were able to pinpoint the cause behind the behaviour they were viewing, despite the fact that additional sound cues were not present, suggests that most children are aware of the intoxicating effects of alcohol upon adult behaviour, although again, it was the youngest children who were less likely to be able to do so. In contrast, children's understanding of the possible psychological motives and consequences of consumption, as measured by the 'Drinking Vignettes' task, was less well developed. This is not surprising in that emotional expectations with regard to alcohol are by definition, less readily observable to young and old alike and thus require more subtle understanding. It should also be re-emphasised that there was a certain amount of

disagreement between the two raters in relation to the children's scores on the 'Drinking Vignettes' task. This highlights the problem of interpretation between child and adult communications. It might be that in some cases, the child's response was misinterpreted by the raters. For example, although some children may in fact have possessed a degree of understanding of the psychological motives and/or consequences of drinking, they may have been unable to convey this succinctly to the experimenter. There is also the possibility that children were unsure of the questions asked of them. Finally with regard to the consequences of consumption specifically, physical intoxication may not have been the only consequence known to children but simply the most salient one, especially considering that fact that the theme of drunkenness had been covered in the immediately preceding task. For these reasons it is difficult to make decisive statements on the basis of these results. However, it is possible to conclude tentatively, that while most children in this study group were familiar with drunken comportment by the age of five-and-a-half, an understanding of the perceived psychological effects of consumption, appears to develop at a slower rate.

The remaining tasks presented to children in this study, were designed to produce indirect measures of subjects' perceptions of the norms relating to alcohol use by men, women and children, and their attitudes towards adult use of alcohol. With regard to the former, children appeared to have quite well established ideas about what constitutes normative drinking behaviour with particular reference to adult male and female drinkers. The consumption of all three types of alcoholic beverage was perceived to be very much the preserve of adult males, although subjects did attribute a liking of wine to women. Moreover, these perceptions tended not to differ with respect to the age of subjects. However, this was not the case when subjects' attributions for children were considered. Although even the youngest subjects were able to distinguish between the degrees of inappropriateness of drinking alcohol by children and by adults, the older children tended to advocate this more strongly.

In contrast, children's attitudes towards adult drinkers did differ in relation to age of subject. Irrespective of both the gender of the drinker and the type of alcoholic beverage consumed, as age of subject rose, children became increasingly negative towards drinkers. Together, these findings suggest that while many young children are aware of differences in normative adult drinking, either the ability or the propensity to make moral judgements about these behaviours, develops at a later stage. Examination of children's attitudes towards adult smokers, strongly suggests that even the youngest children were well aware of the negative value placed by many key 'authority figures', upon tobacco consumption. Young and old subjects were extremely disapproving of all smokers, although again the older children were even more so. Thus, the results suggest that while young children do have the ability to make critical judgements about certain activities at this stage, the intensity with which these attitudes are held increases, as older children become more 'socially aware' of the implications and thus are more likely to make internalised moralistic judgments.

9.1.2 GENDER-RELATED DIFFERENCES IN PERFORMANCE AND SEXUAL STEREOTYPING

Although boys and girls tended not to differ in their levels of knowledge of alcohol, their interpretations of drinking norms and their attitudes towards adult drinkers did show marked differences. In addition, whenever the tasks necessitated subjects to differentiate between men and women in association with various drinking activities, the sample as a whole likewise reflected these differences in their responses. The first task which presented subjects with the issue of gender, was the 'Judgment of Photographs' task. Although children did not differ significantly in their attitudes towards male and female beer drinkers, both the female whisky drinkers and the female wine drinkers elicited greater disapproval than did their male equivalents. This bias was

also in evidence during the 'Perceived Likes and Dislikes Task'. On this occasion, while men were perceived to like all but one of the alcohol-related activities, women were perceived to like drinking wine only. While it might be argued that these children were only distinguishing between males and females because they were presented with the opportunity to do so, their spontaneous responses to the informal question 'Who normally drinks these kinds of (alcoholic) drinks?' (see Chapter 7), suggest that this is not the case. Finally, further objective evidence of this stereotypical effect, emerged during the 'Drunkenness Task'. Following the presentation of the films, it became apparent that the female drunk was likely to cause subjects difficulty, in terms of attributing drunkenness to the observed behaviour. Whereas those subjects who had been presented with the 'male' version of the film, were markedly quicker at understanding the theme. In fact, the only task in which a sex of character effect was not apparent, was following the 'Drinking Vignettes Task'.

Taken together, these findings suggest a reluctance on the part of young children, to associate with women a variety of alcohol-related activities. Of particular interest were subjects' responses to the idea of drinking wine. This item had been introduced to the present study as an example of a less stereotypically male activity. However, while on the one hand, subjects acknowledged that drinking wine was as normal an activity for women as for men, they evidently disapproved of women doing so. Nor could this trend be attributed solely to the double-standard of the boys, as it transpired that it was the girls who were the more judgmental. That is, not only were the female subjects often more likely to disapprove of both male and female drinkers and more likely to attribute greater dislike of such activities to both, but they were also more likely than boys, to disapprove of and perceive greater dislike on the part of female drinkers in particular. This tendency was also apparent in the girls' perceptions of norms relating to young girls like themselves. Girls were more likely to attribute a general dislike of alcohol-related activities among girls than were boys in relation to other boys.

Speculation as to why this sex-stereotyping should occur has been documented in greater detail in Chapter 5. However in brief, it appears that both the type of information children acquire and the way in which they assimilate this, are factors which may be responsible. Contrary to the common belief that women are now more likely to be considered as the equals of men in relation to many issues eg. education and employment opportunities, most of the literature pertaining to the consumption of alcohol, appears to negate this. A persistence in the stereotype that women who drink and get drunk are somehow more worthy of reproach than men, has been reported by several studies of young adults (Fillmore, 1984; Snortum, Kremer and Berger, 1987; Landrine, Bardwell and Dean, 1988). Nevertheless, a more recent study by Lang, Winiarski and Curtin (1992) suggests that the situation may be changing. The perceptions of a study group of undergraduates in the United States, were found not to differ in relation to male and female drinkers. However, the finding that these same students were also more likely to be positive in their perceptions of non-drinkers, in opposition to their own drinking habits, might be suggestive of an inclination to give what might be perceived to be 'politically correct' responses.

The findings of this present study are important if they imply that girls internalise some form of guilt or shame about drinking. Perhaps there still exists a perceived discrepancy between the behavioural norm for women drinkers and the view that this is somehow at odds with the traditional female role. It has also been suggested that women with alcohol problems are often deterred from seeking help, due to this stigma. Alternatively, there may be a more simple and less sinister explanation for these stereotypical responses. With regard to the younger age under consideration in this study, at this early stage children are only just beginning to develop ideas about alcohol in relation to their own gender schemas. In order for this incoming information to make sense to them and to provide a satisfactory basis of knowledge on which to

expand and adapt further information as it is assimilated, these early schemas are necessarily very simplistic and thus appear highly stereotyped.

9.1.3 OTHER SUBJECT GROUP DIFFERENCES

A number of trends also emerged in relation to other between-subject variables. Two of these in particular deserve some mention.

Between-City Differences

There are a number of differences between England and Scotland in relation to patterns of alcohol consumption. Despite common lay opinion concerning the alleged drinking excesses of Scottish people, the proportions of drinkers and of heavy drinkers, are greater in England. So too is the reported incidence of criminal convictions relating to intoxication. Perhaps for these reasons, it might have been expected that children from Birmingham would have shown an overall greater awareness of alcohol. However this was not necessarily always the case. In fact, subjects from Edinburgh were not only more likely to have tasted alcohol than were those subjects from Birmingham, but they also tended to know more about alcohol and drunkenness, the latter often by way of first-hand observations. Thus, it may be that definitions of 'drinking culture' which are based upon gross epidemiological variables are failing to capture the more subtle factors involved.

Although ethnic background was not treated as a separate factor within this study, it was apparent that while the Scottish sample consisted of only very few children from Asian backgrounds, the Birmingham sample contained children of diverse ethnicity. While it is not possible to draw definitive conclusions on the sole basis of this difference with regard to this particular study group, it is likely that the unexpected

trends in these results may be due to the religious/cultural practices of some subjects which commonly advocate abstinence, and/or the fact that as a group these subjects displayed lower (English) verbal fluency. It might also be speculated that had the religiosity division been in terms of a religion other than Roman Catholic, this factor might have emerged as a more significant predictor overall. As it was religiosity, as differentiated in this study, appeared to have very little influence on responses.

Social Class Differences

Further differences in performance also emerged in relation to the socio-economic division between subjects. These differences were generally in the direction predicted, bearing in mind that children from the middle class areas were also more likely to possess greater verbal/cognitive ability than were children from more working class backgrounds. In particular, the attitudes and norm perceptions of middle class children often mirrored those of the older subjects and those with high British Picture Vocabulary scores, suggesting that these groups of children had the greater opportunity and a more highly developed cognitive capacity to assimilate information relating to most of the aspects of alcohol covered in this study. Moreover, working class *adults* are more likely both to abstain from drinking and indulge in tobacco smoking.

9.1.4 COMPARISONS WITH THE FINDINGS OF JAHODA AND CRAMOND

It was hypothesised that the recent increases in both the proportion of British adult drinkers and per capita consumption of absolute alcohol, might be reflected in the performance of subjects in this new exercise, compared with that of Jahoda and Cramond's study group. Moreover, the opportunities which exist for children to learn

about alcohol are now highly pervasive. In Britain currently, over 90% of adults consume alcohol to some extent, millions of pounds are spent by the alcohol industry on sponsorship and on the advertisement and promotion of alcoholic beverages through the mass media, and a considerable amount of time on television and films involves the depiction of drinking. Finally, the inclusion within the school curriculum, of some element of alcohol education, has become more widespread since the time of the original study.

On observing the significantly greater familiarity with alcohol and demonstrated by the present subjects during the 'Recognition of Smells Task' it would seem reasonable to infer that this reflects the widespread increase in alcohol consumption since the early 1970's. Unfortunately, the methodological differences between the two studies make it difficult to draw decisive conclusions on this basis alone. However, if one goes on to consider the between-study differences in knowledge of both alcohol and drunkenness (Chapter 7), one finds further evidence to substantiate this claim. In both instances, a significantly greater proportion of children in the current investigation, were able spontaneously to demonstrate a basic knowledge of alcohol and its intoxicating properties.

While there was little difference in the proportions of older children who showed an awareness of the concept of alcohol between the two studies, a significantly greater proportion of the youngest children in the present exercise were familiar with this operational concept. Similarly, there was an increase in the number of children who applied the term 'alcohol' to this concept among the present study group. In fact, the only apparent exception to this overall recent trend of greater familiarity with alcohol, emerged following the 'Drunkenness Task'. On this occasion, the current sample were noticeably slower in their ability to recognise drunken comportment. Even so, part of this difference can again be accounted for in terms of methodology. The slower rate of

recognition was primarily due to the difficulty with which children were confronted when presented with the film of the intoxicated woman, a confounding factor which had not been present in the same task by Jahoda and Cramond. The fact that even accounting for this contaminating variable the present study group were still slower at recognition, together with the finding that they were also less likely to report previous sightings of drunks, remains counter-intuitive. The most likely explanation is that the current film of the drunk person was in some way less effective in the portrayal of drunken behaviour.

Finally, several differences emerged in relation to children's subjective perceptions of normative drinking behaviour and attitudes towards drinkers. In the former study, subjects perceived a greater degree of liking of alcohol among men and less dislike among women and children. While these current perceptions appear more realistic in terms of recent trends in consumption, they remain vastly under-representative of adults' true drinking preferences. It has been mentioned elsewhere in this book, that married mothers consistute one of the lowest consumption groups. Moreover, married fathers are also more likely to report low or very low consumption rates compared with other married or single men (Foster, Wilmot and Dobbs, 1990). It might thus be speculated that parents of young children provide differential standards of 'normative' drinking behaviour.

With regard to between-study changes in attitudes towards drinkers, the only difference to emerge was associated with male drinkers. Subjects in the present study were less negative than those tested by Jahoda and Cramond, in their attitudes towards male drinkers. It has been speculated previously that the increase in positive media coverage of alcohol, particularly in the case of men, may be to some extent responsible for this shift in attitudes. In contrast, current attitudes towards smokers appear to heading in the opposite direction ie. becoming more negative, especially among the

younger children. Like alcohol, tobacco has become a widely publicised issue over the last 20 or so years. However, unlike much of the publicity relating to alcohol, tobacco has received a large amount of bad press, and people are now smoking much less. In view of recent data indicating a small upturn in the numbers of school-children taking up smoking, the attitudes of these younger children might on the surface appear more promising. However, the fact that most children of this age are similarly condemning of alcohol, the majority of whom will grow up to become drinkers themselves, suggests that such optimism should be guarded. Instead, this finding should be more realistically interpreted as a demonstration of the extent to which messages concerning tobacco have been assimilated by young children, rather than as an indication of a decline in potential smokers.

9.2 IMPLICATIONS AND RECOMMENDATIONS

It should be re-emphasised that the results documented in this thesis relate to only a small study group ie. 238 young children. The practical constraints within this particular exercise, noted elsewhere, necessitated a low number of subjects. While the statistical procedures used were able to cope adequately with these numbers, the difference between statistical and clinical significance should be borne in mind. The fact that parental data were lacking also meant that more accurate details relating to socio-economic status and religious affiliation were not available. Thus while socio-economic status in particular was shown to have a significant impact on responses in some of the tasks, it is acknowledged that there may have been some other factor(s) unknown which may have contributed to these effects. The absence of parental data also prevented the comparison of subjects' responses in association with parental alcohol-related attitudes and behaviours - an issue which might have led to further interesting results. However as mentioned previously, the willing cooperation of parents on behalf

of their children's participation in the study was to a large degree dependent upon this proviso. Future research in this area would benefit greatly from access to parental data as well as larger scale studies.

Nevertheless it is possible to draw some tentative implications from the findings of this study, with particular reference to research relating to primary preventative strategies. While the majority of young people learn to consume alcohol in a reasonably sensible and safe manner, a significant minority will go on to develop problematic styles of drinking. The aetiology of problem drinking remains unclear, despite longitudinal and retrospective studies of the drinking careers of both problem and non-problem drinkers. However, data relating to individual drinking histories starting from the onset of early alcohol cognitions may eventually provide important clues in predicting the likelihood of future problems, before these situations arise. This may be a long way in the future. However there are also implications for primary preventative strategies, which could begin to be applied now.

The results of this exercise provide convincing evidence to support the contention that socialisation to alcohol is a continuous process which begins from early childhood. In fact, the implication is that the onset of this learning occurs among children of a younger age than those studied here. While it might reasonably be argued that much of this initial knowledge is rather simplistic and often a little misguided, the crucial issue here is that young children have both the propensity and the ability to learn about alcohol.

The apparent widespread failure, at least in the short-term, of most secondary-school-based alcohol education has been documented in detail in Chapter 2 of this thesis. As yet, it remains unclear as to which particular factors are responsible for this lack of success, or more pertinently, which elements may have contributed to the small

positive achievements evident in very few cases. Underlying theories of attitudinal- and behavioural-change, course structures, methods of presentation, educator status etc. have all undergone largely unsuccessful manipulations in attempts to find a successful strategy for teaching. However, one aspect which they all have in common is the group of individuals at which they are aimed - adolescents. By definition, adolescence is the final transitional stage through which children pass before attaining adulthood. It is during this time, that young people tend to adopt more adult-like behaviours, including, for many, the onset of significant involvement with alcohol. Thus for these individuals, the educational messages they are receiving with regard to alcohol will often be overtaken in precedence by their own personal experiences, a factor which has been highlighted by adolescents themselves (Loretto and May, 1993). It is beyond the scope of this study to state categorically, the course which future alcohol education should run. However, the present findings do provide a useful basis for speculation about alternative strategies.

In the first instance, the finding that young children are both interested in and amenable to messages about alcohol, well before their own personal involvement becomes a greater issue for them, might usefully be exploited. It is true that the information young children possess with regard to alcohol is rather one-sided and simplistic. That alcohol is bad for people's health, it makes people drunk and drunks are people to be avoided, are typical statements made by these children. So ingrained do these negative ideas about alcohol become, that it would appear that children are often reluctant to admit the possibility that they too will become drinkers. This evidently unrealistic expectation with regard to the majority of these children, may in some way be responsible for the secretive, almost guilty way in which some adolescents first come to gain significant experience of alcohol. However, the blame for these often incorrect beliefs about alcohol, should not be placed entirely on the children themselves. The results of this study such as those concerning the categorisation of objects, normative perceptions

and attitudes towards adult behaviour, suggest that young children do have the capacity for assimilating relevant and more accurate information about issues other than alcohol.

What is probably of more relevance here, is the confounding influence of society's contradictory messages concerning alcohol. The dissemination of messages about alcohol consumption are typically highly erratic. On the one hand, there is the ubiquitous media portrayal of the normality and positive sociability of drinking, lended added credence by the fact that the vast majority of adults do themselves drink. On the other, there are the health warnings implicit and explicit within the aims of alcohol education, which are at least verbally reinforced by significant authority figures such as teachers and parents. The issue of this double standard is a pertinent one. As with a number of other countries, Britain has a rather ambivalent attitude towards alcohol. Whereas in other European/southern Mediterranean regions drinking is often more likely to be perceived in a less directive light. Moreover, children in these latter areas are openly taught from an early age, to view alcohol in this way, whereas in Britain, the licensing laws, or more pertinently the actions of many adults, are such that they reinforce the notion that alcohol consumption is the mysterious preserve of adults alone. This latter view also appears to have been reinforced throughout the United States, where the legal age of alcohol consumption or purchase has recently been raised to 21 years.

Indeed of the comparable work which has been conducted on this topic, the majority has been restricted to the United States, and to a lesser extent, New Zealand. While these studies provide invaluable comparative data, the context in which drinking occurs in these countries is more similar to that in Britain than for the southern Mediterranean countries. It would be extremely interesting and informative, were similar studies to be

carried out in these latter areas, where alcohol consumption has come to have a different symbolic or cultural value.

On a more optimistic note however, a recent Home Office report has recommended the introduction of alcohol-serving 'Cafe-Style' premises, for the use of families as opposed to adults only (1993). It is hoped that these will encourage and enable parents to introduce children to alcohol in a trouble-free and appropriate setting, as a strategy for demystifying the whole issue of alcohol consumption and weakening the association between alcohol consumption and adulthood. This would seem to be a step in the right direction, and in itself would provide a more consistent basis from which to direct future education initiatives.

In addition, a more thorough appreciation of both how children come to learn about alcohol and the content of this learning is also essential if education for this age group is to be a viable alternative. In other words, educators must be sensitive to the appropriateness of educational content at different stages in the cognitive and social growth of children. Thus it should be recommended that alcohol education be a gradual and continuous process, building from an early base of knowledge and progressively developing in accordance with the development of the child. Evidently further research will be required before this can be fully realised. For, while the results reported in this thesis provide useful indicators relating to the early development of alcohol awareness, as yet there has been no attempt to examine this age group on a nationally representative basis.

So far, little mention has been made of the educators themselves. With regard to adolescent-based initiatives it has invariably fallen to the school to provide formalised alcohol education. However, in an age in which instruction about safe sex and illegal drug use has understandably come to the fore in light of the very immediate and

potentially devastating threat of HIV/AIDS, alcohol misuse might be viewed as being less of a priority for an already overstretched system. Moreover, some teachers are beginning to express concerns about their abilities to cope with such demands (Plant, 1992), in terms of both time and personal ability. Surprisingly, little research has been directed at how teachers themselves view this issue. This is a situation which evidently needs to be rectified.

In relation to the above, another important point highlighted by the results of this study is the crucial role of the parents in the development of children's early alcohol cognitions. Familial influences on adolescent use of alcohol have also been examined in previous studies, yet current alcohol education strategies have on the whole failed to take into account the implications of these factors. A recent survey of student teachers has indicated that they are highly sensitive to this issue (Plant, 1992). The transmission of mixed, possibly contradictory, messages relating to alcohol, from family and school can only confuse the learning process. Therefore, a concerted effort by educationalists to combine these sources might make for a more productive strategy. Research is currently being conducted on parents of young children, in an attempt to discover their views, with the aim of designing a suitable package for parents to assist them when tackling this subject with their children (Fossey and Miller, 1994). For as with teachers, it cannot simply be assumed that parents will feel sufficiently equipped to deal with this type of instruction. Preliminary discussions with parents have yielded some extremely interesting information. Many are unaware of the alcohol education policy of their children's school and strongly feel that this is a topic about which they should be informed. In addition, the majority feel that parents themselves have the ultimate responsibility for teaching their children about alcohol, and often view the role of the school as providing secondary reinforcement. These initial findings strongly highlight the need for parents and teachers to come together and discuss the possibility of joint strategies. Unfortunately, there is inevitably the risk that those families who may

benefit the most from such help are less likely to participate in initiatives of this kind. Also inevitable is the fact that there will be those those who strongly disapprove of any type of alcohol education for their children, as a result, for example, of religious mores. Future research would benefit greatly by gaining access to these special groups, in order that such views can also be taken into account.

In conclusion, it is clear that there is much work still needed in this area. A variety of implications and recommendations for future research, policy and education initiatives have been highlighted by the findings of this study. Ideally, what is required now, is that individuals in all three areas combine resources in a concerted attempt to find workable solutions for preventative strategy.

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APPENDICES

APPENDIX 1

Photographs used in the 'Judgment of Photographs Task'

Each subject was required to judge two sets of photographs, each set consisting of 24 photographs (20 plus four repeats). Each person appeared in one set engaged in one alcohol-related activity, and in the other set in a non-alcohol-related activity or a tobacco-related activity. These activities were more or less identical to those used by Jahoda and Cramond, with the exception of the item 'playing a guitar' which replaced the original item 'playing a trumpet'. are shown in Table 1.

Table 1 - Activities in Photographs

a	playing cards	h	drinking beer
b	playing a guitar	i	smoking a pipe
c	eating an apple	j	smoking a cigarette
d	drinking from a 'short' glass	k	reading a book
e	reading a newspaper	l	eating a cake
f	drinking milk	m	brushing hair
g	eating with a knife and fork	n	telephoning

The activities of each person in each of the two sessions are shown in Table 2, indicating which of the photographs were repeated in order to provide consistency checks. Again, the format was the same as that employed by Jahoda and Cramond. Finally, Table 3 shows the three random orders of presentation of the photographs for each set of photographs used in the two sessions.

Table 2 - Repeated Photographs

Person No.	Activity	SET1			Activity	SET2		
		Repeat A	Repeat B	Repeat C		Repeat A	Repeat B	Repeat C
1	k		*	*	f		*	
2	h				n			
3	d				l			*
4	j				m	*	*	
5	l	*			j			
6	m		*		n			
7	n				d			
8	n				h			
9	f	*		*	j			
10	d				k	*		*
11	a		*		c		*	
12	b			*	i			
13	c			*	b			*
14	d				f	*		
15	e	*			d			
16	f		*		j			
17	g	*			h			
18	h				a		*	
19	i				d			
20	j				g	*		*

Persons numbered 1-10 are female; persons numbered 11-20 are male.

Table 3 - Random Orders of Presentation in Sessions 1 and 2

Order of presentation	SET 1			SET 2		
	A	B	C	A	B	C
1	16f	1k	13c	1f	4m	3l
2	5l	15e	7n	20g	18a	13b
3	20j	6m	4j	16j	11c	5j
4	17g	2h	12b	10k	17d	17h
5	18h	16f	1k	15d	112i	2n
6	4j	7n	14d	13b	1f	20g
7	13c	20j	5l	4m	2n	10k
8	9f	13c	19i	14f	16j	15d
9	3d	10d	15e	17h	17h	9j
10	15e	9f	3d	5j	10k	6n
11	19i	18h	9f	2n	18a*	14f
12	7n	1k*	12b*	18a	13b	16j
13	11a	11a	2h	7d	5j	7d
14	14d	12b	13c*	4m*	15d	1f
15	6m	5l	17g	12i	6n	18a
16	2h	6m*	6m	14f*	3l	12i
17	1k	14d	16f	8h	8h	4m
18	15e*	16f*	10d	3l	14f	8h
19	17g*	4j	11a	11c	4m*	11c
20	8n	8n	20j	9j	19d	10k*
21	10d	3d	8n	19d	9j	19d
22	9f*	19i	18h	6n	20g	3l*
23	5l*	17g	9f*	20g*	11c*	13b*
24	12b	11a*	1k*	10k*	1f*	20g*

* Repeated Photographs

APPENDIX 2

Activities used in the 'Perceived Likes and Dislikes Task'

Each subject was presented with a selection of activities from either List A or List B in session 1, and a different selection of activities from the same list in session 2. The two lists of activities are shown in Table 4.

Table 4 - Lists of Activities

Activity	LIST A	LIST B
a	doing the cooking	eating chocolate†
b	going to school*	going to the zoo
c	digging the garden*	going to the shops*
d	eating carrots	drinking tea
e	smoking a cigarette	going to a football match
f	being punished	eating cabbage*
g	playing with marbles	playing with guns
h	drinking coffee*	doing the cooking
i	painting the house	mending a bike*
j	being nicely dressed†	being punished†
k	knitting†	drinking milk*
l	eating ice-cream*	being surprised
m	going to work	playing at skipping
n	drinking orange juice	taking medicine
o	mending a car	eating fish
p	playing with dolls	being nicely dressed
q	eating stew	digging the garden
r	being surprised	smoking a pipe
s	sewing on buttons‡	going to church
t	drinking milk	washing up dishes‡
u	drinking beer†	drinking beer†
v	drinking whisky†	drinking whisky†
w	going to the pub	going to the pub
x	being drunk	being drunk

* These items were repeated in Session 1

† These items were repeated in Session 2

‡ In session 2 these items were replaced by the item 'drinking wine'.

The two random orders of presentation for both activity lists over both sessions are shown in Table 5. As before, these are similar to those generated by Jahoda and Cramond.

Table A:5 - Orders of Presentation of the Activity Lists

SESSION 1				SESSION 2			
LIST A		LIST B		LIST A		LIST B	
Order (1)	Order (2)	Order (1)	Order (2)	Order (1)	Order (2)	Order (1)	Order (2)
a	b	a	t	b	a	a	d
b	i	b	o	k	p	j	m
c	h	c	s	q	j	d	w
d	j	d	d	u	w	x	q
e	l	e	g	r	h	c	a
f	s	f	l	o	c	i	j
g	t	g	f	l	f	u	v
h	k	h	h	v	v	g	i
i	d	i	j	j	k	t	c
j	f	j	c	g	o	e	x
k	c	k	k	w	u	v	f
l	b*	c*	i*	e	g	f	e
m	n	l	r	a	e	q	t
n	a	m	f*	c	x	j*	u
o	q	i*	m	f	q	w	j*
p	m	n	p	u*	s	k	a*
q	p	o	b	h	j*	b	k
r	c*	p	e	s	v*	v*	u*
c*	h*	q	n	x	t	r	b
h*	r	r	c*	p	b	p	p
b*	e	s	k*	j*	r	n	g
l*	l*	t	q	v*	u*	u*	v*
s	o	f*	l	k*	k*	a*	r
t	g	k*	a	t	l	m	n

* Repeated items in each list.

APPENDIX 3

Subjects' Knowledge of Alcohol

In order to ascertain, which factors, if any, were likely to emerge as predictors of subjects' knowledge of alcohol, stepwise loglinear regression was carried out on these data. The results of this analysis are detailed in the following table, having accounted for all the main between-subjects effects and two-way interactions. This method was used in order to examine all the main effects of interest, allowing for the limitations of the statistical package (SPSS) employed. The findings are discussed in greater detail in the text, however, age, cognitive ability, and city of subjects were all found to be significant predictors of the type of knowledge children possessed in relation to alcohol.

Table 6 - Predictors of Subjects' Knowledge of Alcohol

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
BPVS (high score)				
BPVS (2) low score	0.8023	0.1913	1.4115	2.23
KNOWLEDGE OFALC (nothing)				
Knowledge of alcohol (negative)	-0.4067	-1.4463	0.6329	0.67
Knowledge of alcohol (factual)	0.6214	-0.2466	1.4894	1.86
CITY (Edinburgh)				
City (2) - Birmingham	0.2713	-0.5159	1.0585	1.31
AGE (5 - 6 yrs)				
Age (2) - 7 - 8 yrs	-0.3365	-1.1645	0.4915	0.71
Age (3) - 9 - 10 yrs	-0.5596	-1.4458	0.3266	0.57
BPVS * KNOWLEDGE OF ALC.				
BPVS (2) * Knowledge (2)	-0.4475	-1.1825	0.2875	0.64
BPVS (2) * Knowledge (3)	-1.1100	-1.8036	-0.4164	0.33
BPVS * CITY				
BPVS (2) * City (2)	0.4210	-0.1464	0.9884	1.52
KNOWLEDGE * CITY				
Knowledge (2) * City (2)	-0.5395	-1.8029	0.7239	0.58
Knowledge (3) * City (2)	-1.0310	-2.1512	0.0892	0.36
KNOWLEDGE * AGE				
Knowledge (2) * Age (2)	0.7885	-0.4845	2.0165	2.20
Knowledge (2) * Age (3)	0.8109	-0.5313	2.1531	2.25
Knowledge (3) * Age (2)	0.5306	-0.5680	1.6292	1.70
Knowledge (3) * Age (3)	0.9651	-0.1581	2.0883	2.63
CITY * AGE				
City (2) * Age (2)	-0.3175	-1.3915	0.7565	0.73
City (2) * Age (3)	-1.9660	-3.6820	-0.2500	0.14
KNOWLEDGE * CITY * AGE				
Knowledge (2) * City (2) * Age (2)	0.5586	-1.1576	2.2748	1.75
Knowledge (2) * City (2) * Age (3)	2.0940	0.7340	5.0740	8.12
Knowledge (3) * City (2) * Age (2)	0.6088	-0.9666	2.1842	1.84
Knowledge (3) * City (2) * Age (3)	2.0460	-0.0100	4.1020	7.74

APPENDIX 4

Subjects' Knowledge of Drunks

As with subjects' knowledge of alcohol, knowledge of drunks was analysed in order to discover any predictor variables which were likely to account for the type of knowledge subjects possessed. Stepwise loglinear regression was conducted on the data, the results of which are shown in the table below. As before, the findings are discussed at greater length in the text, however age, city and cognitive ability of subjects again emerged as the only significant predictors of performance.

Table 7 - Predictors of Subjects' Knowledge of Drunks

PARAMETER (reference categories in brackets)	LOG ODDS	95% C.I.		ODDS RATIO
		↓	↑	
KNOWLEDGE OF DRUNKS (Nothing)				
Knowledge of Drunks (Negative)	-0.8169	-1.5967	-0.0371	0.44
Knowledge of Drunks (Factual)	-0.5294	-1.3396	0.2808	0.59
CITY (Edinburgh)				
City (2) - Birmingham	0.1135	-0.4493	0.6763	1.12
BPVS (high score)				
BPVS (2) - low score	0.3320	-0.2198	0.8838	1.39
AGE (5 - 6 yrs)				
Age (2) - 7 8 yrs	-0.3536	-0.8078	0.1006	0.70
Age (3) - 9 -10 yrs	-1.4520	-2.1218	-0.7822	0.23
KNOWLEDGE * CITY				
Knowledge (2) * City (2)	-0.7716	-1.3766	-0.1666	0.46
Knowledge (3) * City (2)	-0.3511	-1.1079	0.4057	0.70
KNOWLEDGE * BPVS				
Knowledge (2) * BPVS (2)	0.0121	-0.6188	0.6429	1.01
Knowledge (3) * BPVS (2)	-0.8873	-1.6473	-0.1273	0.41
CITY * BPVS				
City (2) * BPVS (2)	0.5514	-0.0118	1.1146	1.74
KNOWLEDGE * AGE				
Knowledge (2) * Age (2)	1.0470	0.2502	1.8438	2.85
Knowledge (2) * Age (3)	2.7640	1.8632	3.6648	15.86
Knowledge (3) * Age (2)	0.5478	-0.3050	1.4006	1.73
Knowledge (3) * Age (3)	1.3780	0.3572	2.3988	3.97