LEABHARLANN CHOLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH Ollscoil Átha Cliath

TRINITY COLLEGE LIBRARY DUBLIN The University of Dublin

Terms and Conditions of Use of Digitised Theses from Trinity College Library Dublin

Copyright statement

All material supplied by Trinity College Library is protected by copyright (under the Copyright and Related Rights Act, 2000 as amended) and other relevant Intellectual Property Rights. By accessing and using a Digitised Thesis from Trinity College Library you acknowledge that all Intellectual Property Rights in any Works supplied are the sole and exclusive property of the copyright and/or other IPR holder. Specific copyright holders may not be explicitly identified. Use of materials from other sources within a thesis should not be construed as a claim over them.

A non-exclusive, non-transferable licence is hereby granted to those using or reproducing, in whole or in part, the material for valid purposes, providing the copyright owners are acknowledged using the normal conventions. Where specific permission to use material is required, this is identified and such permission must be sought from the copyright holder or agency cited.

Liability statement

By using a Digitised Thesis, I accept that Trinity College Dublin bears no legal responsibility for the accuracy, legality or comprehensiveness of materials contained within the thesis, and that Trinity College Dublin accepts no liability for indirect, consequential, or incidental, damages or losses arising from use of the thesis for whatever reason. Information located in a thesis may be subject to specific use constraints, details of which may not be explicitly described. It is the responsibility of potential and actual users to be aware of such constraints and to abide by them. By making use of material from a digitised thesis, you accept these copyright and disclaimer provisions. Where it is brought to the attention of Trinity College Library that there may be a breach of copyright or other restraint, it is the policy to withdraw or take down access to a thesis while the issue is being resolved.

Access Agreement

By using a Digitised Thesis from Trinity College Library you are bound by the following Terms & Conditions. Please read them carefully.

I have read and I understand the following statement: All material supplied via a Digitised Thesis from Trinity College Library is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of a thesis is not permitted, except that material may be duplicated by you for your research use or for educational purposes in electronic or print form providing the copyright owners are acknowledged using the normal conventions. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone. This copy has been supplied on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

THE COGNITIVE PROCESSES OF YOUNG OFFENDERS

By Elizabeth Mc Loughlin

A thesis submitted for the degree of Doctor of Philosophy

Department of Psychology,
University of Dublin,
Trinity College
December, 1999



DECLARATION

I hereby declare that this thesis has not been submitted as an exercise for a degree at any other university. With the exception of due acknowledgements (noted where appropriate in the text), this thesis is entirely my own work.

Signed: Elizabeth Mc Loughlin

Elizabeth Mc Loughlin

Graph

Date:

I Agree the Library May Lend or Copy the Thesis Upon Request

E M' Longhli

DEDICATION

This thesis is dedicated to the memory of my sister, Kay and my Mother, Betty.

Tread lightly, she is near
Under the snow,
Speak gently, she can hear
The daisies grow

From Requiescat, by Oscar Wilde.

ACKNOWLEDGEMENTS

I wish to express my sincerest thanks to my supervisor, Professor Ruth Byrne for her tireless support and insightful advice at every stage of the research. Thanks are also due to all of the young people who participated in the research, particularly the young offenders, who were enthusiastic and forthcoming and without whose participation, this thesis would not have come to fruition. I would also like to thank Lisa Cullen and Mr. Jim Larragy for their technical advice and support which was invaluable.

I would like to extend my thanks to those people who surrounded me with kindness, unfailing support and love for the duration of this thesis. Firstly, my husband Paul who showed me endless affection and encouragement and who tolerated many mood swings with quiet acceptance. I would also like to thank my family, particularly my Father, for his unwavering confidence in me. Kay Maunsell was an outstanding reservoir of support who kept my sanity intact while Fiona Murray was an unfailing friend who cheered me up when I needed it most.

Above all, I would like to thank Amy and Alex, who, although too young to understand what I was doing, nevertheless showed me unconditional love and whose hugs and kisses gave me the strength and determination to carry on during the writing of this thesis.

CONTENTS

PAGE NUMBER

SUMMARY	i
CHAPTER ONE:	
THEORETICAL CONSIDERATIONS PERTAINING TO YOUNG OFFENDERS	1
CHAPTER TWO:	
DISTINCTIVE FEATURES OF IRISH YOUNG OFFENDERS	31
CHAPTER THREE:	
AN EXPLORATORY INVESTIGATION INTO ASSOCIATED RISK FACTORS OF DELINQUENCY	56
CHAPTER 4:	
AN ANALYSIS OF INFORMAL REASONING IN YOUNG OFFENDERS	87
CHAPTER FIVE:	
AN EXAMINATION OF CRIME SPECIFIC KNOWLEDGE IN YOUNG BURGLARS	131
CHAPTER SIX:	
WHAT DO WE KNOW ABOUT WHAT YOUNG OFFENDERS THINK?	162
REFERENCES	176
<u>APPENDICES</u>	200

LIST OF TABLES

Table 2.1:	The breakdown of the type of offence committed by the young person in sample leading to their appearance in the court in one of the sampling periods.
Table 2.2:	Number of Referrals to The National Juvenile Office (N.J.O.) and How The Cases were Disposed Of
Table 2.3:	The Frequency and Percentages of Problem Behaviours Evident at School
Table 2.4:	Substance Abuse Patterns amongst Sample
Table 2.5:	Parental and Sibling Substance Abuse
Table 2.6:	Contact with Outside Agencies by the Young People and Their Family Members.
Table 2.7:	Comparisons of Outcome Score on Two Important Familial Variables.
Table 2.8:	Correlations between Outcome Score & 4 Age-Derived Measures.
Table 3.1:	Socio-economic status by group
Table 3.2:	Frequencies and percentages (in parentheses) of levels of IQ by group.
Table 3.3:	Within group comparisons of mean rank scores on IQ
Table 3.4:	Mean number of correct responses generated by group
Table 3.5:	Frequency and percentage scores (in parentheses) of low and high levels of
	self-esteem by group.
Table 3.6:	Frequency and percentage scores (in parentheses) of low and high levels of self-esteem by breakdown of groups.
Table 3.7:	Levels of suggestibility by group
Table 3.8:	Frequency of offence category reported by groups
Table 4. 1:	Differences between Formal and Informal Reasoning Tasks
Table 4.2:	Mean age by group
Table 4.3:	Breakdown of offences for which young offenders were incarcerated
Table 4.4:	Causal Theories for the Commission of Car Theft, Breach of Bail and
	Larceny by Subject group
Table 4.5:	Origin of Knowledge concerning causal theories
Table 4.6:	Evidence to support causal theory
Table 4.7:	Others' contradictory causal theories
Table 4.8:	Others' evidence to support theories
Table 4.9:	How would you prove someone else wrong?
Table 4.10:	How would offenders be helped refrain from offending?
Table 4.11:	Frequency and type of objections generated (domain specific high frequency)
Table 4.12:	Frequency and type of objections generated (domain specific low frequency)
Table 4.13:	Frequency and type of objections generated (domain general)
Table 4.14:	Frequency of number of objections as a function of 4 types of argument ratings
Table 4.15:	Observed scores for reason based choice for impoverished and enriched
	burglary scenarios
Table 4.16:	Observed scores for reason based choice for car theft scenario
	(impoverished and enriched options)
Table 4.17:	Observed scores on impoverished and enriched handbag snatch scenario
Table 4.18:	Offender estimations of sentence they thought they would receive.
Table 4.19:	Offender perceptions about being apprehended when they last committed a
	crime

Table 4.20:	Offenders perceptions of getting apprehended over time
Table 5.1:	Criminal history of the sample of burglars, non-burglar offenders and non- offenders
Table 5.2:	Percentages of judgements that a house would be attractive to a burglar as a function of the presence or absence of burglary deterrents
Table 5.3:	Percentages of judgements by group that attractive features, unattractive features, or neutral features would make a house more attractive, less attractive,
	or would not matter
Table 5.4:	Percentages of correct identifications for identical and changed photographs in the memory test
Table 5.5:	Average yield, shift and overall suggestibility score
Table 5.6a:	Percentages of responses by group to the question; If you had to give somebody a definition of burglary, what would you tell them it is?
Table 5.6b:	Percentages of responses by group to the question: what do you think happens from the moment a burglar goes to commit a robbery?
Table 5.6c:	Percentages of responses by group to the question: where and when do you think a burglar might make the initial decision to commit a robbery?
Table 5.7a:	Frequencies and percentages of responses by group to the question; How would you break into a house
Table 5.7b:	Frequencies and percentages of responses by group to the question; What would you be looking for mainly?
Table 5.7c:	Frequencies and percentages of responses by group to the question; What do you think you might look for when you are trying to find a house to break into?
Table 5.7d:	Frequencies and percentages of responses by group to the question; Has your home ever been broken into? How?
Table 5.7e:	Frequencies and percentages of responses by group to the question; What do you think are the main reasons for committing burglary?

LIST OF FIGURES

Figure 1: Histogram of the Outcome Measure of Overall Number of Prosecutions.

Example of house with burglary relevant feature attached and subsequently removed

SUMMARY

The aim of this thesis was to contribute to the existing body of knowledge on young offenders by investigating some cognitive processes that to date, have been given little attention in the literature. This thesis comprised four studies, one of which provided an in-depth profile of a sample of young offenders while three compared young offenders with groups of non-offenders on a wide range of cognitive skills. Youthful offending therefore was examined in a novel way.

The first study, a secondary data analysis, was concerned with establishing an in-depth profile of 84 young people who appeared before the courts in Ireland in 1998. Information was gathered in respect of the status of the young person's family, the young person's previous offending history, their educational and employment history, their involvement with their peer group and any substance abuse. Age at which offending commenced emerged as the most significant predictor of prosecution levels, with those young people whose offence history started at an early age relative to the rest of the sample having the largest number of prosecutions recorded against them. Moreover, it was evident that adversarial parental, social, familial and individual characteristics predominated in the lives of the young people, and this study suggested that Irish young offenders have similar distinguishing characteristics to their counterparts abroad.

A total of 67 participants (34 young offenders and 33 non-offenders) were tested in the second study which comprised two parts. In the first part they completed standardised tests of intelligence and self-esteem, while the second part tested interrogative suggestibility and self-reported offending to assess any differences or similarities between groups. The results of experiment 1 showed young offenders performed significantly better than non-offenders on a measure of practical intelligence although they did not perform as well as the non-offenders on most of the other aspects of the intelligence test, and there was no significant difference between groups on self-esteem. There were no discernible differences between young offenders and non-offenders on interrogative suggestibility. The levels of self-report offending were greater for the young offenders as would be expected, however, the non-offenders reported carrying a weapon, committing arson and public disorder offences as often as the young offenders.

The third study consisted of three experiments which compared 60 young offenders and 60 non-offenders on their reasoning skills in relation to domain specific knowledge (crime) and more general issues. Experiment 3 investigated the extent to which a process of reasoned argument underlies the beliefs that participants held and the opinions they espoused about an important social issue –crime. It was found that young offenders and non-offenders generated the same major causal theories for crime, based on direct experience for the young offenders and vicarious experience for the non-

offenders. Furthermore, young offenders were better than non-offenders at producing counterarguments. Experiment 4 assessed the factors that participants considered when evaluating informal arguments that contained information on crime related topics and more general information. The results indicated that young offenders were better than non-offenders at generating assertion based objections (objecting to the truth of an argument) and this effect was reliable for all types of crime related topics. Experiment 5 concerned factors that influence strategic choosing between two competing options. Participants were given 3 crime related scenarios which contained information on two competing options from which, half of the participants had to choose one, and half had to reject one. The findings did not replicate previous findings in the area and suggest that young offenders attend to salient features of a potential crime opportunity. A secondary task that involved the young offenders only, concerned their beliefs about being apprehended for a crime over time. The results showed that the young offenders did not think about being apprehended for crimes they committed.

The final study reported the results two experiments to investigate crime-specific knowledge in young burglars and compared 30 burglars, 30 non-burglar offenders and 30 non-offenders in two experiments. Experiment 6 assessed target selection in burglary by showing participants photographs of houses and asking whether they would be attractive or otherwise to burglars. Subsequently, they were given a surprise memory test where, in some photographs burglary deterrent features had either been removed or added. It was found that the presence of burglary deterrents had no impact on burglars' tendency to judge houses to be attractive to burgle and burglars had a better memory performance than either the non-burglars or non-offenders when identifying houses they had seen before. It was also reported that crime specific knowledge may serve to protect young burglars from interrogative suggestibility. Experiment 7 used a suppositional task to investigate how participants would carry out a hypothetical burglary. The results showed that burglars were significantly more likely to report a different mode of entry to a house, and there was consensus about what items would be stolen. In addition, participants' memory 'scripts' and planning in relation to burglary was assessed. The experiment found that burglars and non-burglar offenders gave definitions of burglary and accounts of the sequence of events in burglaries that were more detailed, and described the antecedents and consequences of burglary in a different and more extensive way to non-offenders.

In the final chapter, the overall findings are summarised and their implications for the theoretical viewpoints described in Chapter 1 considered. Moreover, the implications of these studies are discussed in relation to the potential for developing thinking programmes aimed at helping young offenders desist from involvement in crime.

CHAPTER ONE:

THEORETICAL CONSIDERATIONS PERTAINING TO YOUNG OFFENDERS

Introduction

Crime is a legal concept and a "crime is a legal wrong that can be followed by legal proceedings which may result in punishment" (Williams, 1978). Crime however, is not a distinct category of behavioural phenomena, since criminal law does not relate to a circumscribed area of human conduct. Moreover, criminology is not a unified discipline. Psychologists and psychiatrists study criminal behaviour for what it reveals about individual human propensities, whereas sociologists study crime for what it says about society. The fact that crimes do not constitute natural or homogenous behavioural categories poses particular difficulties in identifying the subject matter, and for constructing theories of "crime" or "criminal behaviour", and the result of this has been lengthy debates (Manneheim, 1965; Bottomley, 1979; Young & Matthews, 1992).

This thesis is an attempt to approach the multi-faceted issue of offending behaviour in young people using a very distinct approach. It aims to contribute to the existing body of knowledge in a new and original way via an examination of a number of aspects of the cognitive processes of young offenders that to date, have been neglected in both criminological psychology and cognitive psychology. The approach adopted throughout is designed to glean information on a variety of issues that may impact in some way on young offenders' behaviour. The methodological approach taken provides the means to compare young offenders and non-offenders to establish if any differences exist between them. Thus, the variables under examination include an assessment of intelligence and self esteem in addition to interrogative suggestibility and levels of selfreport offending. Furthermore, the processes involved in informal reasoning and reasoned based choice are examined to determine any differences in reasoning ability as a function of the kind of information presented (i.e. domain specificity (crime) and more general issues). An investigation into the domain of burglary examines inter alia the cognitive processes of decision making and detection of burglary deterrents to measure how such processes serve young offenders when reasoning and decisions have taken place. Overall, the aim of this thesis is to capture a representation or profile of a number of different cognitive factors, which may impact on young offenders' involvement in criminal acts. Each of the variables under consideration could warrant a thesis in it's own

right. In the present thesis, however, it is deemed appropriate to investigate the expanse of the issues, given the overriding aim of assembling a profile of the impact of cognitive processes on young offenders' behaviour.

This chapter is concerned with providing an overview of the literature that predominates in relation to young offenders and begins with an account of nomothetical issues before considering the main theories that provide analyses of juvenile offending behaviour. Subsequently, an account of the major risk factors associated with delinquency is provided before moving on to some considerations for policy. Finally, the concluding remarks, research aims and the structure of the thesis are given.

Nomothetical Issues

Delinquency is the term commonly applied to juvenile conduct problems throughout the vast body of literature, and this term is not unproblematic. Gold and Petronio (1980) imply that many adolescents are subject to a unique form of discrimination, since the term delinquent is usually reserved for those judged adolescent (i.e., 13 to 18 years of age). The traditional definition of delinquents refers to juveniles who have been adjudicated as having committed an act, which, if they were adults, would result in their being charged with a crime in criminal court. This definition does not account for those acts, specific to delinquency, for which an adult would not end up in the court system, such as non-school attendance or running away.

Added to the problem of definition are problems relating to the gathering, reporting and interpreting of delinquency statistics. The Home Office in Great Britain and the Uniform Crime Reports (UCR) from the Department of Justice in the U.S. are responsible for the output of official delinquency statistics. Official statistics on crimes committed by young persons for the Republic of Ireland come from the Garda Commissioner's Report and the Juvenile Diversion Programme; the Department of Education Annual Reports; the Annual Reports on Prisons and Places of Detention and the Annual Reports for the Probation and Welfare Service. The gathering and reporting of data is problematic in Ireland, with each of the four reports differing in the quality and frequency of the data produced (O' Sullivan, 1998). Unofficial statistics are derived largely from self-report studies and crime victim surveys. There are inconsistencies in the findings of the data; for example, on the basis of self-report studies it is believed that 75-90% of young people at least one time or another have committed an offence for which they could have been arrested (McQuoid, 1996; Gold & Reimer, 1975). The

Cambridge Study in Delinquent Development, a long-term follow-up study of 411 South London boys born in 1953 which asked the young people to admit offences that they had committed but had not necessarily been apprehended for, found that there were many more offences than official records indicated, but not necessarily many more offenders (West & Farrington, 1977). For example, 96% of the sample admitted committing at least one of 10 common offences (e.g. theft, burglary, violence, vandalism, and drug abuse) at some time between the ages of 10 and 32. However, only 33% of them had been convicted of at least one of these offences during this age range (Farrington, 1996).

Moreover, 11% of the males between ages 15 and 18 admitted burglary, and 62% of these males were convicted of burglary (West & Farrington, 1977) which has led to the conclusion by Farrington, (1992) that the correlation of official and self-reported offending is very high. While there are no available self-report studies in the Irish literature comparable to those in the UK and US, O' Mahoney's (1997) survey of adult offenders in Mountjoy Prison found that 77% had served a sentence in St. Patrick's Institution, the closed detention centre for young adults (16-21 years old). The average age of first conviction was 16.8 years with a range from 10 to 40 years, similar to his findings in 1986. Twenty two percent had been imprisoned on their first conviction and approximately a quarter of the prisoners had benefited from four or more alternative sanctions before detention was imposed. These findings shed some light on the many complexities that surround definitional issues and the concomitant problem of separating and understanding official and self-report findings. Another important issue arises when the extent of delinquent behaviour is examined.

The attention to juvenile delinquency in criminology reflects the proportionately greater involvement in crime of young people. Cross sectional data on arrests or convictions indicate that rates of offending are substantially higher among adolescents and young adults, and the age distribution curve consistently shows a steep rise from age 10 to a peak between 15 and 18, followed by a less steep decline after age 21. However, peaks are not uniform for all offences, and while property crimes in the United States peaked at age 17 for males and age 16 for females, violent crimes peaked at age 18 for males and age 24 for females. Earlier UCR data also indicate that while burglary, car theft, and vandalism are "youthful" crimes peaking in mid-adolescence, other offences such as fraud and embezzlement peak in later adult years (Steffenmeisser, 1989). Self report findings suggest similar patterns, with an overall peak between 15 and 17 years of

age, but with shoplifting and minor stealing peaking earlier than violent crime (Farrington, Ohlin & Wilson, 1986).

The most up to date Irish statistics derive from the Garda National Juvenile Office and refer to 1997. These statistics give information on referrals for first time or repeat offenders under the Garda Juvenile Diversion Programme (JDP) which aims to keep young offenders out of the criminal justice system. During 1997 a total of 13,219 individual juveniles were referred to the JDP. Of these, 22% of the juveniles referred were 15 years old, with a similar percentage for 16 year olds. Only 10% were 17 years old, 25% represented all referrals between 10 and 13 years of age with just under 4% of referrals relating to children under 10 years of age. Thus the peak age of referral to the office concurred with crime statistics which indicate that the peak age of offending is between 15 and 16 years. Referrals figures for 1997 indicate that close to two out of three referrals to the National Juvenile Office were dealt with by way of caution rather than prosecution. According to the referral data, juvenile offenders are predominantly involved in larcenies, criminal damage and burglary, which together account for 49%, which was a decrease from the 1996 figures of 65%. As no information was available on the age distribution of juveniles by crime, it is not possible to detect any trends relating to possible progression rates by type of crime, or the propensity of older juveniles to engage in more serious types of crime. Eighty- nine percent of all referrals were male. The highest concentration of referrals came from the Dublin Region, with the lowest number of referrals coming from the Northern Region, and the same trend applied to all cases disposed of by cautions and prosecutions.

Gender Differences

Gender differences are among the most significant features of recorded crime, and the massive disparity between proportions of male and female offenders in official crime statistics has been well documented (Bacik & O' Connell, 1998; Mc Loughlin, Maunsell, & O' Connell, in preparation). The sex differential may reflect biased reporting and processing of female crime rather than a real difference. It has been argued for example, that male officials are more "chivalrous" when dealing with female offenders (Box, 1983). On the other hand, juvenile females have traditionally been more liable to custodial dispositions for "moral" violations. Smaller sex differences are found in self report delinquency measures than in official statistics, and the finding that differences are minimal for such traditional "female" delinquencies as prostitution, truancy, or running

away seems to support the suspicion of bias (Cernkovich & Giordano, 1979; Canter, 1982). Variations in female crime rates correlate with the degree of subordination or powerlessness in the cultural role of women (Box, 1983). Traditional female roles further entail less access to criminal subcultures, and more limited opportunities for crime (Steffensmeier, 1980). Female socialisation is also characterised by greater parental control and supervision, as well as greater emphasis on the "ethic of care" (Gilligan, 1982), and this may well account for the greater conformity of females.

Socioeconomic Status

A traditional assumption in criminology is that disproportionately more of those of lower socioeconomic status (SES) engage in illegal activities. This doctrine gained support from the ecological research of Shaw and McKay (1942), who demonstrated that the geographical distribution of crime frequencies in Chicago coincided with residence in the poorest areas of the city. They regarded ecological variables such as income level, unemployment rates, or proportion of families in slum housing, as the outcome of a selective segregation of the socially disadvantaged, high crime rates being mediated by social disorganisation in the form of lack of group or family ties. Disorganised areas were held to support criminal traditions through pressures on those lacking access to resources and status to resort to crime, and the community's failure to control its members. Early self report studies indicated weaker class differentials than had been found in official crime data (Hirschi, 1969), and this apparent discrepancy fuelled suspicions of biases in the official processing of delinquents (Box, 1981). O' Sullivan (1998) also suggests a bias in the Irish criminal justice system, with young men from disadvantaged areas coming into contact with agents of the criminal justice system more frequently than their more affluent counterparts. Elliot and Huizanga (1983) question the methodological adequacy of earlier self-report analyses and suggest that earlier studies were biased by limited sampling and frequency distributions of offences. However, in a reanalysis of data based on comparable scaling methods, Weis (1987) found only weak negative correlations of class with both official and self report data.

The association between low SES and offending behaviour is characterised by inconsistencies and contradictions. One example is the difficulty researchers have in deriving a realistic measure of SES to begin with that adequately considers factors such as lone parent families or two working parents, both of which are an increasing phenomenon of life in the 1990s. To illustrate this point, according to the 1996 census

data, there are approximately 125,000 families in Ireland, headed by a lone parent, (mostly a woman). Furthermore, in the Cambridge study the peak age of offending coincided with the peak age of affluence for many convicted males. For example, while these males tended to have low incomes at age 32, they tended, at 18 years to be earning a full adult wage (usually in unskilled manual jobs) in contrast to non-delinquents who might still be students or working in poorly paid jobs with good prospects (Farrington, 1996). Findings such as these demonstrate further the intricacy of the link between income and offending.

Theories of Offending Behaviour

Why do young offenders commit crime? One key issue relates to the ambiguity and confusion about explanations of crime, particularly by the young, and a clear trend can be detected. There is an increasing disparity in the types of explanations for offending behaviour by children into two groups: those who attribute alleged increases in crime to factors within individuals, and those who assert the criminogenic influence of more social, economic and structural factors. There have been several attempts to theorise about offending behaviour, incorporating individual, situational and social structural explanations, which will be reviewed here.

Individual theories focus on the personal or individual characteristics of the offender or victim. This level of analysis tends to look to psychological or biological factors, which are said to have an important determining role in why certain individuals engage in criminal activity (Yochelson & Samenow, 1976). The key concern is with explaining crime or deviant behaviour in terms of the choices or characteristics of the individual person. Situational theories, such as the Rational Choice perspective, are concerned with the immediate situation or circumstances within which criminal activity or deviant behaviour occurs (e.g., Clarke & Cornish, 1986). Attention is directed to the specific factors that may contribute to an event occurring, such as labelling, or the opportunities available for the commission of certain types of offences. A major concern is the nature of the interaction between different players within the system, the effect of local environmental factors on the nature of this interaction, and the influence of group behaviour on social activity.

Social Structural theories (e.g., Merton, 1939) tend to look at crime in terms of broader social relationships and the major social institutions of society as a whole. This analysis makes reference to the relationship between classes, sexes, different ethnic and

'racial' groups, the employed and unemployed, and various other social divisions in society. They also investigate the operation of specific institutions, such as education, the family, work and the legal system, in constructing and responding to crime and deviant behaviour.

The level of analysis chosen determines how crime and the offender are viewed and how the criminal justice system should be organised. For example, Individual theories, such as Yochelson and Samenow's Criminal Personality (1976), focus on the thinking styles and errors of criminals, whereas a Limited Rationality Perspective, which is a situational theory, sees most crime as being mediated by some degree of means-end deliberation, which is a function of more traditional criminological variables, such as temperament, peer involvement, or demographic status (Clarke & Cornish, 1986). Social structural theories, such as Merton's (1939) Strain theory, propose that nonconformity reflects pressure exerted by the social structure, while others conceptualise strain more generally in terms of a discrepancy between personal goals and opportunities for realising them which is not class linked.

These theories are of great importance in view of their contribution to understanding the risk factors which are involved in offending behaviour. Therefore, Yochelson & Samenow's contribution to Individual theory will be reviewed before moving on to Situational theories such as the Rational Choice Perspective and limited rationality (Clarke & Cornish, 1985; Hough, Clarke & Mayhew, 1980; Hogan & Jones, 1983). Finally, Social Structural theories which include Social Control theories (Hirschi, 1969, 1978, 1986; Reckless, 1961) Strain theory (Merton, 1939) Cultural Transmission and Differential Association (Sutherland, 1939; Sutherland & Cressey, 1976) will be reviewed.

Individual Theoreis

Yochelson and Samenow's "Criminal Personality"

Yochelson and Samenow (1976) emphasise cognition in their analysis of the criminal personality, which is based on extensive interviews with 240 male offenders. Their sample includes young offenders seen in community clinics, but is made up predominantly of adult "hard core" offenders committed to a US hospital for psychiatric evaluation. Yochelson and Samenow adopt a "phenomenologic" approach which focuses on the thinking of criminals, who are seen to be in control of their lives, despite attempts to disown responsibility. The authors contend that what turns a person into a

criminal is "a series of choices" made from an early age. However, while acknowledging reciprocal influences of parents and child on individual development, they offer no explanation for the origins of the choice a person makes.

Criminality is conceptualised very broadly as a continuum encompassing a wide range of thinking processes as well as criminal acts. The noncriminal end of the continuum is defined by "responsible thinking and action", responsible people being those who are basically moral, fulfill their obligations, and function within the law. At the other extreme are criminals, who have a system of erroneous thinking patterns. Over 40 "thinking errors" are described, these being grouped into three kinds. First, there are criminal thinking patterns which overlap with "character traits" identified by others. For example, thought is characterised by pervasive fearfulness, particularly of a "zero state" in which the individual feels worthless, while a central pattern is the "power thrust", relating to a need for power and control. Other patterns include "fragmentation" (inconsistencies in thinking), sentimentality, perfectionism, an indiscriminate need for sexual excitement, and lying. Second, there are automatic errors of thinking, which include the "closed channel", or a secretive style of communication, the victim stance, failure to put oneself in another's position, failure to assume obligations, lack of trust, and poor decision making. Third are errors associated more directly with criminal acts. They include extensive fantasies of antisocial behaviour, a "corrosion" of internal and external deterrents, an opinion of oneself as good, and superoptimism. It is contended that criminals are not impulsive, because no matter how opportunist a crime may seem, it has typically been preceded by fantasies and premeditation. The emphasis placed by Yochelson and Samenow on thinking processes as determinants of deviant behaviour is to some extent consistent with the "rational criminal" perspective, and with the increased attention paid to the role of cognitive dysfunction in deviant behaviour. Their observations also coincide with the view that offenders neutralise inhibitions against deviance (Matza, 1964).

The account of criminality provided by Yochelson & Samenow is open to serious criticisms on several grounds. First, their definition of "criminality" is value laden and subjective, and no attempt is made to demonstrate that "criminal errors of thinking" are absent in "responsible" citizens. Second, they generalise from an unrepresentative sample, while offering no supporting evidence other than clinical observations. The formulation is therefore at best a series of hypotheses rather than a test of theory. Third,

their "thinking errors" make no contact with any systematic theory of cognitive functioning, and appear to be an arbitrary list of needs and irrational beliefs.

Situational Theories

Rational Choice Perspective and Limited Rationality

During the past two decades, there has been a significant revival of the rational choice perspective, which sees criminal behaviour as the outcome of a rational calculation of the costs and benefits of alternative courses of action, marked by an interest in the cognitive and situational determinants of the decision to commit a crime. The common assumption is that most criminal acts are mediated by some degree of meansend deliberation, even though this may not be methodical or strictly rational in an objective sense (Clarke & Cornish, 1986). This assumption includes impulsive and violent crimes, which may seem irrational to an observer.

Three overlapping approaches emerged during the 1970s which focus on crimes as events occurring within a specific physical context (Jeffrey, 1976). These approaches assume that criminals choose when to commit a crime according to environmental opportunities and situational constraints, although they do not address the decision processes involved. First, architects and geographers concerned with urban planning argued for causal effects of factors such as building design, land use, and spatial layout on street crimes of robbery, theft, or vandalism, as a function of the amount of surveillance permitted (Newman, 1972). A second approach examines opportunities for crime in terms of the spatio-temporal location of people and property (Cohen & Felson, 1979; Felson, 1986). People satisfy their basic needs through routine activities, such as work, childrearing, shopping, or leisure pursuits. These determine where and when people are, and what they are doing, and hence the location and vulnerability of personal and property targets. A third approach arose from a concern with situational crime prevention, which sees crime as the outcome of immediate choices and decisions, and which focuses on the proximal rather than the distal influences on crime as specific events (Clarke, 1977, 1980; Hough, Clarke, & Mayhew, 1980). This approach proposes that a lot of crimes are a result of specific opportunities. Crime is therefore seen as rational and carried out by ordinary people under particular pressures. "Opportunistic" crimes which are particularly susceptible to the availability of appropriate situations are likely to include shoplifting, tax evasion, or vandalism. The latter, for example occurs in places

where surveillance is minimal, such as empty buildings, or the least supervised areas of buses (Sturman, 1980).

According to Clarke and Cornish, (1985) an integration of decision making approaches is underscored by three assumptions. First, offenders seek to benefit themselves by decisions, which are to some degree rational. Second, the explanatory focus is on crime rather than offenders, and is both crime specific, and situation specific. Third, criminal events are distinguished from criminal involvement. Events are criminal acts chosen in particular locations, which dictate differences in motive and method. Therefore, involvement in criminal behaviour is the outcome of decisions at different points in time to begin, continue, or desist from criminal activity, and which are a function of more traditional criminological variables, such as temperament, peer involvement, or demographic status.

Empirical studies of criminal decision making are more consistent with a limited rationality view (Carroll, 1982; Johnson & Payne, 1986). Carroll's finding that both offenders and non-offenders judge crime opportunities in terms of a single dimension suggests that criminals ignore some aspects of potential crimes in judging their feasibility. However, Carroll notes that criminal decision making may also be sequential, so that different dimensions are considered at different points in time, or at different stages in an offender's career. An empirical examination of expertise, decision making and memory performance in relation to burglary is reported in chapter 5, which relates the findings to a rational choice perspective

Delinquency as Self-Presentation

Another situational theory is that of Hogan and Jones (1983) who propose that individuals who emerge from childhood with poor interpersonal competencies and hostility to adult authority will develop an uncooperative and rebellious interpersonal style. When combined with poor educational skills and opportunities, this will lead to the adoption of a deviant role. The reference group is the immediate peer group of similar individuals, and the self-image is negotiated to maximise approval of this group. The typical self-presentation is of an image of being tough, alienated, reckless, and exhibitionistic. Choice of criminal career is rational, though not necessarily conscious, and according to Hogan & Jones, (1983), many working class men locate their social identity through criminal activity. The self- presentational approach departs from traditional psychological theories in that delinquency is construed as socially meaningful

behaviour, motivated by non-pathological processes, rather than being "mindless" nonconformity. The significance of delinquent friends and the experience of school failure find support in sociological research on delinquency. However, it is unclear the extent to which the adolescent's personal attributes contribute to school failure, also, it appears to predict desistance from criminality once the peer group breaks up, which clearly leaves unexplained why some delinquents go on to become adult criminals or indeed what processes are involved in desisting from a delinquent lifestyle.

Social Cognition and Delinquent Behaviour

Social cognition and its relation to the development of offending behaviour has been receiving increased attention in research into delinquency. Social cognition is used in a broad sense to encompass several facets of performance, including social competence (Gaffney & McFall, 1981), moral reasoning (Lee & Prentice, 1988) and social perspective-taking skills (Chalmers and Townsend, 1990). It has been concluded from this body of evidence that offenders, both adults and juveniles tend to perform less well on measures of social cognition than non-offenders (Hollin, 1990) and that this finding warrants further investigation, since it has important implications for the development and implication of suitable treatment programmes. Social cognitive theorists have revived a view of self as an active information-processing structure, or cognitive schema (Greenwald & Pratkanis, 1984; Bandura, 1989). Epstein (1973), for example, uses the metaphor of a scientific theory in describing the self-concept as a self- theory whose postulates are continuously validated in the appraisal and seeking out of relevant information. Self- concept therefore refers to knowledge and beliefs about oneself, including attitudes of affective regard or self-esteem. Crick and Dodge (1994) focused on social information processing and found that there are distinct patterns of processing and cognitive distortions associated with antisocial and delinquent behaviour such as the selective use of social cues (Dodge & Newman, 1981) and hostile attributional biases when ascribing intent, (Dodge et al., 1990).

Palmer & Hollin (1999) assessed two aspects of social cognition; social competence and sociomoral reasoning with a sample of convicted young offenders to assess the relationship between 'content' cognitive factors such as moral reasoning and cognitive processes, such as competency in dealing with social relationships. Their findings replicate others found previously, that is, young offenders show less than optimum performance on both measures but no significant relationship between them.

These findings suggest that rehabilitative work with young offenders should target both the social competence and moral reasoning through individual assessments.

Social Control Theories

Social control theories take the position that all persons have the potential and opportunity to commit delinquent or criminal acts, but fear and social constraints keeps most people law abiding. This perspective explains delinquent behaviour in terms of inadequate external social control and internalised social values for some juveniles, which creates a freedom in which delinquency becomes possible. Control theorists are less concerned with the motivation to deviate from the norm than the social institutions that produce conditions favourable to either violating or refraining from breaking the law.

Reckless (1961), for example, sees conformity in terms of inner containment through a favourable self-concept, having aims, frustration tolerance, and commitment to norms, and outer containment, which comes from the availability of meaningful roles and social acceptance. Violation of these restraints involves personal costs in the form of punishment, social rejection, or loss of future opportunities. Whether a person yields to temptation therefore depends on the balance between anticipated rewards and costs (Piliavin, Hardyck, & Vadum, 1968).

Most influential has been the social control theory of Hirschi (1969, 1978, 1986), which proposes that conformity depends on the bond between the individual and society, and that deviance results when this bond is weak or broken. The correlated elements of the bond are:

- Attachment to others in the form of conscience, internalised norms, and caring what others think.
- Commitment to conventional goals.
- Involvement in conventional pursuits incompatible with delinquent activities.
- Belief in the moral validity of conventional values.

No special motive to deviate is proposed, as everyone is exposed to temptation, and the theory is concerned with criminality in general rather than the commission of specific crimes. The theory is silent about how bonds develop or break down, or how

weak bonds produce deviant behaviour other than by leaving the individual "free to deviate" (Conger 1976; Box 1981).

Strain Theory

Merton (1939) rejected the notion that deviance results from the breakdown of controls against basic impulses, and proposed that nonconformity reflects pressures exerted by the social structure. *Anomie* refers to a disjunction between means and ends, which arises when a culture promotes valued goals of success, but the class structure limits access to those goals. Legitimate opportunities for achieving success are more restricted for the lower classes, who therefore experience the frustration or strain of a disparity between aspirations and expectations. While the majority of people conform and accept the available goals and means, some adapt by rejecting the goals, the conventional means, or both, and turn to illegitimate behaviour. Anomie assumes that people perceive themselves to be relatively deprived, and appears to account for the paradox of high crime rates in affluent societies.

While perceived opportunity correlates negatively with self-reported delinquency (Mc Candless, Pearsons & Roberts, 1972), delinquents lack skills as well as opportunities, and some studies suggest that they are not typically motivated by frustration of high aspirations (Hirschi, 1969). Bernard (1984) challenges this evidence, and argues that strain theory finds support from research on more serious, lower class delinquents. However, some recent statements conceptualise strain more generally in terms of a discrepancy between personal goals and opportunities for realising them which is not class linked (Elliot, Huizanga & Ageton, 1985).

Cultural Transmission

As a reaction against early psychological and psychiatric positivism, initial sociological theorising located "pathological" causes of crime in social conditions rather than individuals. Early ecological studies identified inner city areas with high delinquency rates, which correlated with poverty, high population density and turnover, and social problems. Crime was therefore attributed to social disorganisation, in which normal controls of behaviour by social institutions had broken down. Although it is now recognised that these associations do not establish the causes of crime, this work suggested that criminal traditions exist alongside conventional value systems and that youthful gangs drawn from an economic underclass provide support for delinquent

behaviour. Sutherland, however, preferred the concept of differential association (DA), which implies different subcultural traditions with potentially conflicting norms rather than a criminogenic and pathological section of society. His theory originated in 1939 and has subsequently been reiterated with only minor modifications (Sutherland & Cressey, 1976). DA specifies the process by which criminogenic traditions are transmitted and takes the form of nine propositions which are:

- i. Criminal behaviour is learned, rather than inherited or invented by individuals.
- ii. It is learned in social interaction.
- iii. It is learned within intimate personal groups, rather than through the media.
- iv. What is learned includes both crime techniques and criminal motives, drives, rationalisations and attitudes.
- v. The specific direction of motives and drives is learned from definitions of the legal code as favourable or unfavourable, depending on support for the code within a subculture.
- vi. A person becomes delinquent because of an excess of definitions favourable to violations of law over definitions unfavourable to violations of law, as these are assimilated from the surrounding culture.
- vii. Differential associations vary in frequency, duration, historical priority, and intensity or emotional impact.
- viii. The process of learning by association with criminal and anti-criminal patterns involves mechanisms entailed in any other learning, and not imitation alone.
 - ix. Criminal behaviour is not explained by general needs, since the same needs and values underlie criminal and noncriminal behaviour

The theory is concerned with the ratio of exposure to criminal norms, rather than with criminal associations per se. It also specifies differential exposure to criminal and anti-criminal patterns of behaviour, which include endorsement of deviant definitions by non-criminals, and not simply excessive contact with criminals. De Fleur and Quinney (1966) suggested that the first six propositions constitute the essence of the theory, which they reformulated as.... "[O]vert criminal behaviour has as its necessary and sufficient conditions a set of criminal motivations, attitudes, and techniques, the learning of which takes place when there is exposure to corresponding anti-criminal norms during symbolic interaction in primary groups"(p.16). The theory is vague on some points and

is considered untestable by some. It accounts only for the acquisition of criminal tendencies and not the maintenance or performance, and it says nothing about the differential receptivity of individuals to their associations.

Therefore, it is clear that Individual, Situational and Social Structural theories view involvement in criminal activity as originating in fundamentally different ways. Individual theorists such as Yochelson and Samenow (1976) emphasise cognition as well as denial of responsibility by the individual offender as major determinants of offending behaviour. Situational theories, including the rational choice perspective (Clarke & Cornish, 1986) view criminal activity as the result of some degree of means-end deliberation which is mediated by criminological variables and occurs within specific contexts. An alternative approach is presented with Social Control theories (e.g. Hirschi, 1969) which assert that a breakdown between the individual and the conventional values of society are responsible for criminality.

Risk Factors

Those theories that have attempted to explain offending behaviour have contributed vast amounts of knowledge on those risk factors which are significantly correlated with offending behaviour. Risk factors are prior factors that increase the risk of occurrence of events such as the onset, frequency, persistence or duration of offending (Farrington, 1996). Sir Cyril Burt (1925) described predetermining conditions that contribute to involvement in crime in his seminal work "The Young Delinquent" and set the groundwork for the identification of risk factors in subsequent research. He concluded that crime resulted from "a wide variety, and usually from a multiplicity, of alternative and converging influences" (p.219). Loeber & Wilson (1983) and Stouthamer-Loeber (1987) suggested that the most important predictors were poor parental child management techniques, parental deviance, childhood anti-social behaviour, low intelligence and low educational attainment. These risk factors will be reviewed individually in addition to several others; social and environmental factors, resilience, issues of family structure, family size and birth order, peer influences, school influences, community influences and situational influences. It should be noted that risk factors are cumulative and tend to coincide, which can be interpreted as a developmental stacking of problem behaviours (Loeber, 1990).

Parental Child Management Techniques

Studies which compare the family environments of delinquents and non-delinquents indicate adverse conditions with some regularity, particularly in relation to the effectiveness of caretakers in shaping and transmitting skills and performance standards. Several studies have identified family factors as important correlates and predictors of juvenile conduct problems and delinquency (Wilson 1980; Newson & Newson, 1989; West & Farrington, 1973). These factors include poor parental supervision or monitoring, erratic or harsh parental discipline, parental disharmony, parental rejection of the child, low parental involvement in the child's activities, antisocial parents and large family size. The latter factor was found to be highly significant in an Irish study comparing two matched groups of industrial trainees and juvenile offenders, in which the family size of the offenders was almost twice the national average (O' Mahoney, Cullen & O'Hora, 1985). Malinosky-Rummell & Hansen (1983) in their review of the literature, found that being physically abused as a child predicted later violent and non-violent offending, while Farrington (1991) demonstrated that harsh discipline and attitude predicted both violent and persistent offending up to age 36.

Prenatal and perinatal factors such as teenage pregnancy and small birth weight for gestational age predict undesirable outcomes for children, including low school attainment, anti-social school behaviour, substance use, and early sexual intercourse (Furstenberg, Brooks-Gunn, & Morgan, 1987a, 1987b). Analysis of four surveys in the U.S. and UK by Morash and Rucker (1989) suggests that children of teenage mothers are more likely to become offenders, as these mothers were associated with low income families, welfare support, absent biological fathers, poor child rearing techniques, and their children were characterised by low school attainment and delinquency (Farrington, 1996).

The importance of parental supervision and management has been well documented. Reports from several major studies including the Cambridge study (West & Farrington, 1973) found that harsh or erratic parental discipline, cruel, passive, or neglecting parental attitude, poor supervision, and parental conflict, measured at age 8, all predicted later juvenile convictions (Farrington, 1996). The Cambridge-Somerville study in Boston (McCord, 1979) reported that poor parental supervision was the best predictor of both violent and property crimes, while Riley and Shaw (1985) found that poor parental supervision was the most important correlate of self reported delinquency for girls, and that it was the second most important for boys (after delinquent friends).

Moreover, young people who say that their attachment to their family is weak are more likely to report that they have committed offences (Graham & Bowling 1995).

Parental Deviance

One of the most consistent findings in the literature is that delinquency is associated with parental criminality, antisocial behaviour and alcoholism. West & Farrington (1973) found that a relatively high percentage of boys with criminal fathers were arrested during adolescence, while Robins, West, & Herjanic (1975) reported that children with two parents involved in criminal activity were at very high risk for extensive delinquent behaviour. In addition, Wilson (1987) showed that convictions of parents predicted convictions and cautions of sons, while O' Mahoney (1997) in his survey of prisoners in Mountjoy Prison reported that 15% of prisoners had a father who had been in prison, which represents more than double the figure for the sample surveyed in 1986 (6%). There are several explanations for the association between parental criminality and juvenile offending behaviour. One is that the association reflects genetic factors common to parent and child, although this is considered more plausible in the case of persistent offending rather than for short lived delinquency (Trasler, 1987). A second suggested explanation is modelling of antisocial behaviour by parents. Although the modelling of antisocial parental behaviour is strongest when parental criminality continues into the period of child rearing, there is no evidence that criminal parents directly modelled or involved their sons in criminal activities. By contrast, criminal parents were highly critical of their children's offending, and it was extremely rare for a parent and child to be convicted for an offence they had committed together (Reiss & Farrington, 1981). Another plausible explanation is the failure of deviant parents to provide models of normative and prosocial behaviour. McCord (1986) found that paternal deviance had its strongest effect when combined with paternal aggressiveness and conflict, while the effect was relatively weak when the father showed respect for the mother and affection for the child

Childhood Antisocial Behaviour

Several characteristics have been identified which may serve to target children early on who may be at risk of later problem behaviours. Temperament is one such characteristic, and investigators have classified children as temperamentally 'easy' or

'difficult' (Thomas et al, 1968). According to Fagot (1984) highly aggressive children are already distinguishable from non-aggressive problem children during the pre-school period. In recent years, there have been several studies which demonstrate the importance of boys' aggression from as early as the pre-school period as a predictor of later delinquency and conduct problems (Charlebois, LeBlanc, Gagnon, Larivee, & Tremblay, 1993; Loeber, Tremblay, Gagnon, & Charlebois, 1989; Spivack, 1983).

In the Cambridge study the effect of intelligence disappeared when 'troublesomeness' at age 8 to 10 was taken into account, suggesting that both later failure at school and delinquency may be attributed primarily to deviant temperament. Stattin and Magnusson (1989) also found that after partialling out intelligence and socioeconomic status, teacher ratings of aggression in 10 year olds remained significantly correlated with later delinquency, while Patterson et al (1989) also suggest a sequential effect from antisocial behaviour to school failure and delinquency. Temperament factors may be especially important in conjunction with unskilled parental management techniques.

Hyperactivity is another important factor in the development of disruptive behaviour, although it is not clear the extent of hyperactivity during the pre-school period, hence the link between this characteristic and later delinquency now rests largely upon studies with primary school age or older children. Linked to hyperactivity is the notion of impulsivity, which has been found to be a relatively stable predictor of juvenile offending behaviour. For example, in the Cambridge study, those boys nominated by teachers as lacking in concentration or restless, those nominated by parents, peers, or teachers as the most daring, and those who were the most impulsive on psychomotor tests all tended to be juvenile but not adult offenders (Farrington, 1992c). A link between the constellation of personality factors termed 'hyperactivity-impulsivity-attention deficit' (HIA) has been reported by investigators such as Loeber (1987), and it has been suggested that HIA might be a behavioural consequence of a low level of physiological arousal as measured by alpha brain waves on the EEG, or according to measures such as heart rate, blood pressure, or skin conductance, which all show low autonomic reactivity (Raine, 1993). In the Cambridge Study, a low heart rate was significantly related to convictions for violence, self-reported violence, and teacher reported violence, independently of all other explanatory variables. Another characteristic is difficult peer relations, and peer ratings have been used as a reliable measure of the link between

delinquency and problem behaviours as seen by peers (Johnston & Pelham, 1986; Roff, 1986; West & Farrington, 1977).

Intellectual Ability and Educational Attainment

Intellectual ability has been of continuing interest in psychological criminology since the early studies of Goddard (1914) and is considered a critical factor in the development of cognitive-developmental and social learning theories. Reviewers (e.g. Hirschi & Hindelang 1977; Quay, 1987b; Wilson & Herrnstein 1985) have concluded that juvenile offenders obtain lower scores than non-delinquent adolescents on IQ tests, and the association appears to be independent of other variables such as family income and family size (Lynam, Moffit, Stouthamer-Loeber, 1993). Furthermore, the association is not linked with a propensity for less intelligent adolescents to be apprehended by authorities (West & Farrington, 1977), and evidence also suggests that the association between delinquency and IQ is independent of seriously dysfunctional family relationships (Walsh, Beyer, & Petee 1987). Moreover, it seems that a high IQ can help to protect at risk individuals from criminal involvement (Kandel et al., 1988).

Intelligence may lead to delinquency through the intervening factor of school failure, and this association has been identified consistently in longitudinal studies (e.g. Wolfgang, Figlio, & Sellin, 1972). Educational under attainment correlates with antisocial behaviour in the early school years as well as with later delinquency in several studies and it has generally been assumed that the influence of intelligence is an indirect one, mediated by poor school performance (Murray, 1976; Rutter & Giller 1983). A common view is that the experience of school failure leads to negative self esteem or hostile attitudes to school, which in turn leads to association with other "problem" children, and hence, greater opportunity for delinquent behaviour. Control theory, for example, sees educational failure as promoting negative attitudes to school, and hence weaker attachment to the societal values represented by the school. Consistent with this is the finding of Austin (1978) that the relation between intelligence and self reported stealing largely depended on negative attitudes to teachers.

Social and Environmental Factors

Most delinquency theories assume that offenders disproportionately come from lower class backgrounds and, in particular, British studies have reported consistent findings on this association between low social class and offending. For example,

Douglas (1966) showed that the prevalence of official juvenile delinquency in males varied considerably according to the occupational prestige and educational background of their parents, and Bates (1996) reported that fewer than 4% of the parents of young offenders were educated beyond primary school level. Numerous indicators of socioeconomic status (SES) were measured in the Cambridge Study, both for the male's family of origin and for the male himself as an adult, including occupational prestige, family income, housing, employment instability and family size, and it was reported that low SES of the family when the child was age 8-10 years significantly predicted his later self-reported but not his official delinquency (Farrington, 1992).

Socio-economic deprivation of parents is usually compared with offending by sons. However, in the Cambridge study official and self-reported delinquents tended to have unskilled manual jobs and an unstable employment at 18 years, and this was one of the best independent predictors of his convictions at age 21 and 25 years (Farrington, 1986b). More recently, there has been interest in the idea of an emerging underclass in the US and UK than in low social class per se. Murray (1995) argued that life in lower-class communities was degenerating as illegitimacy rose, there was widespread alcohol and drug addiction, fewer marriages, more unemployment, more child neglect, more crime and so on. He further argued that new divisions were opening up in the lower half of the socio-economic distribution, as two-parent working class families increasingly left council estates, which became increasingly populated by an underclass predominantly consisting of single parent families. These arguments are somewhat controversial, and may bear little relevance to the structures of Irish society at the end of the 20th century.

Resilience

Research on the development of delinquency has produced a great number of risk factors for problem behaviour, and some of these have been outlined above. Conditions within the multi-problem milieu such as parental criminality, neglect, passive or rejecting childrearing attitudes, erratic or harsh discipline, conflicts, large families, and socioeconomic disadvantage correlate with the incidence and manifestation of delinquent careers (Farrington, Ohlin & Wilson, 1986; Loeber & Stouthamer-Loeber, 1986). However, in many cases, delinquency is only a transitional phenomenon of (male) adolescence. The precision with which long term criminal careers can be predicted on the basis of risk factors is thus generally limited (Blumstein, Cohen & Farrington, 1988; Gottfredson & Hirschi, 1986)

Another approach, which places a much stronger emphasis on the flexibility of human development is one which explores resilience in juveniles whose development is relatively free of disorder despite risky life conditions (Bliesner & Losel, 1997). This term is often misunderstood as expressing an absolute, permanent, and eventually even genetically determined resistance to stress. What is meant, however, is a relatively stable ability to cope with stressful life conditions and events in which not only genetic dispositions play a role but also, above all, protective factors form complex disposition-environment interactions (Bliesner & Losel, 1997). Protective factors, in contrast with risk factors have been given little attention in research. However, Rutter (1985), on the basis of previous findings considered the following personal and social factors to be among those that are significant:

- The way in which people deal with stressors, and, above all, how far they act and do not just react.
- Thoughts of self-efficacy and self esteem as prerequisites for this willingness to act.
- Stable emotional relationships to and positive experiences with other people,
- Temperamental factors that favour successful coping and positive relationships to others.
- Parental modelling and child-rearing behaviour that guides the child's responses to life events.

Furthermore, many protective processes involve key "turning points" in people's lives which open up new opportunities, such as the effect of moving home (Rutter, 1987), and this notion has gained support from empirical studies (Buikhuisen & Hoekstra, 1973; West, 1982). However, it is clear that the reciprocal influence of personal attributes and social variables is likely to have a contributory effect on whether such events constitute a significant turning point in a person's life trajectory (Bandura, 1982).

Some problems and deficits which are yet to be addressed in resilience research include: the lack of consistency in empirical findings because constructs are derived from different theoretical contexts; an adequate conceptual differentiation of risk conditions and protective factors has yet to be achieved. Some of the studies are concerned with coping with single, critical life events, while it is known that a certain

accumulation of stressful living conditions is a prerequisite of any marked increase in the risk of emotional and behavioural disorders (Thomas & Chess, 1984). Age and gender specific variations have hardly been taken into account so far (Rutter, 1989). Another important criticism refers to the notions of "protection" and "risk", which reflect a disease metaphor and can be misleading, since they imply that different psychological processes govern socially undesirable and socially valued outcomes. In fact, the question of what causes some individuals from an apparently criminogenic background to become law abiding is simply part of the more general question of what factors influence people's life paths, and as Bandura (1982) notes, these factors may often be chance encounters which are not predictable in advance.

Issues of Family Structure

Wells and Rankin (1986) have noted that studies of the association between broken homes and delinquency have rarely considered mediating variables. The most important of these variables include the type of broken home (mother absent, father absent, adoptive, guardian, stepparent), the reason for parental absence (divorce, death, incarceration, occupational demands), the length of parental absence, and the quality and amount of contact with the non custodial parent.

In a review of the early literature, Geismar and Wood, (1986) concluded that broken homes are associated with delinquent behaviour, but that the association is greatly attenuated when self-report measures of delinquency are used and when social class is controlled. Furthermore, while this research suggests that there is a modest association between broken homes and delinquency, most investigators have posited that this association is the product of functional characteristics of family relations, such as adolescent autonomy (Steinberg & Silverberg, 1986) and parental control strategies (Steinberg, 1986). Furthermore, O' Mahoney et al (1985) stated that the main problem in this area is to do with the fact that family background variables are only crude indicators of the putative social, psychological, and economic processes which are considered likely to have a direct causal influence on the development of delinquency

Family Size and Birth Order

Several studies have pointed to the fact that delinquents come from families with larger siblines than comparable controls, e.g. (Ernst & Angst, 1983; Ferguson, 1952; Trenaman, 1952), and this has also been found in research with Irish juvenile offenders,

(e.g. O' Mahoney et al., 1985). Bates (1996) also reported in her study of young offenders in open centres in the Republic of Ireland that 80% of families had four or more children, 20% had between 7 and 9 children, while 10% had 10 or more children. However, the association of size with other family variables complicates explanations. Large families are more likely to live in poor and overcrowded homes, and those with a delinquent child are more often headed by criminal parents. In addition, large families are more difficult to discipline, and individual children may receive less supervision. It remains a further possibility that children in such families are less likely to receive parental attention and affection, and are hence restricted in the development of prosocial skills. Greater stress and family disorganisation are therefore possible factors, but the relationship remains after family income, socioeconomic status and parental criminality are partialled out (Fischer, 1984). Findings which support the importance of family size come from Farrington (1993) who found that large family size was the most important independent predictor of convictions up to age 32 in a logistic regression analysis, while the Newsons in their Nottingham study also found that large family size was one of the most important predictors of offending (Newson et al., 1993). Therefore, the effect of large family size on subsequent delinquency has been well documented, particularly when linked to other predictor variables (Blackburn, 1993).

Only children are less likely to be delinquent (Hirschi, 1969; West, 1982), and there is a tendency for delinquents to be middle children (Hirschi, 1969; Leflore, 1988). However, O' Mahoney et al. (1985) in their study of family characteristics of Irish juvenile offenders, found that both first born and middle born children were slightly over-represented, while last born were substantially under-represented by approximately one third of their expected number. However, in a comparison of male and female delinquents with their near-age nondelinquent siblings, Reitsma-Street, Offord, & Finch (1985) found that delinquents reported less positive interactions with their parents early in life. It therefore remains possible that children in large families who become delinquent are treated differently by parents. One factor which may be of more significance than family size itself, is the exposure to delinquent siblings. Gleuck & Glueck (1950) noted that 65% of their delinquent sample had a delinquent sibling, compared with 26% of nondelinquents. Moreover, the effect of size would appear to depend on the number of brothers rather than sisters in the family, suggesting a "contagion" effect (Offord, 1982). The association with large family size may therefore

reflect a tendency for the children to rely more on their siblings as models and sources of social training

Peer Influences

Delinquent acts tend to be committed in small groups (usually two or three young people) rather than alone (Reiss, 1988), and gangs do not appear to be a strong feature of the Irish crime scene (O'Dwyer, 1999). Several interpretations may be offered for this co-offending and include the possibility that young people's activities, whether delinquent or not, tend to occur in groups. Other possibilities are that delinquents tend to mix with other delinquents because like minded individuals have similar interests and outlets, or because of the stigmatising and isolating effects of court appearances and institutionalisation (Farrington, 1996). The influence of delinquent peers may be particularly salient in relation to persistent offending in young adulthood.

Research on asocial children (Rubin, 1985; Rubin, LeMare, & Lollis, 1990) suggests that this form of withdrawn behaviour is relatively stable during early and middle childhood and may lead to adjustment problems as children mature. Compared with more sociable peers, asocial children tend to have underdeveloped social problem solving skills, make fewer requests of peers, comply more during peer interactions, and tend to be ignored by peers when they do make social overtures (Rubin, 1982; Rubin & Mills, 1988). Exclusion by peers resembles the construct of peer rejection and may result in some of the same consequences. One of the outcomes of peer rejection may be decreased or limited opportunities for interaction with one's social partners and, consequently, isolation from important social learning experiences. Such deficits may increase children's risk for other types of interpersonal problems and difficulties. Conversely, recent research has suggested that prosocial behaviour can function as a protective factor in children's peer relationships (Parkhurst & Asher, 1992). The skill to detect these behaviour patterns, particularly at an early age, is an important objective for all those who are concerned with the impact of behavioural risk on later functioning and adjustment. Furthermore, according to Ladd & Profilet (1996), early assessments are essential to the development of preventive interventions for children.

School Influences

When exploring the relationship between schools and delinquency, what is unclear is the extent to which variation between schools should be attributed to

differences in school organisation, climate and practices, and differences in the intake of pupils. The most famous study of school effects on offending was carried out by Rutter, Maughan, Mortimore, & Ouston (1979), which found big differences between the 12 comprehensive schools studied. The main school factors associated with delinquency were a high amount of punishment and a low amount of praise given by teachers in a class, although it is still unclear whether the factors he identified were causes or consequences. Another core area that has been identified is that of the potential protective role of school and teachers, and Devlin (1995) identified several key indicators from her interviews with 100 prisoners who were asked "is there anything that could have been done at school to prevent you being in custody now?". She proposes:

- Smaller class sizes are needed, where teachers could recognise children as individuals
 with their own special talents and difficulties,
- Teachers should work to help pupils develop feelings of self-worth and optimism,
- Pupils should be able to remain at one school rather than being the subject of many moves,
- Where moves are essential, a school should have a mentor system to help new pupils settle in,
- Teachers should have the training and courage to intervene sensitively when aware of problems at the pupil's home,
- Teachers should be sensitive to how much of their home life individual pupils wish to be known, and to whom,
- Teachers should hold high expectations of potential for achievement and ambition for all pupils, whatever their background,
- Teachers should be aware of and positively reacting to the behaviours of the young person that reflect their life experiences, rather than regarding them as grounds to exclude them from school,
- Good communication is needed between the young person, parents, carer, teacher,
 and social worker where roles and responsibilities are clearly defined,
- A parent or guardian is needed who takes an active role in ensuring their son or daughter's educational needs are being met.

These key indicators highlight the need for improvements in the methods for addressing non-school attendance, issues of exclusion and measures that offer support, guidance and training for teachers and pupils alike.

Community Influences

Ecological studies which measure the correlations between offender rates and geographical locations have been carried out in both the UK and USA, and the classic studies by Shaw and McKay (1942, 1969) in Chicago and other American cities showed that delinquency rates were highest in inner-city areas characterised by physical deterioration, neighbourhood deterioration, neighbourhood disorganisation and high residential mobility. A high proportion of offenders came from a small proportion of areas, which tended to be the most socially disadvantaged. Delinquency rates were seen to persist over time, and Shaw and McKay concluded that delinquency producing factors were inherent in the community which could be explained in part by the cultural transmission of anti-social norms from one generation to the next, and partly because of the ineffective socialisation processes to which children were being exposed. However, some doubt has been cast on the validity of these findings, and indeed Rutter et al. (1975a, 1979) found that any effects of inner city residence on children's anti-social behaviour were indirect and sequential, (i.e. communities affected families), which in turn affected children. Furthermore, it is not conclusively true that offender rates are highest in inner city areas, and council housing allocation policies may play a role in creating areas with high offender rates (Baldwin & Bottoms, 1976). What is evident however, is the interaction between individuals and the communities in which they live.

Situational Influences

The rational choice theory (Clarke & Cornish, 1986) suggests that criminal behaviour is the outcome of a rational calculation of the costs and benefits of alternative courses of action, and there is a common assumption that most criminal acts are mediated by some degree of means-end deliberation even though it may not be strictly rational in an objective sense. This theory has been applied to research on residential burglary (Wright, Logie & Decker, 1995; McLoughlin & Byrne, in preparation) which identify the influence of deterrents on decisions by offenders to burgle a property or not. Other related concepts refer to the opportunistic nature of much crime which is influenced by the daily routine of individuals and the return of many women to the

labour force. This theory is more applicable to instrumental crime, rather than expressive crimes of violence or sexual offences.

Considerations for Policy

Farrington, (1994) has suggested that any preventative work with delinquency must be based on knowledge of risk and protective factors that act as predictors. This illustrates very well the need for policies and practices which deal with youthful offending to be based on clear explanations for the behaviour. Thus, arguments for and against any form of sanctions or interventions need to be located in the context of clear information on what causes the behaviours. In addition, discussions about such measures usually entail implicit assumptions about the nature of children, childhood, and the stages of development and growth which children pass through (Asquith, 1996).

According to Asquith (1996), several common issues which need to be addressed in the review of juvenile justice systems in the international arena include: the extent to which punishment is an acceptable option for young offenders; the age of criminal responsibility; the relationship between community based services and custodial provisions; the relevance of the court or tribunal model of decision making; the relevance to children and young offenders of traditional notions of criminal justice and search for alternatives such as 'restorative' or 'reparative' justice (Walgrave 1996); the integration of young offenders into mainstream social life; the degree of commitment to the rights of children caught up in formal justice processes (Cappelaere, 1994); the nature of preventive philosophies (in Asquith, 1996).

Furthermore, a central issue to be borne in mind is that juvenile justice systems deal predominantly with working class males, with females being in the minority. This does not imply that working class males are more disposed towards crime than those from more affluent backgrounds, but may reflect the fact that the statistics and the legal categories employed relate largely to working class crime and ignore other types of criminal activity. Moreover, O' Sullivan, (1998) has suggested that "children from backgrounds characterised by deprivation would appear more likely to be committed to institutions of punishment and reformation than children from more affluent backgrounds for objectively similar offences" (p.68).

Likewise, the majority of recorded offences are property offences involving theft and burglary, with a minority of offences against the person. Nevertheless, the more serious cases involving young offenders attract particular media and public attention,

even though they represent only a very small proportion of the overall crime statistics, and it is these cases which inform our stereotypes of offending by young people, and may impact on developments in juvenile justice as a whole. O'Connell (1996) reported that public perception of crime is driven by the mass media which tends to report only the most serious cases involving young offenders. Examples of these high profile cases are to be found in Irish newspapers, particularly relating to incidences of 'joyriding' which have had tragic consequences. An example of one such case relates to the death of a Dublin teenager who was fatally stabbed by another teenager when one refused the other a cigarette. The case has been followed and reported in the National press (November 1999) and the sensationalistic reporting that has emerged can only lead to a further distortion of public perception of youthful crimes.

McGrath (1997) reported that successful intervention programmes which tackled risk taking behaviour with youths in the US included intensive individual attention; early intervention; comprehensive multi-agency community-wide co-operation; parents having a defined role; peers having a defined role; and social skills training. He further asserts that while the detention of young offenders may placate the societal need to express anger, it does not necessarily make our communities any safer, instead what is needed is comprehensive youth and community programmes

Concluding Remarks

This chapter has aimed to provide the reader with an explication of the major findings pertaining to juvenile offending behaviour in the academic literature. Aside from the many complexities, which were discussed in relation to nomothetical issues, the contributions of major theories from psychology and sociology were explored and their contribution to understanding risk factors acknowledged. Consequently, our knowledge of those predictor variables has been advanced considerably, and a review of these risk factors was provided. However, the omission of the investigation of 'normal' cognitive processes in the literature is apparent and notable. The overriding research aim of this thesis is to assemble a profile of a number of different cognitive factors which may have an impact on juvenile offending behaviour and this will now be given in more depth.

Research Aims

The paucity of research on young offenders in Ireland has come under frequent and harsh criticism (e.g. O' Sullivan, 1998; Burke, Carney, & Cook, 1981) and one

research aim of this thesis is an attempt to bring a fresh approach to the academic arena by looking at variables which have traditionally been overlooked by researchers investigating delinquency. Moreover, while much is known of risk and protective factors and how they impact on offending behaviour, little may be done on a day to day basis to redress inequalities such as under-resourced communities which require effective policy change at governmental level. By contrast, investigating processes which may yield information on how young offenders manifest their mental life offers the possibility that effective interventions may be used to challenge existing beliefs and patterns which lead to the commission of crime. Therefore, a second research aim is concerned with the possibility of elucidating information which may be helpful to those agencies who carry out preventative work with young offenders.

The two key questions throughout the series of studies which comprise this thesis are simply these: do differences exist between young offenders and non-offenders on a number of cognitive variables? What differences may be discerned when matched groups of control participants who share exposure to many of the risk factors identified are compared to groups of young offenders incarcerated in places of detention? It is the intention of this thesis to demonstrate the value of understanding what and how young offenders think in general and think about about their involvement in criminal activity in particular.

Structure of the Thesis

The five chapters following this one present the empirical research comprising this thesis in a sequential manner and begins with an in-depth profile of 84 young people convicted of offences by the Childrens' Courts in Dublin Metropolitan area, Galway City and Limerick County between April 1997 and April 1998. Chapter two is therefore concerned with providing a background history and looks at the main risk factors outlined here in relation to Irish young offenders. The studies reported in chapter three are quasi-experimental and exploratory in nature and focus on intelligence (with a particular interest in practical intelligence), self-esteem, interrogative suggestibility and levels of self-report offending. Chapter four consists of three studies that compare the thinking and reasoning skills of young offenders with non-offenders to test the novel hypothesis that offenders may be better at reasoning informally about crime related topics of which they have personal experience. The studies evaluate the causal theories of crime that are generated by young offenders and non-offenders, investigate the processes that underpin

informal reasoning and provide an analysis of reason based choice and offenders beliefs about getting apprehended. Chapter five reports two experiments in an applied domain, comparing the skills and expertise of young burglars to those of non-burglars and non-offenders and attempts to discern how young burglars apply their 'skills' in very specific situations. Finally, chapter six summarises the main findings from the thesis, discusses empirical limitations, considers implications of the data and makes recommendations for future research.

CHAPTER TWO: DISTINCTIVE FEATURES OF IRISH YOUNG OFFENDERS

Introduction

The previous chapter provided an overview of the main theories and risk factors that have been associated with the development of delinquency and reported on research which to date has given an indication of the conditions which are likely to give rise to delinquent behaviour. But what about young offenders themselves? Are there any distinctive characteristics that are common to young Irish offenders? The primary aim of this chapter is to respond to that question specifically by reporting the findings of an indepth profile based on multi-agency reports of a sample of 84 Irish young offenders who had been convicted of a criminal offence. The present study (McLoughlin, Maunsell, & O'Connell, in preparation)¹ resulted from a commission by the Minister of State responsible for Children to determine, firstly, the flow of young people coming before the courts in Ireland and to ascertain, secondly, whether there were consistencies in the life histories of those young people. This chapter presents the findings from the second element of the study, namely the indepth profile of a sample of 84 young people and will begin by focusing on previous findings in relation to distinguishing characteristics of young offenders.

Research into the characteristics of young offenders has yielded consistent findings. For example, Bates (1996) in her study of childhood deviancy in Ireland, focused on 130 subjects (7 females, 123 males) between the ages of 11 and 17 years, all of whom were in juvenile detention centres. Bates reported that most subjects had experienced family alcohol abuse, criminality and were likely to be living in rented accommodation in urban areas with high levels of unemployment. Furthermore, there were high incidences of marital breakdown, single parenting and large family size. Low levels of parental education predominated while subjects in her study had below average IQ and reasoning ability in addition to low attainment levels in reading, spelling and mathematics. Behaviour that was common to her subjects included underage smoking, alcohol abuse, negative attitudes to Gardai and an expectation of future involvement in crime. They were also likely to be anti-social, aggressive, untrustworthy, rebellious, and

¹ This study was carried out by the author, Catherine Maunsell and Dr. Michael O Connell and funded by the Department of Justice, Equality, and Law Reform. This chapter is based on Mc Loughlin, Maunsell and O' Connell (in preparation) but was written by this author.

poor in responding to criticism and frustration. In general, Bates' (1996) findings were in accord with those from the Cambridge Study in Delinquent Development (Farrington, 1995).

The Cambridge Study in Delinquent Development, which is a prospective longitudinal study of over 400 London males from age 8 to 32 years (Farrington & West, 1990) found that the typical offender - a male property offender - tends to be born into a low income, large sized family and to have criminal parents. When he is young, his parents supervise him rather poorly, use harsh or erratic child-rearing techniques, and are likely to be in conflict and to separate. At school, he tends to have low intelligence and attainment, is troublesome, hyperactive, impulsive and often truants. He tends to associate with friends who are also delinquents. It is apparent that some sort of profile is emerging, and indeed, other researchers such as Robins (1979) have argued that there is an 'antisocial personality' that arises in childhood and persists into adulthood. In the Cambridge study, delinquents tended to be troublesome and dishonest in their primary schools, tended to be aggressive and frequent liars at 12-14 years, and tended to be bullies at 14 years. By 18, delinquents tended to be antisocial in a wide variety of respects, including heavy drinking, heavy smoking, using prohibited drugs and heavy gambling. In addition, they tended to be sexually promiscuous, often beginning sexual intercourse under 15, having several sexual partners by 18, and usually having unprotected intercourse (Farrington, 1992d).

Another factor which has emerged as being a significant indicator of delinquency is the prevalence of higher rates of broken homes (by divorce, separation, and desertion predominantly) amongst delinquents than among comparison groups of non-offenders, and this has been established within an Irish context, (O'Mahoney et al, 1985; Bates, 1996). However, O' Mahoney (1997) reported that the percentage of the Irish sample who had experienced a broken home through divorce, separation, or desertion was very low (10%). Nonetheless, these findings are well documented in international studies (e.g., Glueck & Glueck, 1950; West & Farrington 1973). By comparison, there has been a dearth of comparable research in Ireland in relation to young offenders and their associated characteristics. We know very little about how the typical Irish young offender presents, or the familial and social factors which may have an impact on their lives. As a consequence of this, we (Mc Loughlin et al. in preparation) carried out a study to provide an indepth profile of a small sample based on secondary data from a variety of sources.

Sampling Method

The study comprised two separate sections and was designed to obtain data on: firstly, the numbers of young people coming before the courts in the Dublin Metropolitan area, Galway City and Limerick County across three pre-determined sampling periods (October 1997, April 1998 and October 1998) and secondly, to obtain the life histories of a sub-sample of young people who had appeared before the court in one of the pre-determined months (this month cannot be identified to protect the anonymity of the young people and their families). In addition, to provide, from this information, a profile to determine if any common or typical features would emerge. This chapter presents data from the second section; the in-depth profile.

The secondary sources of information accessed were:

- The Probation and Welfare Service.
- Garda National Juvenile Office (N.J.O.).
- The Garda Criminal Records (D.C.R.).
- The School Attendance Division of the Department of Education.
- The Finglas Young Person's Centre.
- The Mid Western Health Board.
- The Western Health Board.

For the purpose of the indepth profile, it was deemed important that the sample being profiled would have either pleaded guilty or had been found guilty of the commission of at least one criminal offence. Short of interviewing a sample of young people who had been found guilty of a criminal offence, the richest source of secondary data, on the characteristics of such young people, was agreed to be the Probation & Welfare Service report, which is prepared at the request of a presiding judge after a finding of guilt has been established in a given case. With the aim of maximising the amount of available data in respect of each child it was thus agreed that the sampling criterion adopted for indepth profiling would be the selection of all those young people for whom a Probation & Welfare Service report was presented in one of the designated months of the study. Using this sampling criterion, 84 young people (with an average age of 16 years and 5 months range of 12 years to 21 years) in total were identified as having had Probation & Welfare Service reports presented to the court in the designated month. Therefore, secondary data, in the form of reports and records pertaining to those young people and held by the agencies as outlined, were acquired and coded for analyses.

Coding Schedule

A Coding schedule was prepared which contained 125 variables (see Appendix 1) which was designed to garner as much information as possible on each young person's life. The profile included information under the following predetermined categories:

- Status of the young person's family.
- The young person's previous offending history.
- The young person's involvement and level of contact with the Garda National Juvenile Office.
- The young person's educational and employment history.
- The young person's involvement with their peer group.
- Any history of substance abuse on the part of the young person.
- Any history of substance abuse in respect of the members of the young person's family.
- The offending history of the members of the young person's family.
- Referrals of the young person/ and or members of the young person's family to mental health/community care services.

The study was conducted over a ten-week period. Information was also requested from the other agencies involved, and where information was available, this was obtained. Therefore, in some but not all cases data was supplemented by reports accessed from sources other than the Probation and Welfare service. Because of the haphazard nature of providing services for young people who come before the courts, it was inevitable that information would not be uniform across all agencies. For example, while reports were available for all 84 young people from the Probation and Welfare service, only 77 records were accessed through the N.J.O. Furthermore, both across and within agencies, some of the reports accessed provided greater detail in respect of the variables under investigation than others, (i.e., some records were very detailed while others contained only a minimal amount of information). Information was recorded and subsequently coded for statistical analyses. The findings are presented in two sections, the first of which reports the descriptive statistics. This section begins with the characteristics of the young peoples' familial surroundings, followed by findings on the young people themselves before moving on to discriptive features of parents and siblings. The second section pertains to the findings from inferential statistics.

Findings From the Indepth Profile-Descriptive Analysis

Characteristics of the Young Person's Family and Home

The mean family size was 4.6 children. By comparison, the national family average is 2.05 children (Department of Family, Community and Social affairs, 1999). Over half of the sample came from families of between three and five children. Over a quarter of the young people in the total sample were first-born, while 21% of the sample were the second child in their families. Exactly 25% of the young people came third in their family, with the remainder being placed at fourth or greater in birth order. Approximately half of parents of the young people in the total sample were reported as being married. A further one-third of the young people's parents were recorded as being separated while just less than 10% of the sample had experienced the death of either one or both parents. There was evidence contained in the reports of 25 of the young people, or close to 30% of the total sample, that one or both of the child's parents had been absent from the child's life for long periods, due to marital breakdown, incarceration, or the death of a parent. Almost half of total sample resided with both parents, while 36% resided with their mother alone.

The employment status of the child's father was recorded in 53 of the 84 cases with almost 55% of this number reported as being unemployed with many of these recorded as long-term unemployed. Only 32% of fathers were reported as being in full-time employment. Information on the employment status of the child's mother was recorded in respect of 60 of the 84 cases in the total sample with mothers recorded as predominantly engaged as full-time homemakers. However, just over one-quarter of the mothers were recorded as being employed on a part-time basis.

In the reports of 10% of the total sample, there was a record made of domestic violence in the child's home. Almost 17% of the total sample were recorded as having been the victims of physical abuse. There was evidence of sexual abuse in respect of one young person in the total sample, albeit suspicions of sexual abuse were noted in reports pertaining to three young people. For exactly one-third of the sample there was a reference made in the reports that the child's parent(s) or guardian(s) had provided inadequate or poor supervision of the child's behaviour. There was reference made in the case of a further three young people that the child's parent(s) or guardian(s) had required the child to assume responsibility for tasks which were age-inappropriate. Information was recorded in 69 of the 84 cases on the reactions or attitudes of the parents in respect of

their child's offending behaviour. 83% of those on whom information was recorded were reported to be concerned and upset by their child's engaging in criminal behaviour. The home-type, that is whether the child's home was privately owned, rented, corporation/local authority housing or other was recorded in respect of 51 young people in the sample. Of those 51 young people, 41 or 80% lived in corporation / local authority housing. Information on whether or not conditions of the child's home were deprived was recorded in respect of 41 young people. The home conditions of 41% of the young people were reported as being deprived, although no clarification or measure of deprivation was indicated in any of the reports.

Child's Involvement in Offending

Based on data collated from reports, (mainly probation reports) the age of commission of first criminal act was recorded in respect of 76 of the young people in the sample. The mean age at which young people were recorded as having committed their first criminal act was calculated as being 14.2 years. By comparison according to N.J.O. records, the mean age of commission of first criminal act was 13 years. Finally, the mean age at which the child was first convicted of a criminal act, according to the DCR records, was 15.7 years. The majority of young people in the sample, had engaged in car-theft related offences, which would include, *inter alia*, the unauthorised taking of a mechanically propelled vehicle, being a passenger in a stolen car, or interfering with a mechanically propelled vehicle. Along with this category of offence, larceny, burglary and offences against the person accounted for over three-quarters of the offences with which young people were charged and found guilty of (see Table 2.1). The majority of young people received a sanction of probation, while just over one-quarter of the sample received a custodial-based sanction as a consequence of having committed the criminal acts for which they were before the court in the relevant month.

Table 2.1: The breakdown of the type of offence committed by the young person in the sample leading to their appearance in the court in one of the sampling periods.

Offence Type	Number of Young person (N=84)	Percentage of Total Sample	
Car-Theft Related Offences	30	36%	
Stealing	21	25%	
Burglary	7	8%	
Offences Against the Person	7	8%	
Criminal Damage Offences	6	7%	
Public Disorder Offences	5	6%	
Handling Stolen Property	3	4%	
Breaches of Bail	2	2%	
Other Driving Offences	2	2%	
Drug-Related Offences	1	1%	

The vast majority of the young people in the sample had been engaged in criminal activity prior to the current offence, while just over 10% of the total sample, had not previously been involved in criminal behaviour. Thirty young people, representing 36% of the total sample, were recorded as having committed additional criminal acts since April. Almost two-thirds of the young people in the sample were not however, recorded as having re-offended in the time period between April 1998 and the conducting of the study, some 10 months later.

Young peoples' previous offending history

Based on data from the Juvenile Diversion Programme (JDP) at the Garda National Juvenile Office (NJO), records on 77 young people were accessed and of these, 65% of the sample had between 1 and 10 referrals to the N.J.O., while 17 young people or 22% were found to have been referred to the NJO between 11 and 15 times. A further 8% of the sample accounted for between 16 and 32 contacts, and 1 young person had a total number of 44 referrals to the NJO. Thirty Nine or 51% of the sample had received an informal caution on their first contact with the NJO, while 8% had received a formal

caution. First contact followed by prosecution- final status, which means they are not processed through the NJO (usually reserved for serious offences against the person) accounted for 12%, while those who were dealt with by prosecution on direction of the N.J.O. at first contact amounted to 28 young person or 36% of the sample (see Table 2.2)

Table 2.2: Number of Referrals to The National Juvenile Office (N.J.O.) and How The Cases were Dealt With

Number of Referrals And Disposals	Number of Young People	Percentage of Total Sample	
Referred 1-10 times	50	65%	
Referred 11-15 times	17	22%	
Referred 16-32 times	6	8%	
Referred more than 35 times	1	1%	
Informal caution issued	39	51%	
Formal caution issued	6	8%	
Prosecuted on direction of N.J.O.	28	36%	
Prosecuted final status	4	5%	

Based on the Garda Crime Records (D.C.R.), 33% of the sample on whom records were available (N=61), were convicted on a wide variety of offence-types, with no offence-type predominant. For 25% of the sample the modal offence for which the child had been convicted was a car-theft related offence. Twenty Seven percent of the 61 young people received, on their first conviction, a custodial sanction. Thirty Nine percent of the sample were placed on probation on their first recorded conviction. Just under half of the 61 young people had received a custodial sanction for their last recorded conviction, while twenty-four young people were placed on probation on their last recorded conviction.

Child's Academic History

Seventy-six young people, representing 92%, of the total sample (N=84) had ceased formal education at the time of their appearance in court. Seven young people were still attending school, with four of the seven coming from the two centres outside of

Dublin. Of the seventy-six young people in the sample who had ceased formal education, almost a quarter had ceased formal education before reaching the age of 14, while over half ceased education by the age of 15, with a total of 85% having left school before the age of sixteen. Six young people had ceased formal education at twelve years of age or younger. The majority of the young people had left school without any formally recognised state qualifications, and less than twenty percent of the sample, had sat the Junior Certificate Examinations (the Irish equivalent of the UK GCSE Levels). One young person had sat the Leaving Certificate Examinations (equivalent of UK A Levels).

There was evidence of attendance problems in almost one-third of the total sample. Twelve percent of the young people in the sample were identified as having a strong history of truancy from school, and in respect of 11% of those young people, their history of truancy dated back to when they were attending primary school. Three and a half percent of the sample were reported as having truanted before they were ten years old (see Table 2.3) and 17% of the 84 young people in the sample had come to the notice of and had some level of involvement with the School Attendance division of the Department of Education. Almost 30% of the total sample of young people had either been suspended from school or had been expelled outright from school. It was typical for a child who had been suspended not to return to school even when the period of suspension had passed. The typical reason for suspension or expulsion of the child from school was disruptive behaviour on the part of the child while at school. Reports indicate that almost half of the total sample of young people had shown evidence of disruptive behaviour while at school. On the other hand, twenty-seven young people in the sample, representing 37%, were reported as not having engaged in disruptive behaviour while at school. Almost one-third of the young people in the sample were reported as experiencing general learning difficulties when in school. Thirteen young people, representing 15.5% of the total sample, were recorded as having concentration problems or attention difficulties while in school.

Table 2. 3: The Frequency and Percentages of Problem Behaviours Evident at School

School problem	Number of young people	Percentage of young people	
Truanting from school	26	31%	
Truanting before age 10	9	11%	
Suspended / Expelled	25	30%	
Disruptive behaviour	41	49%	
Learning difficulties	27	32%	

Information was recorded on the current status employment of 69 of the 84 young people in the total sample. Thirty percent of the young people were engaged in full-time employment. A further seventeen young people were engaged in employment on a part-time basis while the remainder were either involved in youth training programmes, undertaking apprenticeships, or were unemployed.

Peer Influences on the Sample

There was some information on the role of peers in a total of 50 cases from the overall sample. In the majority of these cases (88%) there were reports that the child was very susceptible to negative peer influences. In thirty-eight of these cases there was further evidence that the child was involved with a peer-group who were reported as engaging in delinquent behaviours. Overall, 45% of the total sample of eighty-four young people were reported as being involved in a delinquent subculture.

Young peoples' Substance Abuse History

As Table 2.4 shows, exactly half of the young people in the sample were recorded as having abused substances of some form. There were queries expressed in respect of four additional young people in the sample as to whether they may have also been engaging in some form of substance abuse. The typical substances abused were nicotine, alcohol, cannabis and heroin. In the remaining 45% of the sample there was no reported history of substance abuse on the part of the child. It should be noted however, that it was not clear that this meant that no substance abuse existed or simply that it had not been recorded by the agency from where the information was accessed. Of the 42 young people who had a recorded history of substance abuse, 46% of these had begun abusing

substances by the age of thirteen while 73% had begun abusing by the time they were fifteen years old. Twenty-nine (35%) of the sample were reported as having abused alcohol.

Table 2.4: Substance Abuse Patterns amongst Sample

Typology of Abuse	Number of Young People	Percentage of Total Sample (N=84)
Substance Abuse	42	50%
Alcohol abuse	29	35%
Drug Abuse (non-specific)	26	31%
Heroin Abuse	18	21%

There was reported evidence of drug abuse by one in three of the young people in the sample. Twenty-six young people (31%) were reported as abusing drugs, with drug abuse queried in respect of four other young people. Of the 26 drug users, eighteen (representing 69% of the drug users) were reported to have a serious heroin problem. In addition, 44% of those eighteen were reported as being poly-drug users. Twenty (77%) of twenty-six young people in the sample, were reported as having a serious drug problem. Reports regularly linked the childrens' offending with their drug-taking behaviour. Only five of the twenty-six had attended a detoxification programme.

Descriptions of the Young Peoples' Attitude and Behaviour

Information on the young people's attitudes and behaviours was available for 70 of the sample. In almost 40% of cases the child was described in the reports as having a positive attitude, while in 43% of cases where such information was recorded the child was described as having a negative attitude. Information was also recorded on whether or not the child's behaviour was described as being "out of control". Thirty-three young people, or 40% of the total sample, were recorded as behaving in a manner which was described as being "out of control". One area of difficulty is that the descriptions of 'negative attitude' or 'out of control behaviour' were never qualified, which renders interpretation difficult.

In respect of 15 young people there was some evidence recorded in the reports that they had, at an early age, demonstrated some form of anti-social or problematic behaviour. Six of those young people were reported as having demonstrated general

problematic behaviour from an early age. Hyperactivity was recorded in respect of one child, with the consequence that this child was expelled from school at the age of four. Of the fifteen, one child was reported as having engaged in inappropriate sexual behaviour from a very young age. Finally the remaining three young people were recorded as having evinced early emotional problems, often linked with the death of a parent(s) in early childhood.

History of Parental and Sibling Substance Abuse

Table 2.5 summarises the patterns of substance abuse amongst parents and siblings of the sample. Evidence of parental substance abuse was recorded in close to 30% (N=25) of the total number of young people in the sample. In the case of 11 young people, it was recorded that one or more of their siblings abused a substance of some form. Parental alcohol abuse was recorded in respect of over one-quarter of the total sample. In respect of one child it was recorded that a sibling had evinced alcohol problems. In the case of nine young people their parents were recorded as abusing drugs. While for ten young people in the sample, one or more of their siblings were reported to be addicted to drugs. Reports indicated that in the case of 14 young people, their fathers had a history of substance abuse. Of this number, 13 fathers were reported as having a history of alcohol abuse, with eleven of the thirteen reported as having a serious alcohol problem, while 4 fathers were reported as having a serious heroin addiction. Eleven of the young people had a mother who was recorded as having a history of substance abuse. Nine of those were reported as having a history of alcohol abuse, while five were reported as having a drug problem. Eleven of the young people in the total sample were reported as having at least one sibling who possessed a history of substance abuse. One sibling was reported as having an alcohol problem reported as serious. Ten of the young people had siblings who had a drug problem which was not clearly identified

Table 2.5: Parental and Sibling Substance Abuse

	Paternal Abuse	Maternal Abuse	Sibling Abuse	Total
Substance Abuse	14 (17%)	11 (13%)	11 (13%)	36 (43%)
Alcohol Abuse	13 (15%)	9 (11%)	1 (1%)	23 (27%)
Heroin Abuse	4 (5%)	4 (5%)	8 (10%)	16 (19%)
Cannabis Abuse	0	0	2 (2%)	2 (2%)
Non-defined Drug Abuse	0	1 (1%)	0	1(1%)

Family Criminal History

In 38% of the 81 cases where information was available (n=31), a member of the child's family was reported as having also been involved in criminal offending. The majority of these were committed by male members of the child's family. However, in three cases it was a female member of the young person's family who was recorded as engaging in criminal behaviour. Those family members who had been reported as having committed offences, had committed a wide range of offences, such as stealing, burglary, assault and drug-related offences. Information available in respect of the sanctions imposed on the members of the child's family who had engaged in crime indicated that a range of sanctions had been imposed, including custodial sentences, probation orders and fines, while in two cases, a jail sentence longer than eight years was handed down to male family members.

Evidence of Contact by the Child and Other Members of the Child's Family with Outside Agencies

Based on information contained in the reports accessed, 32 of the young people in the sample had had some contact with their respective health board. Thirty Five young people had had some contact with a psychological service. A further 34 young people had been in contact with other agencies, including drug treatment centres and private

counselling services. These numbers include those young people who had contact with all of the above agencies in some cases, while for others they may have contact with only one outside agency (e.g., a social worker). Ten young people had family members who had been seen by a psychologist, while 9 had family members who had been seen by a psychiatrist. In respect of Probation and Welfare Services, the family members of 10 young people were known to the service, while there were queries in relation to 11 young people's family members. Contact with social workers was made with 11 of the young people's family members, while 10 young people had family members who had availed of other agencies such as drug rehabilitation centres and private counselling centres (Table 2.6).

Table 2.6: Contact with Outside Agencies by the Young People and Their Family Members. *

	Young Person	Family Members**
Probation Service	84	10
Psychologist	35	10
Psychiatrist	35	9
Social Worker	29	11
Health Board	32	17
Other Service	34	10

^{*}These figures represent the numbers of young people and their families who came into contact with the agencies outlined. However, it should be noted that in some cases the same children were being referred to and seen by more than one agency.

Summary of Findings from the descriptive Analysis

It was found that the young offenders in this study came from families larger than the national average and almost half lived with both parents while a third lived with their mother only. The offences for which the young people appeared before the court consisted primarily of property offences and car-related offences. Sanctions imposed for the current offence were primarily terms of probation, although just over a quarter of the sample had received a custodial sentence. The mean age of commission of first criminal offence was 13 years according to data from the NJO and the total sample had been referred there between 1 and 44 times. Educational problems predominated in most of the

^{**} Includes Fathers, Mothers and Siblings

young people's histories, with 85% having left school before the age of sixteen. Less than a fifth of the sample had sat any formally recognised state qualifications. Attendance problems were prevalent for just under a third of the young people, a similar number had been expelled or suspended and had learning difficulties. Substance abuse was noted for exactly half of the sample, and 26 young people were reported as having a serious heroin problem. Reports frequently linked the young persons' offending to his drug-taking behaviour. Familial substance abuse patterns were indicated in respect of 43% of the young people, of which alcohol abuse was the most common, followed by heroin abuse. Furthermore, 31 of the sample had a family member(s) who had also been involved in criminal offending, the majority of which were male. Of those young people who had contact with agencies such as health boards, social workers, psychologists etc., it was common for them to have seen a variety of professionals.

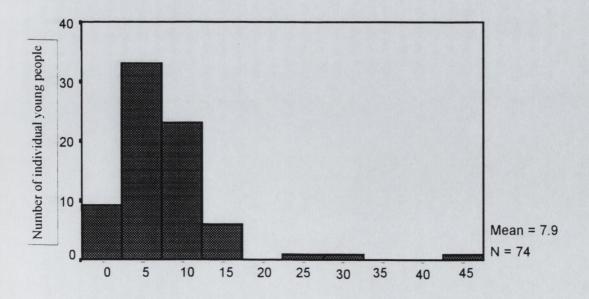
Findings from the Indepth Profile-Inferential Statistics

The factors described in the previous section in relation to the sample are, to some extent, possible predictors of a pattern of early offending (e.g., early problems in school or contact of other family members with the Probation service), and there are benefits of noting particular features amongst a homogeneous group such as young offenders is of benefit. However, their usefulness is limited by the fact that no comparisons can be made with a control group. Nonetheless, there is another useful way of analysing the data and that is to look for interactions and associations of possible importance within the sample. In the analysis below, some tentative findings are offered on differences within the sample so that predictors between more and less serious offenders might be found. In other words, are there any variables from the indepth profile which could distinguish between the most and least serious offenders and indicate the risk of recidivism?

The problem is deriving some measure of more and less serious offending levels. In a way, all the young people in the group have problematic histories of offending – that is the key to group membership and to contact with the Probation service and the N.J.O. But it is possible to examine some of the information gathered as a possible dependent measure of level of offending. Two measures collected were related to number of prosecutions either directly initiated against an individual by the Gardai or initiated following contact with the N.J.O. These were summed, and this measure (all prosecutions) was used to represent seriousness of offending level. Figure 1 presents a diagram of the distribution of the measure. The dispersion of scores is wide which is

useful for analysis purposes and although there are some outliers present, the normal distribution model does not seem too unreasonable to assume. The mean of the measure is 7.8, its median is 7.0, the standard deviation is 6.8, the maximum score is 44 and the minimum is 1. Unfortunately, there are seven missing values where N.J.O. contact details are not available. The skewness of the distribution is 2.9 which, while not perfect, is still within reasonable limits. Importantly this measure of offending does not correlate significantly (or even substantially) with age, Pearson's r = -0.085, p = 0.47. This is vital as a correlation with age would mean simply that older juveniles had a greater number of prosecutions because they were around for a longer time. Given the importance of this finding a more robust measure, the Spearman r was calculated. These further analyses confirmed the non-significant relationship between the young person's age and number of offences (Spearman r = -0.136, p = 0.247). The prosecution measure does however correlate significantly with total number of contacts with the N.J.O. (r = 0.968, p < 0.001), with number of offences on the individual's Garda Crime Record (r = 0.522, p < 0.001) and with the number of times they are recorded as having received a sentence of detention (r = 0.513, p < 0.001). In other words, the measure appears to be a meaningful one assessing seriousness of criminal career and not, for example, an artifact of a particular method of data collection.

Figure 1: Histogram of the Outcome Measure of Overall Number of Prosecutions.



Total number of prosecutions

Before examining the degree to which other variables predict this outcome measure, a number of qualifications must be entered. First there is no claim that the information gathered as part of the indepth profile was exhaustive and other measures in various domains might well have been profitable areas to investigate. Secondly, and as was noted above, there is an unevenness in the quality of the information available. For some individuals, very detailed accounts were available of their background while for others, no information was forthcoming. Relying on the availability of data from other sources inevitably implies the possibility of systematic statistical biases present in the analysis. It should also be pointed out that in some ways, the group is already a very homogeneous one sharing a lot of characteristics such as age and contact with various agencies. Therefore the variability of scores one might anticipate in a more heterogeneous population might be reduced in many cases here. This makes the search for predictors more difficult if those predictors have a restricted range. A related point is that although a particular experience or variable may be a very good predictor of whether a youth decides to offend or not, it may not then distinguish between more and less committed crime paths. Also, these are official records and obviously someone may have a very high level of offending without being detected. Finally, the group is small and with the threat of missing values also present, there may well exist key differences which fail to reach statistical significance because of low numbers.

With those qualifications noted, what variables predict higher recorded levels of prosecutions and presumably, more serious offending patterns? The analysis is divided into three groupings – the first set is made up of those variables which are very strongly associated with the outcome measure (number of prosecutions). The second is made up of those which predict to a moderate degree (approaching significance) the outcome measure and the third group are those variables which do not impact significantly on the dependent measure although one might have expected them to. Unfortunately because of the presence of many missing values and also the necessary multi-categorisation of many factors, the number of independent variables or predictors examined is fairly small.

Variables Strongly Associated with Number of Prosecutions

Perhaps not surprisingly, those (n = 30) whose behaviour had been described as 'out of control' by any relevant agency were also more likely to have higher numbers of prosecutions recorded against them than those who had not been characterised as such (n = 30)

= 30), one-tailed t-test had p = 0.027. Familial measures also are important. More serious offending patterns were exhibited in young people where some evidence of inadequate supervision by parents/ guardians existed. This may be linked to the finding that young people in homes where both parents were present had significantly lower outcome scores than young people living in other circumstances. Table 2.7 below presents the differences and statistical tests for these comparisons.

Table 2.7: Comparisons of Outcome Score on Two Important Familial Variables.

	Mean	S.D.	N	T-score
Both parents at home	6.25	3.70	36	2.09*
Other	9.49	8.64	37	
Inadequate supervision	11.89	9.58	25	2.95**
Adequate supervision	5.97	3.48	37	

^{*}p<.05

However the strongest predictors of prosecution levels were age-related. Four measures were calculated and these were age of first contact with the N.J.O., age of first contact with the Probation service, age of first offence and age of first record on the D.C.R. All were negatively correlated with the outcome measure and this was highly significant. In other words, the best predictors of subsequent serious levels of offending can be derived from the age at which the child commences offending and not surprisingly, the younger the child, the more serious the subsequent career. Table 2.8 presents the statistical details of these patterns.

Table 2.8: Correlations between Number of Prosecutions and Four Age-Related Measures.

Age at first	JLO contact	DCR contact	Offence	Prob. contact
	R= -0.472,	R= -0.514,	R= -0.307,	R= -0.445,
	p<0.001	p<0.001	p<0.001	p<0.001

^{**}p<.01

Variables Moderately Associated with Number of Prosecutions

The potential importance of the child's experience in education was noted above. Another key variable assessed was the age at which the child left school. There was a moderate negative association between this measure and number of prosecutions, (r = -0.210, p = 0.099). Thus those who leave earlier are more likely to have a greater number of offences. Another pattern worth noting related to issues of deprivation in the home. Assessments made by various institutions of home deprivation were recoded into categories of very deprived, deprived, adequate or good conditions. While there is no evidence for a smooth pattern of greater prosecutions as conditions deteriorate, it is worth mentioning that young people from the 14% of homes categorised as very deprived had a mean of 15 prosecutions versus an overall average of nine. Another derived variable was a recoding of probation reports on whether the child showed a positive (n = 27) or negative attitude (n = 33). A one-tailed t-test comparing the outcome scores of those groups found that the difference between them, with more positive attitudes associated with lower scores, approached significance, p = 0.096. Finally, information gathered on the school conduct of 51 of the individuals, showed that those who had been recorded as being disruptive in school (n = 37) had higher prosecution scores than those not seen as disruptive (n = 14) and this difference approached significance (one-tailed test had p = 14) 0.086).

Variables Weakly Associated with Number of Prosecutions

In the literature (see Farrington and West, 1982), it has been noted that offenders are frequently from larger families and issues of care and supervision have been discussed in relation to this finding. However in the small sample analysed here, there was no correlation between higher levels of prosecutions and family size (r = -0.043, p = 0.718). Another variable of interest is parental occupation, especially that of the father -a t-test comparing prosecution levels for those 45 cases which were applicable and where information was available showed no greater levels among those where the father was in full-time non-casual employment (n = 12) versus the others, (t-value = 0.92, one-tailed p = 0.185). Learning problems in school have also been proposed as early predictors of criminal careers. There was no evidence that those categorised as having academic school problems (n = 25) were more likely to have more prosecutions than those not having academic problems in school (n = 17) as the t-score for this comparison was 1.04, (one-tailed p = 0.151). Regarding issues of abuse, the 11 young people recorded as suffering

high levels of physical abuse in the home had slightly but not significantly higher outcome measures. The ten young people who were recorded as having siblings engaging in substance abuse had fewer (although not significantly) prosecutions recorded against them than the 61 who had not. When specified as either general substance abuse or drug abuse by the individual child himself, the pattern is reversed, but again there was no significant difference and the 36 young person with abuse problems generally or the 21 with drug problems specifically were not apparently more serious offenders, at least by the measure used. In this context, the point made earlier is worth reiterating – having a problematic pattern of drug or substance abuse is probably a fundamental determinant of whether someone offends at all as opposed to level of offending, not least because the possession of certain drugs is in itself an offence.

Therefore in summary, some familial and educational variables are more important than others, but early offending by the child, measured in different ways, is the best predictor of a subsequent serious offending career.

Summary

The findings presented in this chapter go some way toward achieving the research aim set out at the beginning of the chapter. That is, the chapter has provided a useful account of the distinctive features of a sample (although quite small) of young offenders in Ireland. In addition, the findings are consistent with those of Bates (1996). Etiological research on the development of delinquency and antisocial behaviour has produced a great number of risk factors for problem behaviour, and a number of these were outlined in the previous chapter. Many studies have shown that conditions within the multiproblem milieu such as parental criminality, neglect, passive or rejecting childrearing attitudes, erratic or harsh discipline, conflicts, large families, and socio-economic disadvantage correlate with the incidence and manifestation of delinquent careers (Farrington, Ohlin & Wilson, 1986; Loeber & Stouthamer-Loeber, 1986). Many of these correlates were investigated in the analyses of the data collated in the in-depth profile study, which indicated a prevalence of larger than average families, low socio-economic status, low educational attainment, substance abuse both on the part of the young people and members of their families. In addition, the young people had an early start in crime, and had many family members who also had a history of criminal involvement. Overall, the profile is not inconsistent with the findings on risk factors outlined in chapter 1.

The consequent inferential statistics proved interesting on a number of levels

both in terms of those variables which were found to be statistically significant in this study and those which failed to reach a level of significance. No correlation was found between large family size and a high level of prosecution, in contrast with previous Irish research in this area e.g. (O' Mahony, 1985; Bates, 1996). However, it is appropriate to assert that this variable can not be extricated from other variables which tend to co-incide with it such as, the tendency of large families to live in overcrowded conditions, or the increased difficulty with discipline and supervision associated with larger families. The average family size in this sample was 4.6 young people. With one in four young people coming from a large family of six or more young people. By contrast, the national average family size in 1998 is 2.05 young people. There was a more or less even distribution of young people across the range of birth orders, with a quarter of the sample recorded as first born, 21% second born and 25% third born in their families. Birth order in this study was not found to be significantly related to higher prosecution rates. This can be contrasted with O' Mahony's, (1985) study in which it was found that there was considerable under-representation of last-borns and first-borns in his sample. Whereas middle-born young people were found to be at a slightly increased risk of being delinquent.

The present study has added to the research on parental supervision by contributing consistent findings. For example, young people who were exposed to inadequate parenting/guardianship were significantly more likely to manifest more serious patterns of offending. Furthermore, those young people who resided with both parents had significantly lower prosecution scores in comparison to those young people living in other circumstances. While the majority of parents in the study were described as being concerned about their child's offending behaviour, for one-third of the sample, the child's parents were recorded as having provided inadequate or poor supervision of the child's behaviour. Young people from homes categorised as being very deprived had a higher average number of offences in comparison to the overall average

One in ten of the young people in the sample had lost one or both parents through death, while one third of the young people came from what could be termed a "broken home". In approximately, one in every three young people's lives a parent had been absent from the child's life for an extended period, which may have been due to the incarceration of a parent, marital breakdown, or the death of a parent. The majority of young people whose parents had separated had minimal if any contact with the non-custodial parent. Thirty percent of the young people had parents who abused some form

of substance, while ten young people had one or more siblings who abused some form of substance. Half of the young people in the sample were recorded as abusing some substance themselves and in many cases before they reached puberty. Lack of appropriate treatment was apparent and while this variable was not specifically under investigation, it is worth noting—particularly in relation to heroin and alcohol abuse problems that despite intensive efforts on behalf of the professionals involved, very limited treatment facilities were found to be available. Furthermore, the existing services for drug addicted young people are few, with overstretched resources. Increased social, emotional and psychological support is urgently needed.

Low educational attainment has been identified as a correlated factor in delinquency, which is said to be independent of other variables such as family size (Lynam, Moffit, Stouthamer-Loeber, 1993) and one interpretation for the non significant relationship between this variable and number of prosecutions may merely relate to the small numbers on which data was obtained. Indeed, no information was available in respect of this variable for exactly half of the sample. A related school variable that was approaching significance was the age at which the child left school, with a tendency for those who leave earlier to acquire more offences. Furthermore, those young people who had been identified as being disruptive in school were more likely to have higher prosecution scores. A negative attitude predicted higher prosecution scores, and again, this difference approached significance. Approximately one in three young people in the sample had been suspended from school for an extended period or had been expelled outright while one in every three young people had attendance levels which were reported as problematic. The school lives of many of the young people in the sample were characterised by low attendance levels, disruptive behaviour, general learning problems and ceasing education either by choice or by expulsion in their early teens without possessing any formal qualifications.

The negative influence of peers was recorded, with the majority of young people reported as being susceptible to the influence of others. Almost half of the young people in the sample were reported as being entangled in a delinquent subculture. There was some evidence in 18% of the total sample that the child had from an early age demonstrated problematic behaviour of some form and that in many cases this problem behaviour persisted and at key times in the child's life was exacerbated by some additional factor(s). However, it must be emphasised that it is difficult to generalise from these findings, as few of the young people had records which referred to their behaviour

in early childhood. Young people who were identified as being 'out of control' had significantly higher rates of prosecutions and this concurs with the findings of several studies (e.g., Farrington & West, 1990; Rutter & Giller, 1983; Spivack, 1983; Charlebois, LeBlanc, Gagnon, Larivee & Trembly, 1993), which have found that behaviours which come under the generic term of "out of control" could be identified as predictors of later delinquency and conduct problems as early as the pre-school period.

Age at which offending commenced emerged as the most significant predictor of prosecution levels, with those young people whose offence history started at an early age relative to the rest of the sample having the largest number of prosecutions recorded against them. The mean age calculated on the basis of the N.J.O. records, probably the most reliable indicator of the age of first involvement reveals a mean age of 13 on the child's first referral to the N.J.O. Of particular concern is that almost one-third of the sample had their first contact with the N.J.O. by the age of 12 and as the bivariate analyses revealed these young people would appear to be at the greatest risk of recidivism. All but 10% of the sample had been involved in criminal behaviour prior to the offences for which they were before the court in April 1998. In addition, just over one-third of the sample had continued to engage in criminal activity from the court hearing in April 1998 up to February 1999, some ten months later.

As would be expected, just over half of the sample had received either an informal or a formal caution on first referral to the NJO and 36% were prosecuted on the direction of the NJO. Five percent of the sample was 'prosecuted-final status' (without being referred to the NJO). Some explanations exist for a young person being 'prosecuted-final status' and these include the serious nature of an offence, which precludes the child from the programme. Another possibility is that it may be accounted for by a child not meeting the criteria for inclusion in the programme (i.e., they did not admit guilt, or were over 18 at the time of contact with the NJO). Alternatively, it could indicate that a child's contact with the office pre-dates 1991, when the juvenile diversion programme became formalised. For many young people, as evidenced in the Garda Juvenile Statistics, the juvenile diversion programme afforded them the opportunity to desist from further involvement in offending behaviour, thus enabling them to choose an alternative life trajectory.

Methodological Weaknesses

The Criterion Adopted in the Selection of Young people for In-depth Profiling

The method of data gathering in this study had certain advantages, such as accessing information from a variety of secondary sources for compiling life histories. There are some inevitable drawbacks, which need to be delineated. When sourcing data through archival methods researchers are limited to the data that are contained in the reports or records themselves. In general, there was a high degree of variation in quantity and quality of data contained in the reports and records accessed in this study. This is not surprising as the quality and quantity of information available for recording depends on the individual professionals within the agencies.

In respect of the data recorded there was a general tendency for detailed information to be recorded on the child's family and educational background with less consistent information on the child's and his/her family members' substance abuse history. Very limited information was recorded in respect of whether or not the child had shown evidence of early disruptive or anti-social behaviour. Of course inferences could not be made where information was not available on a particular variable and given the large range of variables under investigation it was to be expected that information on every single variable would not be recorded for each child.

A further drawback of the sampling method used in the present study was the increased likelihood of there being missing data when agencies other than the Probation and Welfare Service were subsequently contacted, and this was frequently the case. For example, while all young people alleged to have committed a criminal offence are to be referred to the National Juvenile Office, records on 7 young people were not available. This may be accounted for by the young person being recorded as having a different address or date of birth. For example, members of the travelling community may use different addresses at different times, and this can pose difficulties for the gardai when records are being searched for. Only records for 61 of the 77 young people for whom Garda criminal records (DCR) should have been available, were traced in this study. The shortfall of 16 young people may once again have been the consequence of alternative dates of birth or alternative addresses listed for these young people. Nevertheless, attention must be drawn to and explanations sought for such a sizeable shortfall.

Moreover, if Ireland is to produce data which is uniform and consistent across all sources,

some consistency between record keeping agencies that work with this population is a matter of urgency. Official profiles of young people who offend reflect only the characteristics of those young people who have been apprehended and officially processed by the juvenile justice system. While such profiles cannot tell us about the characteristics of all young people who commit offences they are, nevertheless, useful in reflecting the characteristics of those young people who appear before the courts.

Clearly then, it is evident that certain parental, social, familial and individual characteristics predominate in the psychological literature pertaining to young offenders, and this chapter suggests that Irish young offenders are similar to their counterparts abroad (Farrington, 1995). The contribution that this study has made to delinquency research is twofold: firstly, this research goes some way to redressing the gap in Irish research into juvenile offending behaviour and secondly, it provides a valuable insight into the lives of these young people, which may lead to policy changes at both the prevention and therapeutic levels. What is apparent is that conclusions from research conducted to explore and identify risk factors which was described in the previous chapter have gained support from the present study. The ensuing chapters build on what has emerged from the findings of the study presented in this chapter by exploring a number of variables that are presumed to be important to overall levels of delinquency behaviour. The prevalence of low educational achievement and socio-economic status was noted in this study, and the following chapter builds upon that finding by examining both of these variables, along with self-esteem and interrogative suggestibility.

CHAPTER THREE:

AN EXPLORATORY INVESTIGATION INTO ASSOCIATED RISK FACTORS OF DELINQUENCY

Introduction

As outlined in the previous two chapters, delinquency is complex, multi-faceted and inextricably linked to many aspects of young people's lives in a way that can often render investigation of associated variables difficult. Theoretical accounts of delinquency view it as being only one element of a much larger syndrome of anti-social behaviour that persists over time (Robins, 1986), and many risk factors have been identified that significantly predict offending behaviour. Given that the overriding objective of this thesis is the investigation of cognitive processes in young offenders, this chapter concentrates on four variables: intelligence, self-esteem, interrogative suggestibility and self-reported offending, all of which directly utilise or depend on cognitive processing to enable individuals to function in a discerning and meaningful way. These variables were selected over others for investigation for two reasons. Firstly, voluminous research has identified intelligence and self-esteem as both determinants of juvenile offending, and characteristics of juvenile offenders yet no direct comparison has been carried out in Ireland to see if this difference exists. Likewise, no direct comparison between young offenders and non-offenders has ever been carried out in Ireland to determine rates of self-reported offending. Secondly, this study was an exploratory one aimed a gaining an initial glimpse into some cognitive processes that have already received attention in the literature. This study was concerned with investigating three previously identified risk factors (intelligence, self-esteem and self-report offending) to determine whether Irish young offenders and non-offenders would differ significantly or share some features on those risk factors which are commonly attributed to young offenders (e.g., low intelligence). In addition, interrogative suggestibility, a related factor that has received little attention in the delinquency literature but one which has tremendous implications for criminal justice agencies, was also investigated. The results will be presented as two separate quasi-experiments; the first of these quasi-experiments investigates intelligence and self-esteem, while the second quasi-experiment is concerned with levels of selfreported offending and interrogative suggestibility. The following section presents an overview of the relevant empirical literature pertaining to each of these variables.

Intelligence

Psychometrics has attempted to understand intelligence by studying human performance, which is usually measured on tests which require intellect for their successful completion. Performance on one test may be related to performance on other tests, and it is possible to isolate that aspect of performance (commonly known as general intelligence) that is common across tasks and which is seen either as the fundamental causes of intelligence or as a convenient standard for measuring intelligence (Gardner & Sternberg, 1994). Intellectual ability has been of continuing interest in psychological criminology since the early studies of Goddard (1914) and is considered a critical factor in cognitive-developmental and social learning theories. Sir Cyril Burt (1925) identified backwardness or dullness as being one of the most important correlates of delinquency, while reviewers (e.g. Hirschi & Hindelang, 1977; Quay, 1987; Wilson & Herrnstein, 1985) have concluded that juvenile offenders score lower than non-delinquent adolescents on IQ tests. Quay (1987) reported that across studies this difference averaged to approximately one-half a standard deviation. The association between delinquency and IQ seems to be independent of race and social class (Mc Garvey, Gabrelli, Bentler, & Mednick, 1981; Moffitt et al, 1981) and is not linked with a propensity for less intelligent adolescents to be more easily apprehended by authorities (West & Farrington 1977). Evidence also suggests that the association between delinquency and IQ is independent of seriously dysfunctional family relationships (Walsh, Beyer & Petee, 1987) and of adolescent personality variables (Hanson et al., 1984). Moreover, it seems that high IQ can help to protect at risk individuals from criminal involvement (Kandel et al., 1988).

Educational under attainment has been found to correlate with antisocial behaviour in the early school years as well as with later delinquency in several studies (Dishion et al., 1984; Elliot & Voss, 1974; Feschbach & Price, 1984). It has generally been assumed that the influence of both intelligence and learning disabilities (LDs) is an indirect one mediated by poor school performance (Murray, 1976; Rutter & Giller, 1983). Bates (1996) reported that a minority of the subjects in her study of childhood deviancy in Ireland were up to eight years behind their chronological reading ages, while on average her subjects' reading ability was 3-4 years behind. Spelling and mathematical ages were typically 4-5 years behind, although she reported that some subjects were 6,7,8, and even 10 years behind their chronological age. Weiner (1982) describes academic

underachievement as representing a disparity between the grades that students actually gain and what they are intellectually capable of achieving.

A common view is that the experience of school failure leads to negative self-esteem or hostile attitudes to school, which in turn leads to association with other "problem" children, and hence, greater opportunity for delinquent behaviour. Control theory, for example, sees educational failure as promoting negative attitudes to school, and hence weaker attachment to the societal values represented by the school (Hirschi & Hindelang, 1977). Consistent with this is the finding of Austin (1978) that the relation between intelligence and self-reported stealing largely depended on negative attitudes to teachers.

The findings on traditional intelligence tests have yielded consistent results. That is, young offenders, or those most at risk of offending perform poorly. An important issue relates to the degree to which differences in performance on these tests effectively contribute to the debate on delinquency. An alternative approach comes from the body of research carried out on the triarchic theory of human intelligence (Sternberg, 1977, 1978a, 1985, 1993). This theory of human intelligence is characterised by viewing behaviour as intelligent to the extent that it is used in adaptation to, selection of, or shaping of one's environment; responsive to a novel task or situation; and knowledge acquisitional functioning such as analogies. It is the theoretical structure, not the mind that is viewed hierarchically, and is concerned with obtaining a measure of the interrelations between environmental context and mental functioning. Research into novel contexts carried out with street children in Brazil (Schliemann & Carraher, 1989), suggested that mathematical ability was dependent on the situations in which it was elicited, and concluded that inferior performance of poor children in formal tasks cannot always be taken as indicative of their mathematical performance in everyday life. Therefore, it may be more fruitful to examine constructs of intelligence in ecological contexts if possible, and with materials that are personally and environmentally meaningful to the group under examination.

The STAT (M) (Sternberg, 1993) provides an alternative way to explore intelligence, while tapping into traditional academic aspects in a novel way, and looking at the very valuable aspect of practical intelligence. For example, by making use of nonsense words in the comprehension section, (e.g. "The vip was green so I started to cross the road: Vip most likely means......" a series of four choices is given here, including the correct one, the light), a vast academic knowledge base is not required.

Some academic experience is needed to solve the problem correctly and make the correct choice, but the minimum is required, and a more equitable test is ensured. What is important is the contextualist orientation, viewing intelligence as inextricably linked to the physical, personal, social, and cultural milieu in which it is displayed. It makes use of scenarios which have some "real life" value, such as what to do if you suspect a friend is in trouble, or how to move around most effectively in a funfair type situation. It is the aim of this experiment to examine intelligence in young offenders with a measurement tool, the STAT- (M), which may enable the young offenders to make use of their past experiences to combine knowledge and process.

Self-esteem

Self-attitudes are held to supply organisation and direction to behaviour, but there remains disagreement about the motivational processes involved. One view is that people seek consistency between their beliefs and the information received from their environmental exchanges. Dishonest behaviour, for example, may be more likely to occur when it does not violate the self image, and there is evidence that those whose self esteem is low are more likely to take advantage of criminal opportunities (Eisen, 1972). An alternative view is that people are motivated to maintain or enhance their self-esteem. This may be achieved by deviant behaviour, since the anticipated approval of a deviant reference group is esteem enhancing. However, the maintenance of cognitive consistency seems more relevant to the content of the self-concept, which is not necessarily related to the direction of evaluation or self esteem.

Low self esteem is, nevertheless, associated with nonconformity in adolescents (Richman, Brown, & Clark, 1994), and characterises delinquents in several studies. Early research established higher levels of worry and emotionality in delinquents (Metfessels & Lovell, 1942), and "neuroticism" is higher in officially defined offenders, although less clearly related to self reported delinquency. Since the neuroticism dimension is closely related to self-esteem (Watson & Clark, 1984), these findings imply a more negative self-image. More direct measurement of the self-concept tends to confirm this. Bhagat and Fraser (1970), for example, found that compared with nondelinquents, delinquents evaluated "real self" less favourably, and lower levels of self esteem as measured by the Tennessee Self Concept Scale have been observed in both American and British samples of delinquents (Lund & Salary, 1980; Eyo, 1991). However, there are variations in self-concept among offenders. Eyo (1991), for example, found that while delinquents as a

group scored lower than controls on moral, personal, social, and family components of the self concept, delinquent boys who had already been convicted showed a greater emphasis on physical aspects, and also had a more rigidly defended self image than boys on remand.

These studies are correlational, and do not establish a causal relationship between self-concept and criminality, but there are three theoretical approaches implicating the self- concept in deviant behaviour. First Reckless (1961) proposed that the promotion of conformity and self-control through inner containment is a function of a favourable selfconcept, goal orientation, frustration tolerance, and commitment to norms. A "good" selfconcept in this context is an insulator against deviant influences, a need for cognitive consistency being assumed. A second approach sees negative self-attitudes as an outcome of labelling. According to labelling theory, a deviant self-image is a consequence of the stigmatisation accompanying legal processing, and mediates subsequent secondary deviance. While this again assumes needs for consistency, the focus is on lowered self esteem as a reflected appraisal of the negative reactions of others. The third and most comprehensive model relates delinquency to esteem enhancement (Gold, 1978; Kaplan, 1980; Wells, 1978). In Kaplan's analysis, self-esteem arrives from competence and confidence in achievements, and acceptance in social relationships. Failures in these areas lead to self-derogation, which motivates alternatives to conventional behaviour. Delinquency is one alternative, since the delinquent reference group enhances self-esteem by providing acceptance and approval. Self esteem is thus a mediator of the relation between academic and social failure and delinquency, and not an ultimate cause or effect. This model predicts an initial negative relation between self-esteem and delinquency, but a subsequent positive relation as delinquency restores self-esteem. This research field suffers from several limitations, not the least being a lack of an adequate theory of selfconcept. Self-concept and self-esteem are not always clearly differentiated, and are commonly measured globally, rather than in relation to specific areas of achievement, or components of the self. Greenwald and Pratkanis (1984), for example, suggest that public, private and collective aspects of the self need to be distinguished.

The Coopersmith Self Esteem Inventory is among the best known and most widely used measure of evaluating self-concept (Sewell, 1985) and according to (Coopersmith 1981), the Self Esteem Inventory (SEI) is designed to measure evaluative attitudes toward the self in social, academic, family, and personal areas of experience. Incorporated into the inventory is a Lie Scale that indicates extremely socialised response

sets Coopersmith (1981). In relation to the SEI, the term "self esteem" refers to the evaluation a person makes, and customarily maintains, of him or herself: that is, overall self esteem is an expression of approval or disapproval, indicating the extent to which a person believes themselves competent, significant, successful, and worthy. Self-esteem is a personal judgement of worthiness expressed in the attitudes a person holds toward the self and it is this judgement that is of interest in the experiment. Will young offenders obtain comparable scores on an established measure of self-esteem when compared to a sample of non-offenders?

Interrogative Suggestibility

When a young person is placed in a situation where there is pressure to 'yield' to another person, for example with teachers to 'own up', or perhaps an older peer who is bullying them, how do they cope? One area of investigation with young offenders which has not received a lot of attention is the area of interrogative suggestibility. This is a special type of suggestibility and differs from other types of suggestibility in that it involves a questioning procedure that is typically concerned with past experiences and events. The concept of suggestibility has been around for almost a century and can be seen in Binet's (1900) tests of progressive weights and lines. Similarly, the research of academics such as Sherif (1936), Asch (1952) and Miligram (1974) all emphasise the importance of suggestion in various behavioural choices. Binet (1900) and others were primarily concerned with proving that something like normal suggestibility actually existed and that it could be observed empirically. During this period, hypnotism and suggestion enjoyed an enormous vogue. The notion of suggestion became an all-purpose intellectual tool for explaining almost any social phenomenon – crime, religion, politics and war (Ellenberger, 1970). It was also believed to have considerable practical applications, the single most important of which was concerned with crowd or mob behaviour. Allport (1968) regarded as possibly the most influential book ever written on social psychology to be La Psychologie des Foules by LeBon (1985), which was based on his observations of riots during the Commune.

Moving to a more recent account of suggestibility, Gudjonsson (1986) argues that interrogative suggestibility is a special type of suggestibility which bears little resemblance to how suggestibility has historically been conceptualised. Gudjonsson & Clark (1986) define interrogative suggestibility as:

"The extent to which, within a closed social interaction, people come to accept messages communicated during formal questioning, as a result of which their subsequent behavioural response is affected" (p.84)

The most distinguishing features of interrogative suggestibility are:

- It usually involves a questioning procedure within a closed social interaction. The
 interviewing usually takes place in a closed room, the participants sit close to one
 another, interruptions are avoided, and the interviewer is in control of the interview
 and questions asked.
- The questions are mainly concerned with past experiences and events, recollections, and remembered states of knowledge. This makes it quite different from suggestibility in those types that are concerned with the motor and sensory experiences of the immediate situation.
- Interrogative suggestibility contains a strong component of uncertainty which is related to the cognitive processing capacity of the individual.
- An important feature of interrogative suggestibility is that it commonly involves a
 highly stressful situation with important consequences for the witnesses, victim, or
 suspect (Gudjonsson, 1986).

Gudjonsson & Clark (1986) developed a theoretical model of interrogative suggestibility. It is construed as arising through the existence of a particular relationship between a person, the environment and significant others within that environment. Critical to interrogative suggestibility is the use of leading questions which impact on the reliability of human testimony and negative feedback which leads to a shift in a persons' response, irrespective of whether the first response was correct or not. Furthermore, a basic premise is that interrogative suggestibility is dependent upon the coping strategies that people can generate and implement when faced with two important aspects of the interrogative situation- uncertainty and expectations. Several factors have been found to mediate suggestibility including self-esteem, and intelligence. Since the development of the Gudjonsson Suggestibility Scale (GSS), which is used to test various aspects of the theoretical model, Gudjonsson has found that among other things, suggestibility has a strong relationship with intelligence, memory recall, social desirability, acquiescence, and compliance (Gudjonsson, 1983, 1986, 1988, 1989, 1993). The scale consists of a short story made up of 40 distinct ideas, which is read aloud to participants. This yields a score immediate recall when participants are asked to remember everything they can about the

story. Following this, twenty questions about the story are asked, 15 of which are misleading and this leads to Yield 1. After a time lapse, negative feedback is given, and the 20 questions are administered again in order to obtain Shift, which is a measure of the tendency of participants to change their original answers under pressure. Total Suggestibility is obtained by summing Yield 1 and Shift.

There are two main theoretical approaches to interrogative suggestibility; the 'experimental' and 'individual differences' approaches. The former approach has relied extensively on college students as experimental subjects and is principally concerned with the conditions under which leading questions are likely to affect the verbal accounts of witnesses. The 'individual differences' approach is based on research with varied and heterogeneous samples, which include normal subjects, criminal subjects and psychiatric patients and views suggestibility as being mediated by a number of different cognitive and personality factors. The present experiment is consistent with an 'individual differences' approach by looking at two groups, young offenders and non-offenders in naturalistic settings. Two pieces of research into the effects of interrogative suggestibility with adolescents have been carried out to date and these indicate that young people are no more suggestible than adults, unless their answers are subjected to negative feedback (i.e. interrogative pressure). In that case, they become markedly more suggestible than adults (Gudjonsson & Singh, 1984a; Singh & Gudjonsson, 1991). The aim of this experiment is to determine if any differences exist on levels of suggestibility between a group of young offenders and non-offenders.

Self-report offending

The previous two chapters referred to the issues pertaining to the gathering and reporting of statistics and it is well known that official police and court statistics do not paint an accurate picture about the extent of delinquency, as many offences are not reported to, or detected by the police (McQuoid, 1996). The data on juvenile offending generally derive from crimes reported to the police, crime victim surveys and self-report surveys with juveniles themselves. Some concerns over the accuracy of official statistics emerge because, as stated earlier, some crimes may go unreported, the police may inflate the crime rate (with young people being charged for loitering offences, for example) and the arrest rate may reflect socio-economic biases (Bacik et al, 1998). Some degree of law breaking is often regarded as part of normal adolescence, but measuring the extent of youthful offending is a difficult task. Hirschi (1969) reported on a self-report survey

carried out with 4,000 students and explains delinquency as a reflection of (amongst other things) negative attachments to parents, school and conventional values.

A major effort to examine cross-cultural patterns of self-reported crime was carried out across 13 countries to compare cross-national prevalence and frequency, and to find explanations for delinquency in the International Self Reported Delinquency (ISRD) study (Junger-Tas, Terlouw & Klein, 1994). Findings from Northern Ireland (McQuoid, 1996) include that of the 883 14-21 year olds surveyed, three-quarters reported having committed at least one delinquent act at some time in their lives, while 47% had done so in the previous year. The majority of offences committed could be classified as minor offences, such as graffiti spraying or bus fare evasion. However, the use of soft drugs was the most frequent as well as the most prevalent offence, followed by carrying a weapon, spraying graffiti and using hard drugs. Other significant findings included that low educational status was associated with high frequency violent and property offending, while delinquency was more prevalent in the lower social class and offending was highest among those young people who were receiving welfare benefits. McQuoid (1996) concluded that "the decision as to whether or not to offend in the first place appears to be more related to the above mentioned factors than does the frequency of offending" (p.97), and this point will be investigated more thoroughly in relation to burglary in chapter 5. These findings present a picture of delinquency amongst young people that would indicate offending amongst young people is probably more common than might be thought. Other research in the area has found that high levels of selfreported delinquency are related to poor moral reasoning (Palmer & Hollin, 1997), and social competence (Dishion, Loeber, Stouthamer-Loeber & Patterson, 1984) but it is not entirely clear that moral reasoning and social competence function in relation to selfreport offending levels (Palmer & Hollin, 1999), rather it was concluded that they function independently of each other.

Therefore, it is apparent from previous research that young offenders have consistently displayed lower levels of intelligence and have been characterised as having low levels of self-esteem. Little research has been conducted in the area of interrogative suggestibility which compares young offenders with matched age non-offenders to discern if differences exist on this measure. Getting an overall picture of the incidence of offending behaviour between the two groups is useful for determining the overall patterns that are displayed by non-offending young people, as well as young offenders and this has not been carried out in an Irish context to date. A primary aim therefore, is to assess any

possible differences between groups on these four variables, thereby taking a first glimpse at some rudimentary cognitive processes. It should be noted that the design of these studies are quasi-experimental, in that they measure existing factors without any manipulation of independent variables. Therefore the use of term 'experiment' is used to reflect the methodological and reporting style which is consistent with an experimental approach. As the experiments share certain features in their methodology, these common features will be reported first before presenting the findings of the experiments individually.

Design and Participants in Experiments 1 & 2

Both experiments employed a between-participants design that comprised a group of young offenders and a group of non-offenders. The experiments were carried out with the same 67 young males, aged between 14 and 17 years. Data was obtained from 90 participants, although only data from 67 was used. Of the remaining 23, 10 non-offenders were eliminated prior to any data analysis because they were female (access could not be gained to young female offenders) thus any data was redundant for comparison purposes. A further 3 participants (young offenders) were eliminated because of their older age (19, 20 and 21 years) and the remaining 10 (6 young offenders, 4 non-offenders) were eliminated from the study because they provided incomplete information on the tests. The participants were drawn from two populations. The first group (N=34) was drawn from a young offender population, detained in three young offender institutions in the Dublin area. The first is the largest detention centre in Ireland for young offenders while the second is a detention centre which caters for younger offenders (12-16 years) and the third institution is referred to as an open detention centre. The second population, a nonoffending school going group (N=33) were distributed between two schools. One secondary school was located in a North Dublin suburb, characterised by high levels of deprivation and economic disadvantage, and the second was a non-disadvantaged secondary school located in a predominantly middle class suburb with good community resources, also in a North Dublin suburb. The mean age of the young offenders was 17.2 years and for the non-offenders it was 14 years. It must be noted that although every effort was made to obtain participants of similar ages in both groups, recruitment constraints in the institutions sampled resulted in the current age profile. A measure of socio-economic status (SES) was derived (Table 3.1) by looking at household social class (Hagell & Newburn, 1993) and it emerged that young offenders were predominantly

(88%) in the lower SES, while non-offenders were predominantly from middle SES (45%) with a small minority (10%) falling into high SES category. The remainder of the non-offenders (45%) were classified as low SES.

Permission was sought and granted from the Department of Justice, Equality and Law Reform, and the principals of the two schools, to carry out the study. Further letters were sent to the Governors of each of the young offender institutions and the principals of the two schools explaining the nature of the study and what would be required of the participants. Participants were seen in small groups for each of the testing sessions, which lasted approximately 1- 1.5 hours. The four tests were presented together in booklet form for ease of access both for participants and to facilitate coding by the author. Each booklet consisted of the Coopersmith Self-esteem Inventory (School Form), a Self-Report Offences List, the Sternberg Triarchic Abilities test (modified) (STAT-M) and the Gudjonsson Suggestibility (2) Scale (GSS2).

Following an introductory briefing, participants were asked to write their age only on the front page of the booklet. The right to privacy of the participants was of paramount importance and at all times, due and particular regard was given to the confidential aspects of this research. Anonymity was maintained through the allocation of ID numbers which were randomly assigned to each participant in each group. The series of tests were presented in the same sequence for all participants: they completed the first part of the Gudjonnsson Suggestibility scale followed by the Coopersmith Self-esteem inventory, this was succeeded by the self-report offences list; the Sternberg Triarchic Abilities test and finally the second part of the Gudjonnsson Suggestibility Scale. Given the difficulties of testing the participants in groups with respect to individuals working at different paces, instructions were given at the beginning of the testing session, while the author dealt with any queries concerning instructions during each of the testing sessions as necessary. A full debriefing followed each testing session and this was usually by a question and answer session, and a discussion, where time permitted (in the case of the young offenders they were unable to participate in a discussion due to the necessity with the institutions for their daily routines to be maintained). All participation was voluntary.

Table 3.1: Socio-economic status by group

	Young Offenders	Non-offenders
Low Socio-economic status	30 (88%)	15 (45%)
Medium Socio-economic status	4 (12%)	15 (45%)
High Socio-economic status	0	3 (10%)

Experiment 1: Intelligence and Self-Esteem in Young Offenders and Non-Offenders

In experiment 1 two groups, young offenders and non-offenders were compared on two variables; intelligence and self-esteem. Intelligence was examined, using a measure that presents standard test measures (e.g. math ability) in a novel context and incorporates novel materials that gives a measure of practical intelligence. Reducing the academic bias against young offenders in relation to materials should have a positive impact on their performance, and it was predicted that young offenders would perform as well as non-offenders on those aspects of the test that have real world value (i.e. practical intelligence). The second aim of the first experiment was to discern any differences between young offenders and non-offenders on their levels of self-esteem and it was predicted that young offenders would have lower self-esteem scores than their non-offending counterparts.

Method, Results and Discussion

Materials and Scoring Procedure

This experiment employed two tests, the STAT-M and the Coopersmith Inventory, school form. The STAT-M contains 9 multiple choice parts plus a set of three essay questions. However, for the purpose of this study, 5 parts were administered, and the essay questions omitted. Three parts were chosen for their compatibility to standard tests of intelligence and were; *math ability, visuo-spatial ability* and *comprehension*. The remaining two parts pertained to *practical intelligence* and *analogies* (Appendix 2). Each part consisted of four questions, with two sample questions at the beginning of each part, which the experimenter went through with the participants. The language was modified into Irish-English from American-English where possible. Where this was not possible, (for example, a map of an American street system, which would have very little relevance in an Irish context, and would present great difficulty to reinterpret for an Irish sample),

the relevant material was omitted. Each correct answer is given a score of 1 therefore each section carries a possible maximum score of 4. This was adapted from Sternberg (1993), awarding each correct answer 1 mark. A total of 32 questions were answered, therefore the range of scores was 0-32.

The Coopersmith Inventory School form was also used (Appendix 3). This inventory consists of 58 items, and assesses self-esteem at home, at school, socially and generally. There are 30 negatively phrased items, 23 positive items and 5 items that comprise the lie scale. The items are presented in statement form such as 'things don't usually bother me' and are answered by ticking one of two boxes, like me or unlike me which corresponds to the participants' feeling about each particular item. Scoring keys were used to score all questionnaires, however, it is possible to score each item by hand as follows:

Score negative items correct if they have been answered "unlike me".

Score positive items correct if they have been answered "like me"

The Lie Scale items are scored separately and one point is awarded for each lie scale item answered "like me". Summing the number of self-esteem items answered correctly, and multiplying the raw score arrives at a Total self-score.

Procedure

The tests were administered to small groups (five participants or less). Participants first answered part one of the GSS2 (reported in the second experiment), and when participants had completed the GSS2 they moved on to the Coopersmith inventory. This task was straightforward with participants given instructions to tick the box that corresponded to how they felt about each item. When all participants had completed this, they moved on to the self-report offences list (reported in the second experiment). Instructions were then given for the STAT-M. The experimenter followed the instructions as stated by Sternberg (1993), went through the directions and then proceeded to go through the first two examples, answering any questions the participants had, without giving any assistance on specific test questions. Any questions that participants had in respect of the test were answered individually thereafter. The average time needed to complete a part is approximately five minutes (Sternberg 1993). However, flexibility is advised, allowing extra time if it is required. If participants finished early, they were advised to go back and check over their answers.

RESULTS

The data were analysed using four separate statistical tools. Tests of differences between the two groups, young offenders and non-offenders were carried out using the Mann-Whitney test and the Chi-Square test. The Kruskal Wallis was used in a further subdivision of the young offenders and non-offenders into the 5 groups which comprised the sample (3 groups of offenders from separate locations, 2 separate groups of non-offenders located in different schools). Bivariate analyses were also carried out with the Spearman Rank Correlation Coefficient to explore any significant associations between variables.

Intelligence

Overall, the young offenders achieved lower intelligence test scores (mean = 11, std. Dev = 4.26) in comparison to the non-offenders (mean = 16.07, std. Dev = 5.17), and this difference was statistically significant, U = 239.5, p< 0.0001. Further comparisons to ascertain differences between groups were performed by looking at Low intelligence test scores (0-10), Medium intelligence test scores (11-21) and High intelligence test scores (22-32). Table 3.2 presents the summary data on levels of intelligence test scores.

Table 3.2: Frequencies and percentages (in parentheses) of levels of IQ by group.

	Young offenders (N=34)	Non-offenders (N=33)
Low Test Scores (0-10)	14 (41%)	3 (9%)
Medium Test Scores (11-21)	20 (59%)	26 (79%)
High Test Scores (22-32)	0	4 (12%)

Using a Chi-Square test, it was possible to estimate the probability that these distributions were significantly different (Chi² = 21.50, DF 3, p<0.001). Looking at Table 3.2, it can be seen that the majority of both young offenders and non-offenders scores were clustered in the medium levels of intelligence, (59% for young offenders, 79% for non-offenders), but 41% of non-offenders scores were in the low intelligence level, while the corresponding figure for non-offenders was 9%. Furthermore, 12% of non-offenders scores corresponded to high levels of intelligence, while no young offenders achieved scores in this category.

Another two kinds of analyses were performed firstly to compare the groups on the basis of the specific location in which they were based at the time of the test (Table 3.3) and secondly to examine any relationships between intelligence scores and age. Using a non-parametric test of significance for K independent samples a highly significant effect of intelligence was obtained, (chi²,= 24.21, df=4, p<0.0001), between the five locations, the young offenders from the largest young offenders institution having the lowest mean rank, followed by the young offenders from the open detention centre and the detention centre which caters for younger offenders. The non-offenders from both groups obtained higher mean rank scores than the young offenders with the participants from the school classified as 'non-disadvantaged' obtaining the highest mean rank.

Spearmans correlation coefficient was carried out between IQ and socio-economic status. This revealed a coefficient of .3724, a modest but nonetheless significant association between the two variables, p<0.002. Furthermore there was a small but significant association (Spearman's rho, -.2410, p<0.49) between IQ and age, with younger subjects obtaining slightly higher IQ scores than did older participants.

Table 3.3: Within group comparisons of mean rank scores on Intelligence

Group	Mean Rank
Largest detention centre	14.95
Open detention centre	26.80
Younger detention centre	30.43
Disadvantaged school	37.93
Non-disadvantaged school	51.96

Analysis of the scores by section of the STAT-M revealed significant differences on a number of categories. Table 3.4 shows the mean number of correct responses given by each of the two groups, young offenders and non-offenders, to each section. The findings which were significant included practical intelligence, U, 197, p<0.001 2-tailed, where offenders generated more correct responses. Non-offenders generated more correct responses in math ability, U, 176.5, p<0.0001 2-tailed, visuo-spatial ability, U, 253, p<0.0012-tailed and comprehension, U, 355.5, p<0.01 2-tailed. There was no significant difference between groups on analogies, U, 513, p<0.6599.

Table 3.4: Mean number of correct responses generated by group

Category	Range of possible responses	Young offenders	Non-offenders
Visuo-spatial ability	0-8	1.6	3.9
Math ability	0-8	1.7	4.2
Comprehension	0-4	1.5	2.1
Analogies	0-4	2.1	2.2
Practical Measures	0-8	4.1	2.3

Self-Esteem

Overall levels of self-esteem indicated almost an identical distribution of self-esteem between groups (Table 3.5); 29% of young offenders and 27% of non-offenders displayed low levels of self-esteem, while high levels of self-esteem were reported equally often by the young offenders (71%) and the non-offenders (73%).

Table 3.5: Frequency and percentage scores (in parentheses) of low and high levels of self-esteem by group.

	Young offenders	Non-offenders
Low self-esteem (0-80)	10 (29%)	9 (27%)
High self-esteem (81-140)	24 (71%)	24 (73%)

However, when self-esteem scores were analysed by the location at which subjects were based (see Table 3.6), it was found that there were significant differences (Chi²,=10.27, df=4, p<0.03). The participants from the non-disadvantaged school had the highest percentage of high levels of self-esteem (42%), while the young offenders from the largest detention centre had the smallest percentage (21%).

Table 3.6: Frequency and percentage scores (in parentheses) of low and high levels of self-esteem by breakdown of groups.

Group	Low self-esteem	High self-esteem
Largest detention centre	7 (21%)	3(9%)
Open detention centre	9(26%)	3(9%)
Younger detention centre	9(26%)	3 (9%)
Disadvantaged school	6 (18%)	12 (36%)
Non-disadvantaged school	1 (3%)	14 (42%)

There was no association between age and self-esteem (Spearman's rho = -.08, p<0.49, ns), nor any differences between groups on the lie scale score, (U= 402.5, p<0.06 2-tailed, ns).

Summary

Overall, it was found that young offenders were better at solving practical intelligence problems compared to the non-offenders. However, the non-offenders obtained a higher overall intelligence score, reflecting their better performance on almost all of the other sections of the test. There was no difference on self-esteem scores between offenders and non-offenders, although when self-esteem scores where compared on the basis of where the groups were located at the time the experiment took place, it was found that the young offenders from the largest detention centre had the lowest self-esteem scores, while the non-offenders from the non-disadvantaged school had the highest.

Discussion

Intelligence

The findings of the present experiment support the prediction outlined earlier that young offenders would perform as well as non-offenders in relation to practical intelligence. Although non-offenders obtained significantly higher scores overall, the young offenders were significantly better at solving problems which have a content they can relate to, (i.e. that have a real-world value). What is of importance here is that problem solving, expertise (which is addressed in chapter 5), or knowledge of a specific domain (explored in chapter 4) is not equivocally derived from standard measures of intelligence that measure only academic attainment. Ceci and Liker (1986) studied

individuals who bet on horse races frequently and found they could use extremely complex methods of estimating odds, even though they obtained low scores on a traditional measure of intelligence. Another handicap that young offenders face with these measures is that conventional IQ is fostered by schooling. The age of ceasing formal education was not established explicitly in this study, however from the previous study in chapter 2, it can be seen clearly that many young offenders cease education at a young age in comparison to their peers. These explanations may provide some account of why young offenders did not perform as well on overall measurement of intelligence, even when the problems were presented in a novel context.

A further finding which emphasised the discrepancy both between and within groups was that those participants who were from the non-disadvantaged school obtained the highest ranked scores for intelligence. The participants who were tested in the largest detention centre (most of whom, during debriefing, spoke of how they had left school at the age of 10 or 11 years of age) obtained the lowest ranked scores. The participants from the former group were predominantly from the middle-upper social strata, which places them at an advantage over cohorts with low socio-economic status (Hayes & Grether, 1982; Heyns, 1978). Furthermore, a positive correlation between intelligence and socio-economic status was observed, with those with the highest socio-economic status also obtaining the highest scores on overall intelligence. This is contrary to the findings of McGarvey et al. (1981) who suggested that the association between delinquency and intelligence was independent of SES.

Although low scores on global measures of IQ commonly distinguish delinquents, their scores on measures of verbal (v) ability tend to be most discriminating. Since the introduction of the Weschler scales, it has been a common finding that delinquent males (although not females) produce inconsistencies between performance (p) IQ and verbal (v) IQ in favour of the former and since PIQ means tend to be only marginally lower than those of non delinquent samples, the PIQ>VIQ has generally been interpreted in terms of deficient verbal skills rather than superior non-verbal skills. This superior functioning in performance ability may have implications in terms of crime-specific knowledge and how it translates into behaviour in relation to criminal acts. This performance on specific crime knowledge is investigated in depth in chapter 5. Studies using the WISC-R find sample mean VIQ's of delinquents which are typically almost a standard deviation (10 to 12 points) below the general population mean, and suggest that about two thirds of delinquents have some deficiency in verbal ability (Quay 1987b). A minority of

delinquents however, show an imbalance in the direction VIQ>PIQ. Walsh, Petee, & Bever (1987) found that 37% of a male delinquent sample produced a PIQ>VIQ of 9 or more points, and 11% a VIQ>PIQ of similar magnitude. These compared with 26% and 23% respectively, of a non-delinquent sample. The evidence that young offenders are at a disadvantage when being measured by IQ tests is plentiful and must raise the question of whether it would be more appropriate to measure the intelligence of young offenders in a completely alternative way. Sternberg's (1993) test provides the opportunity for marginalised groups like the offenders tested in this study to perform at a comparable level to their school going counterparts. Furthermore, to acknowledge that their "streetwiseness" is a form of intelligence in it's own right is positive for those young people whose only experience at academic tasks usually results in failure. The nonoffenders were superior to the young offenders on almost all sections of the test, with the exception of practical intelligence, which suggests that the novel contexts which are the critical feature of the test had no impact on the young offenders. While no conclusions may be drawn from this finding it may be likely that the young offenders small number years in the formal education system had a negative impact on their performance. Nonetheless, by making use of scenarios which have some "real life" value such as what to do if you suspect a friend is in trouble, or how to move around most effectively in a funfair type situation, enables the young offenders to make use of their past experiences to combine knowledge and process to yield the most promising and suitable solutions.

Past experience has been recognised as being important in problem solving, particularly novel problems (Raaheim 1974; Glick & Holyoak, 1980, 1983), and it appears that past experience was used to solve the practical problems in the STAT- (M), not only by the young offenders, but the non offenders too. Given that the young offenders were older than the non-offenders, it could be argued that they were better able to reason out some of the problems, based on their developmental stages. However, cognitive-developmental theorists have consistently found that young offenders exhibit developmental delay as shown by moral maturity, with the typical finding being that with age, sex and socio-economic status controlled, young offenders obtain lower maturity scores on Kohlberg's Moral Judgement Interview (Arbuthnot, Gordon & Jurkovic, 1987).

There are, nevertheless, other explanations for the association of intellectual functioning with delinquency, which cannot be dismissed as possible contributory factors to the results obtained in the present experiment. It may, for example, reflect the influence of a third factor, such as class, family, or temperament characteristics. However, Hirschi

& Hindelang (1977) found that the effect of IQ remains after controlling for social class and race. Similarly, Mc Garvey (1981) found that although social class of parents contributed indirectly to criminality through its influence on educational performance, intelligence exerted an independent effect. The same appears to apply to family influences. Offord (1992), for example, found that there was no difference in IQ or school performance between delinquents and their non-delinquent siblings, and that delinquents failing at school were more likely to come from disorganised families. While familial data was not obtained in this study, many previous studies have indicated the chaotic and troubled home life of many young offenders (Bates, 1996; Farrington, 1993, 1986; O' Mahoney, 1997).

Self-Esteem

There were no differences observed between groups on overall self-esteem scores. However, comparisons of sub-groups based on the location in which they were tested revealed that the participants from the largest detention centre had the lowest overall selfesteem scores, in contrast to the participants from the non-disadvantaged school who obtained the highest overall self-esteem scores. Bates (1996) reported similar levels of self-esteem, using the same instrument in her study of childhood deviancy. One interpretation for the relatively high levels of self-esteem observed with the young offender sample in this experiment may be that it is a reflection of the status of the young offenders in the eyes of their peer group. Simply put, high status can lead to high selfesteem, irrespective of the type of activity the group is engaged in. Therefore, a peer group that is engaging in criminal activity will hold in high regard those individuals who engage in anti-social or criminal behaviour. Since the self is generally believed to derive from and mediate social interaction, a deviant self-concept may also mediate antisocial behaviour (Wells, 1978). It may therefore be appropriate to explore esteem via a multidimensional approach, incorporating cognitive, social and emotional components, which may enhance our knowledge base of young offenders in the Irish judiciary process, and ultimately impact on the decisions to incarcerate, which can be costly and ineffective, providing no positive rehabilitation effects in the long term.

This experiment has shown that while there was no difference in levels of selfesteem between young offenders and non-offenders overall, those participants who at the time of testing were in detention in the largest juvenile detention centre in the country had the lowest self-esteem scores and this group also had the lowest SES scores. By contrast, those with the highest self-esteem scores, the participants from the non-disadvantaged school, also had the highest SES scores. While no conclusive conclusions can be drawn from the link between self-esteem and SES in this study, it is certainly one worth noting, as it may have implications for policy makers when considering how resources are to be allocated to disadvantaged communities.

Experiment 2: Interrogative suggestibility and Self-Report Offending in Young Offenders and Non-Offenders

In experiment two the first aim is to add to the literature on interrogative suggestibility with adolescents by directly comparing a group of young offenders with a group of non-offenders. The previous studies in this area have compared young offenders only with adult males. It was predicted that young offenders would be more suggestible than the non-offending sample. A further aim of the second experiment is to obtain information on levels of offending from both convicted young offenders and young people who have never been accused or apprehended of any criminal offences.

Method, Results and discussion Materials

Interrogative suggestibility was measured using the Gudjonsson Suggestibility scale (GSS2) which consists of a short story comprising 40 distinct pieces of information (see Appendix 4). Paper was provided for participants to write down everything they could remember about the story (immediate recall). Another sheet of paper containing the numbers 1-20 was issued to the participants in order for them to answer the questions (of which 15 are misleading) which gives the 'yield' score (appendix 4a). Finally another sheet, numbered in the same way was used to record the answers subjects gave when negative pressure was placed on them after a time lapse and this provided the 'shift scores'. Appendix 4b contains the scoring sheets. The GSS 2 was scored as follows:

YIELD: Subjects are given 20 questions on two separate occasions. Each suggestive question the first time participants are questioned that is answered affirmatively, or a false alternative given, is scored as 1 to indicate a 'yield', the range of possible values being 0 - 15.

SHIFT: A distinct change in the nature of the reply to any of the 20 questions given to participants the second time is scored as a shift. The range of possible shift scores is 0 -

20. Therefore, the possible range for total suggestibility (i.e., the sum of yield and shift is 0-35).

Self-Report Offences List

In addition, a self-report offences list was prepared based on the one used by Hagell and Newburn (1993) which consisted of 23 offences ranging in degree of seriousness (see Appendix 5). The 23 offences fell into 12 offence categories which were:

- I. Arson
- II. Car theft
- III. Actual bodily harm
- IV. Drugs related offences
- V. Public disorder offences
- VI. Aggravated theft
- VII. Possession of a weapon
- VIII. Fraud
- IX. Burglary
- X. Minor offences*
- XI. Driving offences
- XII. Theft

*Minor offences include such behaviour as writing graffiti, and getting into an 18-certificate film by lying about your age. The offences were concerned with those that had occurred in the previous year, therefore a fairly reliable indicator of *current* behaviour was obtained, and which also had the benefit that the accuracy of recall was likely to be greater than if a longer time-scale had been used (Palmer & Hollin, 1999).

Procedure

The first part of the GSS2 was the first test in the series of tests. Subjects were told they would be participating in a short memory test, using the following instructions;

"I want you to listen to a short story Listen carefully, because when I am finished I am going to ask you some questions about it" The experimenter *read* out the story at a slow pace in an even tone. When the story was finished, subjects were asked to write down everything they could remember, and immediate recall was obtained. Participants were then asked 20 questions about the story (15 of which are misleading) and instructed to answer them as accurately as they could. After completing the 20 questions, the experimenter retrieved the sheets of paper that contained immediate recall and yield while participants continued working through the rest of their booklets. The experimenter 'marked' the participants answers (no marking was taking place but the appearance of checking scores is critical for the last part of the GSS2) and upon completion of the all the other tests, subjects were given negative feedback;

"You have made a number of errors

I am going to ask you the questions
again, and please try and concentrate
a little harder this time"
(as per Gudjonsson 1987).

The participants were asked the 20 questions again and the 'shift' scores were obtained. The self-report offences list was completed third in the series of tests after the first part of the GSS2 and the Coopersmith inventory. Participants were asked to indicate if they had ever committed any of the offences by circling the 1 corresponding to each offence on the list, and if they had never committed any of the offences to circle the 0 next to each of the offences. Furthermore they were asked to indicate by writing in the space provided how often in the past year they had committed the offence. The minimum level of self-report offending was 0, with the maximum being 23.

Results

The data from the second experiment were analysed in the same way as the first experiment using four separate statistical tools. Tests of differences between young offenders and non-offenders were carried out using the Mann-Whitney test and the Chi-Square test. The Kruskal Wallis was used to ascertain differences between the 5 subgroups which comprised the sample (3 groups of offenders from separate locations, 2 separate groups of non-offenders located in different schools). Bivariate analyses were carried out with the Spearman Rank Correlation Coefficient to explore any significant associations between variables.

Interrogative suggestibility

Immediate recall was scored 0-40, corresponding to the 40 distinct pieces of information in the story. Total suggestibility was obtained by summing yield (which was obtained when participants gave an affirmative or a false alternative to each suggestive question the first time the questions were asked) and shift (which was a distinct change in the answers given to any of the 20 questions when asked the second time around).

Differences were observed between the immediate recall scores of groups. The non-offenders correctly remembered more items (mean of 21.4) in comparison to the young offenders (mean of 17.2) and this difference was reliable U= 121, p<0.002, 2 tailed. Table 3.7 summarises the data on levels of suggestibility. Similar proportions of young offenders (85%) and non-offenders (76%) had low levels of suggestibility, and of high suggestibility (16% for young offenders, 24% for non-offenders) and there was no significant difference between groups on overall suggestibility, U= .525, p<0.78, 2-tailed ns.

Table 3.7: Levels of suggestibility by group

Level of Suggestibility	Young offenders	Non-offenders
Low (0-18)	29 (85%)	25 (76%)
High (19-35)	5 (15%)	8 (24%)

A small but significant association was observed between interrogative suggestibility and age, Spearman's rho = 0.2980, p<0.01, with younger subjects reporting slightly higher suggestibility scores. No significant differences were found in interrogative suggestibility when a comparison was made between the locations at which subjects were based, chi^2 = 4.68, df =4, p<0.321 and there was no significant association between interrogative suggestibility and socio-economic status, Spearman's rho = 0.036, p<0.768, ns.

Self-Report Offences List

As can be seen from Table 3.8, the young offenders reported more than twice the number of offences in comparison to the non-offenders and this was a highly significant difference, U=181, p<0.001, 2-tailed. Significant differences were obtained for driving offences (54 reported occasions for young offenders, 11 for non-offenders) U= 20.5,

p<0.03, 2-tailed and for burglary, which was reported by the young offenders on more occasions (25) than the non-offenders (3), U =123, p<0.02, 2-tailed. In addition, fraud was reportedly committed by young offenders more often (35 occasions) than non-offenders (15) U =121, p<0.02, 2-tailed, as were drug related offences (committed by the offenders on 37 occasions, in contrast to 10 occasions for the non-offenders, U = 36.5, p<0.001, 2-tailed.

Table 3.8: Frequency of offence category reported by groups

Category	Young offenders	Non-offenders
Arson	17	16
Car theft	21	2
Actual bodily harm	15	11
Drugs related offences	37	10
Public disorder offences	22	15
Aggravated theft	13	1
Possession of a weapon	20	14
Fraud	35	15
Burglary	25	3
Minor offences*	70	75
Driving offences	54	11
Theft	104	33
Total	433	206

^{*} minor offences include such behaviour as graffiti writing, and lying about your age to get into a cinema.

From an examination of the frequencies in Table 3.8, it can be seen that there are some similarities between groups in relation to five offence categories. For example, young offenders reported committing arson 17 times in the previous year, while non-offenders reported carrying out this offence 16 times, U=148, p<0.97, ns 2-tailed. Fifteen young offenders reported they had committed actual bodily harm on 15 occasions in the previous year while non-offenders reported the same offence on 11 occasions, U=76.5, p<0.41,ns 2-tailed. Public disorder offences were reported as being carried out by young offenders on 22 occasions, while the comparable frequency for non-offenders was 15

occasions, U=156, p<0.82, ns 2-tailed. Further similarities were observed for the reporting of possession of a weapon (20 occasions for young offenders, 14 for non-offenders) U= 127, p<0.43 ns 2-tailed, and minor offences which were committed by young offenders on 70 occasions in the previous year and 75 occasions by the non-offenders, U=165, p<0.074, ns 2-tailed.

A comparison of levels of self-reported offending, on the basis of the location where each group was based, revealed significant differences, with the offenders from the largest detention centre having the highest mean rank, followed by the young offenders in the open detention centre then the young offenders from the detention centre for younger offenders. The school which was non-disadvantaged had the next highest mean rank, while the 'disadvantaged' school had the lowest mean rank score, chi² = 34.78, df=4, p<0.001. Significant associations were observed between level of offending and socioeconomic status, Spearman's rho = 0.4853, p<0.001, with higher rates of self-report offending more prevalent in participants in the low socio-economic strata, and with age, Spearman's rho= 0.6158, p<0.001, which showed that older participants had higher levels of self-report offending.

Summary

Overall, no differences were found between groups on interrogative suggestibility, although younger participants were found to be more suggestible than their older counterparts, and this association was a small one. The number of self-report offences committed by the young offenders in the previous year was more than twice that committed by the non-offenders. However, the non-offenders reporting committing arson, actual bodily harm, public disorder offences, possession of a weapon and minor offences as often as the young offenders. In addition higher rates of self-reported offending were associated with membership of a lower socio-economic class and being older in chronological age.

Discussion

Interrogative Suggestibility

Although differences in suggestibility did not emerge as a significant finding, it cannot yet be dismissed as a potential difference between young offenders and non-offenders. Both groups displayed resistance to misleading information and negative feedback and this was observed in the overall low suggestibility scores obtained (85% of

young offenders, 76% of non-offenders). Although the precise wording for negative feedback was used as advised by Gudjonsson (1993), there is still the possibility that an experimenter effect was operating. This is more possible given that the test was administered to small groups, which may have impacted on the believability that they had all made a number of errors. Interrogative suggestibility is investigated further in chapter 5 in relation to burglary, and in that experiment, participants are interviewed individually. Low levels of suggestibility were observed in 15% of the young offenders compared to 24% of the non-offending sample. At least two possible explanations exist for the nonsignificant differences. Firstly, an age related effect may have been operating, since an association was detected between age and suggestibility. The mean age for the young offenders was 17.2 years, while the mean age was 14 years for the non- offenders, and this difference may have accounted for the non-offending sample being more suggestible. This is merely a tentative conclusion, since the correlation was quite small, but it would be in accordance with Yarney and Tressilian Jones' (1983) assertion that peoples' maturity can lead them to believe they can look at things in an objective fashion. Another explanation may be that the young offenders were, on the whole, much more sceptical of the nature of the test than the non-offending sample. The GSS 2 is administered under the guise of a memory test, and during testing, the young offenders much more frequently questioned the nature of the test. In contrast, the non- offenders participated in the test without querying whether the test was truly a measure of memory. Suggestibility, influenced by negative social pressure appears to be mediated by a need to present oneself in a socially desirable way, which, in turn, is associated with compliance and acquiescence. The negative feedback of the GSS 2 indicates to subjects that certain expectations are not being met. Compliance with suggestion may only indicate a desire to please others, or it may be a method of reducing anxiety caused by the uncertainty of the interrogative situation (Gudjonsson, 1986). It was not apparent that either the young offenders or the non-offenders were acquiescing or anxious, therefore an alternative explanation must be sought.

The sample size and distribution offer a second possible explanation. A total of 67 subjects participated in the present study, with 34 young offenders and 33 non-offenders, and the relatively small numbers may account for the non-significant differences. Furthermore, increasing the sample size increases the possibility of approximating a normal distribution and hence allows the application of more sensitive statistical tools. This area is an important one, and may be pertinent to the Irish criminal justice process,

with implications for interviewing possible suspects of crime. The Gudjonsson & Clark (1986) theoretical model is concerned with the process whereby people come to accept uninformed and incorrect premises and expectations during interrogation, resulting in erroneous testimony. Within their theoretical framework "feedback" is conceptualised as a signal, communicated by an interrogator to a witness, after he/she has responded to a question or a series of questions, intended to strengthen or modify subsequent responses of the witness. The feedback can be either positive or negative. The effect of negative feedback is twofold: firstly, it often makes the subjects shift their previous answers and secondly, it heightens their susceptibility to further leading questions. The effect of positive feedback is to reinforce a previous response. Gudjonsson and Tata (1990) found that negative feedback had an effect on confabulation and suggestibility. Furthermore, the resources and design of the Gudjonsson & Tata (1990) study were far more complex, and subsequently, a larger sample with a more complex design presents the possibility of detecting the impact of negative feedback. Because of limits placed on the numbers of participants that could be tested in any of the institutions, a limitation was placed on the experiment. Negative verbal feedback, which is best construed as a form of interpersonal pressure, is clearly a significant stressor, having powerful effects on mood, subsequent free recall and verbal responding. It could be expected that if environmental stress of marked intensity and duration was presented in addition to interpersonal pressure, this might exacerbate suggestibility at least in the short term, as suggestibility has been shown to correlate with state anxiety (Gudjonsson, 1988a).

Given the overriding aim in judicial processes of obtaining truthful, uncontaminated accounts of events, one strategy for attaining that end is via the reduction of suggestibility. One way this might be achieved is by reducing the status differential of the witness and questioner. Another approach that has yielded fairly consistent positive results is simply warning subjects that misinformation has been or will be presented. Greene, Flynn and Loftus (1982) warned some subjects either before or after receiving post event information that some of it might be inaccurate. Warnings that immediately preceded the post event information resulted in significantly increased resistance to suggestibility. Obviously, this would be a difficult practice to apply in a real situation involving young crime suspects. Nonetheless, it could yield interesting results were it to be attempted. The experimental manipulation of interrogative suggestibility in chapter 5 involves the use of parallel materials to determine if crime-specific knowledge acts as a buffer against suggestibility.

Self-Report Offences List

The findings in respect of self-report offending levels proved surprising, particularly for the similarities which appeared to exist between young offenders and non offenders on a number of offence categories. Analysis of level of offending by category and group revealed that there were distinct differences between the two populations on overall levels, with young offenders reporting more than double the offences of the non-offending sample (433 versus 206). Young offenders reported committing more offences in the categories of car theft, drugs related offences, which included buying, selling, or using drugs, fraud, burglary, driving offences, and theft. However, there were very small differences between the two samples on the categories of arson, public disorder offences, possession of a weapon, actual bodily harm, and minor offences, which saw non offenders report seventy five offences in comparison to seventy for the young offenders.

These findings demonstrate that there are indeed differences between the two populations, as would be predicted in relation to both incidence and prevalence, since young offenders reported firstly most crimes, and secondly all types of crime. However, there are still some striking similarities in areas that are serious offences, such as arson, possession of a weapon and actual bodily harm. To some extent, these are in accord with the findings of McQuoid (1996) who reported that after the use of soft drugs, carrying a weapon was the next most common offence. However, the use of drugs in the previous year was not widely reported to have occurred within the non-offending sample. The similarity observed in relation to arson may, however, be misleading because of the question asked. This is presented in the form of "have you ever set fire to something on purpose?" This would probably not indicate to subjects that the question is indirectly referring to arson, a serious offence under the law. However, the fact that relatively few of either sample responded affirmatively to the question indicates that it is not a particularly prevalent act, amongst either group. Possession of a weapon is another offence that could lead to arrest. However, it appears to be acceptable amongst young males in particular to carry offensive weapons. Whether or not this weapon carrying behaviour is for self-defence or 'kudos' remains a moot point. What is of relevance is the fact that it is not only amongst an offending population that this practice occurs. While the numbers admitting to the offence of actual bodily harm were small they were, nonetheless, similar for both groups and most probably reflect an accurate picture of the frequency of assault with actual bodily harm resulting, since the relevant questions asked

directly about hurting somebody. On the basis of self report studies it is believed that 75-90% of young people, at one time or another, have committed an offence for which they could have been arrested (McQuoid, 1996; Gold & Reimer, 1975), an assertion which gains support from the present findings. Furthermore, a recent Irish study for the Eastern Health Board (Brinkley, Fitzgerald, & Greene, 1999) also found high levels of self-report offending among secondary school participants which lends support to the findings of the present study.

General Discussion

The results of the study reported in this chapter have contributed to the literature on juvenile offending both in Ireland and more generally. Identifying pathways through which delinquent behaviour might emerge is beneficial to understanding of how young people in general and young offenders in particular respond to and cope with school failure, resulting in below average performance on IQ tests and impacting on their levels of self-esteem. Although no significant findings were discerned on levels of self-esteem, it is nonetheless useful to address the issues relating to how offenders perceive themselves in order to further understand their subsequent behaviour. Low self-esteem has been related to lack of academic achievement and this is important for educators who have control over designing curriculum programmes to bear in mind. Early school leavers are most at risk of becoming involved in delinquency and every effort should be made to incorporate curricula materials that do not consistently result in failure for these young people. The results of experiment 1 have contributed to the debate on intelligence in young offenders by demonstrating that young offenders performed significantly better than non-offenders on practical intelligence although they did not perform as well as the non-offenders on most of the other aspects of the test. What is clear, however, is the need for subsequent analyses of intelligence from a contextualist framework. Moreover, the findings of the experiment have indicated that there may be scope to challenge previous findings on IQ and young offenders, if the appropriate, unbiased test is employed.

The second experiment found no discernible differences between young offenders and non-offenders on interrogative suggestibility. The study of suggestibility remains a worthy one, particularly in relation to ensuring that false confessions do not occur in the first place, and if they do occur that they are rectified with haste. The exploration of levels of offending is one that merits further attention. Firstly, if there are similarities existing between young offenders and non-offenders then this should be assessed directly to

ensure a more equitable criminal justice system. The overwhelming majority of young people in detention in Ireland have low socio-economic status. However, it is clear that by no means are they the only ones who are committing criminal offences. The actuarial process employed by the Garda when initially investigating a crime ensures that only certain individuals who "fit" a particular modus operandi are apprehended in the initial stages. This is a useful process, but with further psychological research on the nature and prevalence of offending behaviour, a more equitable justice system would prevail. Finally, these results reveal an initial glance at some cognitive processes of young offenders that are worthwhile and warrant further investigation in relation to existing similarities and differences between young offenders and non-offenders. The following chapters present the findings from experiments that explore in more detail specific cognitive processes that go toward achieving the overall aim of this thesis.

CHAPTER 4:

AN ANALYSIS OF INFORMAL REASONING IN YOUNG OFFENDERS

Introduction

Understanding how individuals reason about themselves and the world which they occupy is central to understanding their consequent behaviours. More specifically, knowing something about the way in which young offenders deliberate about their involvement in criminal acts and what they conclude from these deliberations can reveal something about the purpose of and justification for specific behaviours they engage in. Accordingly, this chapter will report the results of three experiments, which examine various aspects of everyday (or informal) reasoning (the two terms will be used interchangeably throughout). The first experiment is designed to elicit the causal theories that young offenders generate about crime specific topics and to compare them to the theories of a matched group of non-offenders. The second experiment investigates the processes that underlie informal reasoning by explicit examination of domain specific knowledge in young offenders and non-offenders. The third experiment attempts to determine any differences between young offenders and non-offenders when faced with suppositional crime scenarios that demand a choice to be made between two competing options. The experiment also addresses the beliefs young offenders have about the likelihood or probability they will be apprehended for a particular offence over time and the related level of worry about being apprehended. This approach of looking at how and what young offenders think about crime is a novel one which departs to a large extent from other studies of young offenders (as described in chapters 1 and 2). However it is not unreasonable to assume that young offenders employ reasoning strategies in relation to committing criminal acts in the same way that they reason about other aspects of everyday lives.

Inferences allow people to go beyond what they already know and to make explicit information that is implicit. Thinking about anything other than explicitly stated or clearly observable information can involve reasoning. Some important social processes (e.g., trying to identify a murderer, making scientific discoveries) essentially depend upon it, for example, without it, detectives would be unable to piece together the fragments of a crime in order to solve it. The study of everyday reasoning is important for two major reasons. Firstly, people reason in order to make decisions in everyday life and these inductions (or rationalisations) may be good or faulty. One example of faulty reasoning

leading to fatal consequences concerns the Herald of Free Enterprise, which capsized in Zeebrugge in 1987. While no single cause of the disaster was identified, a major factor in its sinking was the bow doors not being closed. The officers of the ship all assumed the person designated to do so had shut the bow doors, based on their previous experience under the same circumstances. The consequence of this faulty inductive reasoning had disastrous consequences, with the loss of 188 lives (Manktelow, 1999). Secondly, people reason in order to state truths or to state what they believe to be true about a situation. But what is everyday (or informal) reasoning? Galotti (1989) defines everyday reasoning as:

"Mental activity that consists of transforming given information in order to reach conclusions. This activity must be focused on at least one goal (but may be focused on more than one). The activity must not be inconsistent with systems of logic when all of the premises are fully specified, although there may not always be an applicable system of logic to govern specific instances of reasoning. The activity may or may not be self-contained; that is, people may implicitly or explicitly add to, subtract from, or otherwise modify any or all of the premises supplied. When original premises are modified, the final conclusion must be consistent with the modified premises. The activity may, but need not, be startling or nonobvious at the outset of the activity. The conclusion may, but need not, be deductively valid" (p.333)

In informal reasoning, the problems are ill defined, at least to some degree, in contrast to formal reasoning where all the information needed is stated explicitly and the problem is well-defined (Garnham & Oakhill, 1997). Formal reasoning is monotonic (i.e. conclusions may not be invalidated in the light of new information unless it is inconsistent with what was previously known). By contrast, informal reasoning is highly non-monotonic, that is conclusions are constantly being revised in the light of new information. For example, if I know that Amy is always in bed by 8.30pm, then when I go to her bedroom at 10pm, I will infer she is in bed. However, if she is not in bed, I will reconsider this inference. If she then comes out from the bathroom, I will revise my opinion again.

While this study primarily concerns itself with everyday reasoning, a brief consideration of formal reasoning is warranted. Furthermore, the mental model theory (Johnson-Laird 1983, 1995; Johnson-Laird & Byrne, 1991, 1996) is considered the most

well suited theoretical framework from which to examine everyday thinking (Galotti, 1989; Shaw, 1996), and therefore, the experiments under consideration are discussed in terms of the mental model theory.

Researchers, since Aristotelian times have tried to examine and characterise people's reasoning process primarily by comparing it to the principles of formal logic and noting the differences. Logic is a sub-discipline of philosophy and mathematics that tries to formally specify what it means for an argument to be logically correct. Studies of deductive reasoning have contributed to the advancement of knowledge in the area of informal reasoning and require some consideration. The earliest experiments concerned with deduction were those of Wilkes (1928) and Woodworth & Sells (1935 in Evans, Newstead & Byrne, 1993), which dealt with classical syllogisms consisting of two premises and a conclusion and this early work was further extended by Wason (1966) with the famous Wason selection task. It was assumed that human reasoning follows the principle of formal logic but humans do not always operate according to the rules of formal logic. This is partly because the terms of formal logic (e.g., or, and, some) do not necessarily mean the same things as their equivalents in natural language. Two valid inference rules involving propositions are (1) Modus ponens (P implies O; P; therefore O) If Mary is late, her boss will be angry; Mary was late; therefore, her boss got angry and (2) Modus tollens (P implies Q; not Q; therefore not P) If Mary is late, her boss will get angry; her boss did not get angry; therefore, Mary was not late. In general, people find "modus ponens" easier to apply than "modus tollens". In addition, people often make logically invalid inferences, one of which is denial of the antecedent; (P implies O; not P; therefore, not Q), if Mary is late, her boss will be angry; Mary was not late; therefore, her boss did not get angry. Another invalid inference is affirmation of the consequent (P implies O; O; therefore, P) if Mary is late, her boss will get mad; her boss got mad; therefore, Mary was late. Wason's card selection task (Wason 1966) provides a striking demonstration of these failures, and is framed as follows: participants are presented with four cards which have a letter on one side and a number on the other side. A typical set would consist of: A D 4 7. The participants are then told to assume that each card has a letter on one side and a number on the other side and they are given the rule:

"If a card has a vowel on the one side, then it has an even number on the other side"

They are asked: Which cards would you actually flip to test whether the rule is true or false? (Manktelow, 1999).

A logical analysis of the Wason Selection Task shows: P: A vowel occurs on one side of the card (e.g., the A), not P: A consonant occurs on one side of the card (e.g., the D), Q: An even number occurs on one side of the card (e.g., the 4), not Q: An odd number occurs on one side of the card (e.g., the 7). So, to apply the "modus ponens" rule, you need to flip "A." To apply the "modus tollens" rule you need to flip "7". However, many people fail to do this. Interestingly, people do much better with a concrete context (Griggs & Cox, 1982) "If a person is drinking beer, then the person must be over 21" The corresponding cards are: "Drinking beer," "Drinking coke," "19 years of age," and "22 years of age". When participants take the perspective of detecting whether a social contract has been violated, they make a large proportion of logically correct choices in this task. The errors in the Wason Selection task also illustrate a prevalent "confirmation bias" (i.e. seeking evidence that is consistent with prior beliefs) and according to Evans (1989), this bias reflects peoples' inability to question beliefs which leads to cognitive failure. The experimental effects found on the Wason selection task have contributed enormously to the development of research on content effects, and domain specific effects will be explored in this study.

According to Galotti (1989), informal reasoning differs from formal reasoning in a number of important ways, as Table 4.1 shows. Whether the cognitive processes called upon by the two types of task are similar or not is left open (Galotti, 1989), since it is not entirely clear that studying formal reasoning in controlled settings leads to a consequent understanding of informal reasoning (Perkins, 1986, 1989). For example, studying categorical syllogisms has few practical difficulties, since the experimenter supplies the premises and can control the order and duration of presentation. In contrast, with everyday reasoning problems (e.g., buying a house), the experimenter has little control, and people will use their knowledge to different extents. Furthermore, performance on formal reasoning tasks is easier to measure because the problems have answers that are correct while everyday problems may not.

Table 4. 1: Differences between Formal and Informal Reasoning Tasks (Galotti, 1989)

Formal	Informal
All premises are supplied.	Some premises are implicit, and some are not supplied at all
Problems are self-contained.	Problems are not self-contained.
There is typically one correct answer.	There are typically several possible answers that vary in quality.
Established methods of inference that apply to the problem often exist.	There rarely exist established procedures for solving the problem.
It is typically unambiguous when the problem is solved.	It is often unclear whether the current 'best' solution is good enough.
The content of the problem is often of limited, academic interest.	The content of the problem typically has potential personal relevance.
Problems are solved for their own sake.	Problems are often solved as a means of achieving other goals.

There are three main approaches to the study of informal reasoning. The componential approach (Sternberg, 1982, 1983, 1984,) aims to discover and specify the basic cognitive processes (components) that are used by an individual in any particular task and then to account for individual differences across tasks in terms of some aspect of those component processes. The main supporting evidence comes from experiments on tasks such as analogies (Sternberg & Gardener, 1983) but has not been extended to include more complex forms of reasoning, such as choosing a college (Galotti, 1989). According to Cheng & Holyoak (1985), pragmatic reasoning schemata are context sensitive, based on past experiences with relevant situations and are concerned with the goals of the present problem. These domain specific rules are distinguished from formal rules (Braine, 1978; Osherson, 1975; Rips, 1984, 1988) which proposes informal reasoning relies on the use of specific rules or procedures. Good reasoning, by this account, is the use of correct rules, the right number of rules and the correct use of the rules. The third approach, which is perhaps most suited to explaining informal reasoning is the theory of mental models (Johnson-Laird & Byrne, 1991). This approach proposes that reasoning involves three stages of thinking: (1) comprehension, which relates to understanding the premises through relevant general knowledge and language; (2) construction of a putative conclusion, which derives something new which was not already stated in the premises and (3) validation, which involves searching for alternative conclusions (models) that are consistent with the premises, but which invalidate the original conclusion. A valid

Conclusion arises where there are no alternative models that falsify it. According to Oaksford & Chater (1998), this theory suggests that people manipulate the semantic content of premises to determine if they imply a valid conclusion, by searching for counter-examples. Models of familiar, concrete situations can be easier to work with than abstract models or models of unfamiliar situations, because long term memory is searched for examples of situations that correspond to the current model under construction (Johnson-Laird & Byrne, 1991) and background knowledge can help in the construction and revision of models. The mental model approach appears to be more flexible in accounting for different types of informal reasoning, and as such, is considered most useful for the present experiments that examine young offenders reasoning.

Overview of the Experiments

The results of three experiments will be reported. The first experiment in this chapter, Experiment 3, examines argumentation as a type of informal reasoning in relation to crime specific scenarios; the second experiment, Experiment 4, considers the processes involved in informal reasoning about criminal and non-criminal events. The third experiment, Experiment 5, examines the choices participants make when faced with alternatives while it also examines young offender's beliefs about being apprehended for a crime. The experiments share certain features in their methodology, which are reported first before outlining each of the experiments individually.

Participants in the experiments

Two of the three of the experiments (Experiments 3 and 4) rely on a similar between-participants design: an experimental group, young offenders, was compared with a control group of non-offenders. The third experiment (Experiment 5) is concerned with young offenders only. The experiments were carried out with the same set of 120 young men, aged between 16 to 21 years, who participated voluntarily. They were drawn from two populations. The experimental group (n=60) were drawn from St. Patricks' institution for young offenders in Dublin, Ireland, which holds up to 180 prisoners on any given day. Permission and access was obtained from the Department of Justice, Law, Equality and Reform and the Governor of the institution. The experimental group consisted of young offenders who had been convicted on a criminal charge and were currently serving a custodial sentence. No young offenders on remand were selected. A prison officer, who selected prisoners, and allocated a number to them to maintain confidentiality and

anonymity, determined the selection process. All of the young offenders were interviewed by the author individually in quiet surroundings within the prison school (within the grounds of the institution) without the presence of a prison officer. The second sample, the control group (n=60), consisted of participants obtained from two secondary schools in Dublin, one on the Northside of Dublin (n=30), the other in the South inner city (n=30). Both schools are located in areas characterised by a high proportion of corporation housing, high levels of unemployment and drug abuse. All of the school participants (non-offenders) denied having ever been in trouble with the Garda. All of the non-offenders were interviewed individually in quiet surroundings without the presence of a teacher. The average testing for each participant lasted approximately 2 hours and was followed by a full debriefing, allowing for participants comments, questions and criticisms. Table 4.2 presents the mean ages of all groups.

Table 4.2: Mean age by group

	mean	Standard deviation	total
Young offenders	18yrs	1.4714	N=60
School participants 1	16.5yrs	.7466	N=30
School participants 2	17yrs	.5713	N=30

As can be seen in Table 4.2, the young offenders were somewhat older (on average 18 years old) in comparison with the non-offenders (school 1, 16.5 years, school 2, 17 years). The young offenders were serving sentences for a wide range of offences. However, the most common offence for which they were incarcerated was unauthorised taking of a motor vehicle (UTMV) and the least common offences were hijacking, armed robbery, loitering and bank fraud as Table 4.3 shows.

Table 4.3: Breakdown of offences for which young offenders were incarcerated

Offence type	Number of offenders
UTMV (car theft)	15
Larceny	14
Burglary	9
Possession of drugs	4
Actual bodily harm	4
Dangerous driving	3
Possession of a weapon	3
No insurance	2
Assault	2
Armed robbery	1
Bank fraud	1
Hijacking	1
Loitering	1

Experiment 3: Thinking as Argument

How can argumentative thinking skills enhance reasoning abilities? One theory, postulated by Kuhn (1991, 1992) suggests that it is through reasoned argument that we may come to understand the *why* of people's thinking as opposed to merely *what* they think. Cognitive psychologists interested in real world intelligence have focused on the thinking that people do in work contexts (Sternberg & Wagner, 1986). In addition, the previous chapter reported that young offenders performed significantly better than non-offenders on a measure of practical intelligence. However, it has been argued that the ability to think well in work situations may not count as much as non-work related real-world thinking (Kuhn, 1992) which contributes more to an individual's overall quality of life. The opinions espoused and beliefs held by individuals are more often than not openended, poorly organised, and deeply embedded in a broad and heterogeneous knowledge base. Still, many social and political issues have been decided upon with that same intractable knowledge. For example, opinion polls on political issues presuppose that some weighing of the pros and cons has taken place, but little is known about the actual processes through which people arrive at their 'reasoned' views. The present experiment

was concerned with the causal theories of a group of young offenders and a matched group of non-offenders on crime related topics to determine if involvement in crime has an impact on the quality of evidence generated to support causal theories, and the ability to generate counterarguments. The area of juvenile crime offers another example of the observation that many people have 'theories' which they espouse to account for the incidence of juvenile crime, yet there is still no clear understanding of the processes by which they hold such beliefs. The media of course have a hand in influencing the public perception of crime (O'Connell, 1996), but this does not account wholly for the processes involved. This lack of knowledge is hardly surprising since few researchers have studied this type of reasoning. Indeed, Galotti (1989) has suggested that because there is no 'established, appropriate methodology' (p.334) there are very large practical issues, which can render the study of informal reasoning very difficult. Social, rather than cognitive psychologists have come closest to an examination of this kind of thinking in their study of attitudes and opinions (Tesser & Shaffer, 1990; McGuire, 1969). However, this research has been flawed because of its approach of measuring variable movement along one dimension only, even though social psychologists are aware that attitudes are much more than a point on a continuum.

Billig (1987) considers the analysis of peoples' ability to develop arguments in relation to everyday issues to be of paramount importance, and a great deal of public money is expended on issues such as the best way to teach sex education to children in schools in Ireland, for example. There have been two main researchers who have focused on the issue of attempting to understand why people think in particular ways, by trying to gauge the mechanisms by which people engage in everyday thinking or reasoning, and these are Kuhn (1991, 1992) and Perkins (1986, 1989; Perkins, Faraday & Bushey, 1991).

Perkins characterises everyday reasoning as situation modelling and explains errors in everyday reasoning as ensuing from situation models that are biased or lacking (or both). Perkins (1989) developed the concept of 'my side bias' which essentially sees a reasoner thinking of arguments on only one side of an issue (Baron, 1995). This bias has been seen to be pervasive and the evidence on the effects of education was mixed in terms of number of years and courses studied. For example, Kuhn et al (1988) and Kuhn (1991) found that philosophers were least likely to show 'my side bias' in epistemological reasoning when compared to other groups of college educated people. Similarly, Perkins et al (1986) found that interventions designed to improve reasoning about social and

political issues helped to reduce the 'my side bias' in graduates but not high school or college students.

The research carried out by Kuhn (1991) extended the work of Perkins by examining the effect of expertise on urban social problems in more detail. Although these problems are obviously multi-faceted in their origins and complexity, she found that they tended to invoke simplistic causal reasoning (Kuhn, 1991). In addition, participants tended to be very confident about their causal explanations, even though they had never considered alternative causal theories. Another major finding was that expertise in a particular domain did not necessarily improve thinking about that domain, and it is this finding which is of particular interest and relevance to the present experiment. Of 160 participants there were three groups considered expert in Kuhn's (1991) research, and these were teachers (who possessed more knowledge of school failure), parole (probation) officers (who possessed more knowledge of crime related topic) and philosophers (regarded as having expertise in reasoning). She found that while philosophers reasoned well overall, domain expertise had no effect: the parole officers did not reason any better about school failure.

By contrast, the experts in the present experiment (young offenders) had personal knowledge of the issues they were asked to theorise about. However, it was not assumed that their first-hand experience of the criminal justice system would make them expert in an academic sense. Instead, their personal experience was hypothesised to bestow on them some level of knowledge that would not be readily available to their non-offending counterparts, making it easier for them to generate pertinent evidence to support their causal theories. Furthermore, of interest to the present experiment was the 'my side bias' (Perkins, 1989) that is, whether or not participants would be biased by their own initial beliefs in evaluating conclusions and seeking contrary evidence. Therefore, the aim of the first experiment was to compare the causal theories of a group of young offenders and a group of non-offenders and to determine if involvement in crime has an impact on the quality of evidence generated to support causal theories, and the ability to generate counterarguments.

Method

Materials

The first experiment involved an interview designed to elicit participants thoughts on three crimes which are committed with relative frequency by young offenders in Irish society, unauthorised taking of a motor vehicle (utmv), breach of bail and larceny. This interview was based on the work of Kuhn (1991) who constructed an interview schedule which was broken down into four main areas: Causal theory and justification,

Contradictory positions, Instrumental reasoning, and Epistemological reasoning. For the purpose of this experiment, only the first three categories were included in the interview and modifications made where appropriate (Appendix 6). Examples from each category include the following sorts of questions: Causal theory and justification category; Why do offenders commit larceny? How do you know this is the cause?; Contradictory positions category; Suppose now that somebody disagreed with your view that this is the cause. What might they say to show you were wrong? What evidence might this person give to show you were wrong? Instrumental reasoning category; Is there any one important thing which, if it could be done, would lessen prisoners committing larceny? The questions were presented in a fixed order.

Procedure

Participants were interviewed individually and randomly given one of the three topics for their interview schedules (20 young offenders and 20 non-offenders completed one of the three topics, [40 received the car theft topic, 40 received the larceny topic and 40 received the breach of bail topic]). They were told "I am going to ask you to give me some information on ____ (car theft, breach of bail, or larceny). Take your time and try to answer each question as fully as you possibly can. There are no right or wrong answers". The answers were recorded on audio-tape and subsequently transcribed. Responses were coded into their relevant sections, (e.g. major causal theory, evidence to support theory) and a high level of agreement on the outcome of the coding procedure was obtained by blind examination of 15% of scripts by an independent judge and the experimenter.

Results and Discussion

Data in this experiment was analysed using the Chi-square distribution. This test was used to test for any differences between groups in the frequency of responses in different categories.

la Causal theories and justification: Participants accounts of what causes people to commit car theft, breach of bail or larceny yielded six main categories, which can be seen in Table 4.4. There was a highly significant effect observed on this variable, with some causal theories being cited more frequently than others Chi² =28.069, df = 10, p<0.001. The most frequently occurring causal theory about why people commit the crime in question for both groups was 'drugs' (either the need to get them in the case of larceny and breach of bail, or because of the effect of them in the case of car theft) with 47% of young offenders and 30% of non-offenders offering this as their main causal theory. Furthermore, there was consensus between groups that the need for excitement or the 'buzz' was another important factor in the commission of the three offences outlined, with 23% of non-offenders and 27% of young offenders offering this as their main causal theory. In contrast, a small minority of non-offenders (2%) said that homelessness was a cause of the commission of crime. Two percent of young offenders said that not wanting to go to prison was a major cause for breaching bail, in comparison to 12% of nonoffenders who offered this response as a major causal theory. Exactly double the number of non-offenders 14 (23%) identified the need to have money as a major cause as did the young offenders 7 (11%). Seven or 11.5% of the young offenders reported that bail being set too high was the major cause of people breaching bail.

Table 4.4: Causal Theories for the Commission of Car Theft, Breach of Bail and Larceny by Subject group (percentages in parentheses)

	Young offenders	Non-offenders	Total
Drugs	28(47%)	18(30%)	46(38%)
Excitement (Buzz)	16(27%)	14(23%)	30(25%)
Money	7(11.5%)	14(23%)	21(17%)
Homelessness	0	2 (3%)	2(2%)
Prison*	2 (3%)	12 (20%)	14 (12%)
Bail too high	7 (11.5%)	0	7 (6%)
Total	60 (100%)	60 (100%)	120 (100%)

^{*}Indicates response people don't want to go to prison in the case of breach of bail

1b Knowledge concerning the theories generated: A highly significant effect was found on this variable, with young offenders and non-offenders offering different accounts to support their causal theories, Chi² =139.13, df = 10, p<0.00. Table 4.5 displays the kind and degree of responses to the question 'how do you know this (main causal theory generated) is the cause?' All young offenders without exception responded that they knew the cause of the commission of crime through personal experience (100%). Twenty four (40%) of the non-offenders reported that they got their knowledge through knowing other people who carried out crime, while 27% said seeing crime in their community led them to know what caused it. A further 17% said that media reports provided them with their knowledge, while 13% said that they knew the need to have money caused crime, as everyone wants money. A very small minority of non-offenders (2%) said that an adrenaline rush caused crime because it led to a 'buzz' or excitement.

Table 4.5: Origin of Knowledge concerning causal theories

	Young offenders	Non- offenders	Total
Personal experience	60 (100%)	0	60 (100%)
Know others who do it	0	24 (40%)	24 (20%)
Everyone wants money	0	8 (13%)	8 (7%)
Media Reports	0	10 (17%)	10 (8%)
Adrenaline Rush	0	2 (3%)	2 (2%)
Seeing it in my community	0	16 (27%)	16 (13%)
Total	60 (100%)	60 (100%)	120 (100%)

Ic Evidence generated to support causal theories: The evidence offered by young offenders and non-offenders to support their causal theories can be seen in Table 4.6, and an overall significant difference between the groups was obtained, Chi² =129.28, df = 10, p<0.001. Young offenders' evidence consisted predominantly of their own situation (93%) which extended the causal line seen in the knowledge question above. A large proportion (48%) of non-offenders, however, said that speaking to people involved in crime would give evidence to prove them right, and 5% of young offenders also suggested this as evidence. Asking prisoners about what caused them to commit crime was reported by 2% of young offenders while 7% of non-offenders also suggested that this was evidence to support their theories. Of the 60 non-offenders 30% were unable to offer any evidence to support their theories and 7% suggested evidence was shown because offenders were unemployed and needed money. Going out with thieves was seen to be a way to get evidence to support causal theories for 8% of non-offenders.

Participants were also asked when they began to hold their particular view and what led them to hold their particular view. The majority of non-offenders (67%) reported that they had always held their particular view, while young offenders were more likely to report that they began to hold their views in the past two years (47%) or the past four years (38%), $\text{Chi}^2 = 83.677$, df = 6, p<0.001. Young offenders were significantly more likely to say they held their view because of being in prison (68%) or since becoming a heroin addict (22%) in comparison to non-offenders who said they held their views from seeing crime in their community (62%) or knowing people involved in crime (38%), $\text{Chi}^2 = 151.72$, df = 8, p<0.00.

Table 4.6: Evidence to support causal theory

	Young offenders	Non- offenders	Total
No evidence	0	18 (30%)	18 (15%)
Speak to people involved	3 (5%)	29 (48%)	32 (27%)
Unemployed need money	0	4 (7%)	4 (3%)
Go out with thieves	0	5 (8%)	5 (4%)
Speak with prisoners	1 (2%)	4 (7%)	5 (4%)
Own case is evidence	56 (93%)	0	56 (57%)
Total	60 (100%)	60 (100%)	120 (100%)

2a: contradictory positions: There was a significant difference between groups on their perceptions of what somebody who held a very different view might suggest as the cause of the three crimes in question, Chi² =40.954, df = 10, p<0.001. As Table 4.7 shows, 25% of non-offenders were unable to generate an alternative theory to counter their own. Of those non-offenders who did generate alternative theories, 60% said that someone else would suggest a bad background, and 45% of young offenders also took this perspective. Forty seven percent of young offenders suggested that someone else would refer to them as 'scumbags' as did 7% of non-offenders. A small percentage (3%) of non-offenders suggested that offenders are lazy as an alternative theory while young offenders suggested this slightly more often (8%).

Table 4.7: Others' contradictory causal theories

	Young offenders	Non- offenders	Total
No theory	0	15 (25%)	15 (12.5%)
Bad background	27 (45%)	36 (60%)	63 (52.5%)
Offenders are 'scumbags'	28 (47%)	4 (7%)	32 (27%)
Offenders are lazy	5 (8%)0	2 (3%)	7 (6%)
Working-class people commit crime	0	1(2%)	1(0.8%)
Social problems	0	2 (3%)0	2 (1.6%)
Total	60 (100%)	60 (100%)	120 (100%)

2b Counter-evidence: When participants were asked what evidence somebody else could give to support their theories, highly significant differences emerged as Table 4.8 shows, Chi² =134.32, df = 8, p<0.00. All of the young offenders (100%) stated that someone else could not give evidence to support their theories. In contrast, 43% of non-offenders said they didn't know what evidence someone else could give to support their alternative theory. Of the remaining 57% of non-offenders, 38% said pointing to media reports of crime would support alternative theories, while 18% suggested police reports on crime as a means that someone else might support their theory.

Table 4.8: Others' evidence to support theories

offenders. Of the remainder, 25%	Young offenders	Non- offenders	Total
Don't know	0	26 (43%)	26 (22%)
Couldn't give evidence	60 (100%)	0	60 (50%)
Media reports	0	23 (38%)	23 (19%)
Police reports	0	11 (18%)	11 (9%)
Total	60 (100%)	60 (100%)	120 (100%)

2c Proving someone else wrong: A significant difference was found on this variable, Chi² =120, df = 8, p<0.001, with all of the non-offenders saying that they could not prove somebody else wrong (Table 4.9). The majority of young offenders (48%), by contrast, said they would get a person whose view was highly different from their own to speak with criminals in order to prove them wrong. A further 27% said that bringing them into a prison would prove them wrong, while 13% said that by taking them to areas with high crime rates they prove them wrong. 12% said that by watching court proceedings they would see that they were proved wrong.

Table 4.9: How would you prove someone else wrong?

	Young offenders	Non- offenders	Total
Take them to a prison	16 (27%)	0	16(13%)
Take them to high crime areas	8 (13%)	0	8 (7%)
Let them speak with criminals	29 (48%)	0	29 (24%)
Watch court proceedings	7 (12%)	0	7 (6%)
Couldn't prove them wrong	0	60 (50%)	60 (50%)
Total	60 (100%)	60 (100%)	120 (100%)

Participants showed completely opposite patterns to each other when asked 'could someone prove you wrong?' with all of the non-offenders responding 'yes' and all of the young offenders responding 'no'.

3 Instrumental reasoning: Participants instrumental reasoning was assessed by asking how offenders might be helped refrain from offending and 12 categories were generated as shown in Table 4.10, and an overall difference was observed between groups in the

frequencies of responses in these categories Chi² =80.32, df = 22, p<0.001. The majority of young offenders (47%) said that improved drug rehabilitation facilities would help offenders. Of the remainder, 25% said that better facilities in their local communities would help them to desist, 7% said nothing would help as it is up to each individual to make decisions about whether to commit crime or not and a similar percentage said a better education would help offenders. Three percent suggested that a larger police presence would help offenders, while training for jobs was suggested (5%) as another method to help. A further 5% suggested that showing offenders the impact of crime on victims would help and the remaining 1% said lowering bail bonds would help people to not breach bail. The non-offenders also identified more facilities in local areas as a method to help offenders (43%) and the need for better training for jobs (18%). However, they suggested that having more police around (13%), giving longer jail sentences (12%) and recording the whereabouts of offenders (10%) were also ways of helping offenders. In addition, 4% felt that counselling would be effective in helping offenders desist (see Table 4.10)

Table 4.10: How would offenders be helped refrain from offending?

	Young offenders	Non-offenders
Improved drug facilities	47%	0
Improved community facilities	25%	43%
Nothing	7%	0
Better education	7%	0
Bigger police presence	3%	13%
Training for jobs	5%	18%
Victim impact	5%	0
Lower bail bonds	1%	0
Give longer jail terms	0	12%
Record offenders' movements	0	10%
Counselling	0	4%
total	100%	100%

In summary, both young offenders and non-offenders generated the same major causal theories, which most commonly posited that drugs and the need for excitement (the 'buzz') were the causes of car theft, larceny and breach of bail. Young offenders' knowledge of the causal theories derived from personal experience, while knowing people involved in crime more often represented the origin of knowledge for nonoffenders. Non-offenders assumed that somebody with a view very different from theirs would attribute the commission of crime to a bad social background, while young offenders predominantly reported that such a person would perceive someone engaged in criminal acts as a 'scumbag'. Young offenders however further reported that such a person would not be able to provide evidence to support such a theory and thus could prove the other person wrong by getting them to speak with individuals who carry out criminal acts. The non-offenders mainly reported that such a person would rely on media reports to substantiate their theory, and further that such a person could not be proved wrong. The young offenders reported that improved drug treatment facilities would help prevent offending while the non-offenders suggested improved local facilities and a higher police presence as methods to prevent crimes.

What do these findings tell us about the way young offenders reason? Does personal involvement in criminal behaviour facilitate the ability to reason informally on topics 'known' about and does it enhance reasoning through self-argumentation, as Billig (1987) suggests? The causal theories generated by young offenders were no different from those of non-offenders, with both groups offering plausible theories to explain particular offences (i.e. drugs causing crime). In addition, there was agreement between the groups on what would help offenders refrain from committing crime (improved community facilities), and this would indicate that participants had a high degree of consistency between the cause of the issue and what would help solve it. Furthermore, participants offered evidence that could be classified as genuine evidence (Kuhn, 1992) that is, it differentiated from the theory and had bearing on the correctness of the theories generated. The use of drugs in relation to crime is well documented and frequently cited as a contributory factor in the commission of crime both by media reports and official sources and so would be heard and seen by both groups. However, Kuhn (1992) reported that the participants in her study tended to hold their views with certainty, and this was supported in the present experiment through the knowledge sources participants claimed. All of the young offenders said they 'knew' that their theory was the cause through their personal experience; nevertheless, this could be classified as 'pseudoevidence' which

Kuhn suggested "at best enhances the plausibility of the causal sequence and at it's most minimal, simply illustrates the causal sequence" (p.162). Alternatively, they may construct a mental model (e.g. drugs as a causal theory) and then consider the truth-value of the information represented in the model (Johnson-Laird & Byrne, 1991). Those young offenders who suggested that they knew drugs were the cause of a particular offence because of personal experience were stating what is true for them – they are addicts, and so participants were merely representing what is true and not what is false.

It is when counterevidence is considered that participants' ability to generate alternative models is tested. The evidence participants gave to support their theories again consisted of personal evidence from the young offenders, extending the causal line shown by their knowledge base. The majority of non-offenders, on the other hand, suggested that speaking to people involved in crime would provide evidence for their causal theories. This, in one respect is in accord with what young offenders suggested as evidence and demonstrates similarities in the reasoning strategies. Just below a third of the nonoffenders were unable to offer any evidence, for example "I couldn't give any evidence, I ". Kuhn (1991,1992) described types of evidence just know that causes generated by participants and classified them into covariation evidence (a implies b); evidence external to the causal sequence which could be either positive or negative; and indirect evidence consisting of analogy; assumption; discounting; or partial discounting. For the present experiment, participants responses tended to be uncompromising, for example, one young offender who said car theft was caused by the search for a 'buzz' stated categorically that he knew it was the cause "because it is why I do it myself".

When asked to provide an alternative view by imagining a person whose view was very different to their own, a quarter of non-offenders were unable to do so. Over two thirds of the remainder said that 'a bad background' was an alternative theory, and just over a quarter of the young offenders also suggested this alternative theory. Almost all of the remaining young offenders suggested that someone whose view was very different to theirs would regard them as 'scumbags', meaning they are vulgar, loud, repulsive and coarse. Most interesting was the 100% response rate (reported by the young offenders) that someone else *could not* give evidence to support their alternative theories. In contrast, almost half of the non-offenders said they didn't know what evidence someone else could give, similar to the findings of Kuhn (1992), who found that some participants reported simply not knowing what alternative evidence could be given. In support of their confidence that someone else could not generate alternative evidence, all of the young

offenders reported that they could not be proved wrong but they could prove someone else wrong, with almost half saying this could be achieved by speaking with criminals, or by taking them into a prison. Kuhn describes this type of resoluteness as being detrimental to the process of reasoning since the participant is in essence unable to contest the theory's independent existence. Therefore, it would appear that having personal experience of criminal issues did not lend itself to better informal reasoning abilities as described by Kuhn, (1991, 1992). Indeed, young offenders engaged minimally in the kind of argumentation, which she identifies as critical in the enhancement of informal reasoning processes. An alternative interpretation is that young offenders' limitations come from a reliance on retrieving conclusions from long term memory, which they know, and which are familiar, concrete and easier to work with than unfamiliar ones.

Another perspective which gains support from the present experiment is the 'my side bias' developed by Perkins (1989). The young offenders did not develop alternative evidence, although they easily generated initial alternative theories (presumably based on experiences with people very different from themselves e.g. the Garda) and this may serve a functional purpose-justification of their involvement in criminal acts. For example. Bates (1996) reported that the participants in her study held their most negative attitudes towards gardai and judges, and the young offenders in this study agreed with this view. They reported an intense dislike of gardai whom they said refer to them as 'scumbags' and justified actions such as antagonising them when they are joyriding. Furthermore, both groups showed consistency between their causal theories and instrumental reasoning which would indicate a structure, to some degree and not that they were offering the first thing that came to mind. The certainty with which young offenders held their beliefs was significantly different to that of the non-offenders. Young offenders were more absolute in their beliefs that firstly, they could prove someone else's' theory incorrect, and secondly, that someone else could not prove their theory wrong. The complete reverse pattern was observed with the non-offenders, and it is clear that young offenders perceive what they know and think in respect of criminal acts to be immutable. Overall, it was not entirely clear whether young offenders were incapable of developing argumentative skills or whether they merely represented what was true for them and stopped short of searching for alternatives. This area merits further attention both from an everyday reasoning perspective, which would reveal more about the underlying cognitive strategies, and from a rehabilitative perspective, training young offenders to engage in thinking skills focusing on good thinking strategies rather than the practice of thinking

itself (Kuhn, 1991, 1992). Involvement in crime in this study did not have an impact on the type of causal theory generated, although it provided support for the 'myside bias' (Perkins, 1989).

Experiment 4: Processes in Informal reasoning

The previous experiment indicated that young offenders and non-offenders do not differ significantly in their beliefs about what causes individuals to engage in certain criminal acts, while young offenders failed to consider alternative information as valid, displaying a 'my side' bias. Another related area is one that investigates those aspects of arguments that are most salient when an individual is faced with an everyday problem. This experiment extends the previous research by asking two main questions: 1 What kinds of objections do people make when evaluating informal arguments? and 2 Does involvement in crime affect the amount and quality of objections people make when faced with crime-specific scenarios?

Shaw (1996) defines informal reasoning as "the process of constructing and evaluating arguments" (p.89) and her research is concerned with the factors that people consider when evaluating informal arguments. Furthermore, she notes three important distinguishing features of informal reasoning. First, informal arguments are not constructed like formal proofs: although they have premises and conclusions they may not be explicitly stated (in the case of premises) nor clearly demarcated. Second, inductive inferences are more frequently made in informal reasoning, and subsequently, informal arguments are rarely deductively valid (Toulmin, 1958). Third, informal arguments are often used in situations where reasons exist both for and against the conclusions. Subsequently, several researchers (Shaw, 1996; Voss & Means, 1991) identified three criteria for evaluating informal arguments, which have been adopted for the present experiment. They are: 1) the truth of the premises and conclusions; 2) the quality of the link between the premises and conclusion; and 3) the extent to which the argument addresses relevant information on both sides of the issue.

By examining the types of objections participants make it is possible to flesh out the mechanics of the reasoning process, since some objections are easier to formulate than others. Accordingly there are three main types of objections based on the criteria outlined earlier, which can be made: First, an objection to the truth of a premise or conclusion of an argument which Shaw (1996) refers to as assertion based objections. Second, argument based objections occur when reasoners object that the inference is invalid or weak. Third,

alternative based objections refer to objections that an argument does not consider relevant information necessary for determining the truth of a conclusion.

The mental model theory "assumes that semantic content and general knowledge play a critical role in reasoning- in interpreting premises, in fleshing out their interpretations and in influencing the search for alternative models" (Johnson-Laird & Byrne, 1996, p.345). Therefore, factors affecting informal reasoning can be accounted for by looking explicitly at the types of objections. To compose assertion-based objections reasoners construct a set of models of the argument and consider whether the premises and conclusions are true. The formulation of argument and alternative based objections are more difficult because of limited working memory capacity (Johnson-Laird & Byrne, 1992), because they require reasoners to imagine additional information which is not presented in the argument but which bears on the truth of the conclusion. As previous research has shown, reasoners often fail to consider alternative information or counterarguments, and this was also found in the previous experiment with the evidence to support the 'my side' bias (Perkins, 1989). As the structure of a set of mental models corresponds to the structure of that which it represents, reasoners may not keep track of the premises and conclusions of informal arguments, particularly between a given theory and the evidence that supports it. Consequently, assertion based objections should be easier to formulate and therefore more prevalent, and it is this hypothesis which is under examination in the present experiment. Particularly the experiment tests the hypothesis that there are differences between young offenders and non-offenders in relation to the quality and frequency of objections made when presented with domain specific versus domain general scenarios. The dimension of domain specificity (scenarios with a crime content) versus domain generality is a central element of the experiment, since it was hypothesised that young offenders would generate more objections to those scenarios which they would hypothetically possess more knowledge of. A further aim was to assess whether rating the strength and convincingness of an argument would impact on the number of objections generated, since forcing reasoners to think about the relationship between premises and conclusions of an argument should facilitate the generating of objections (Shaw, 1996).

Method

Materials

The materials follow on from Shaw's (1996) research methods. The present experiment extended the approach of Shaw and consisted of 9 scenarios broken down into three categories (Appendix 7). Domain specific, high frequency scenarios (3 scenarios) were concerned with offences that young offenders should be familiar with and hypothetically possess more knowledge of than non-offenders (car theft, larceny and breaching an order to keep the peace). Domain specific, low frequency scenarios (3 scenarios) contained scenarios on offences with which young offenders would not be expected to be overly familiar, given they are among the least frequently found in St. Patricks' Institution, but, nonetheless, with which they may be more familiar with in comparison to the non-offenders (cruelty to animals, importing drugs, and white collar crime, namely tax evasion). Lastly, domain general (3 scenarios) scenarios which were concerned with issues that should be neither more nor less familiar to young offenders than non-offenders (genetic engineering, beach littering, and staffing levels in a cemetery).

In line with Shaw's research (1996), questions were asked which questioned the nature of the arguments by looking at: (1). strength, (2). convincingness, (3). strength and believability of premises/conclusions and (4). convincingness and believability of premises/conclusions. Shaw hypothesises that adding a manipulation which encourages participants to identify the premises and conclusions should help reasoners to formulate objections, by enabling them to think about the relation between the premises and conclusions. The crime scenarios were constructed by the experimenter, while the domain general scenarios were obtained from the editorials from a National newspaper (Evening Herald). All of the scenarios were between 65 and 95 words long and responses to the questions asked about the strength and convincingness of the arguments were measured on a 5 point scale.

Design

All of the participants (n=120) were given the 9 scenarios, and domain specificity was a within participants variable. The between participant variable was the nature of the arguments and there were 4 groups of young offenders and 4 groups of non-offenders: a quarter of the participants were asked to rate the strength of the argument, a quarter were asked to rate the convincingness of the argument, a quarter were asked to rate the strength

and believability of the premises and conclusions of the arguments and the remaining quarter were asked to rate the convincingness and believability of the premises and conclusions of the arguments.

Procedure

In keeping with the approach of Shaw (1996), participants were told that arguments consisted of matters of opinion and matters of fact that support the main point of the argument. They were then presented with a series of 9 arguments and were instructed to rate them on a 5 point scale (for strength, convincingness, strength and believability or convincingness and believability). They were then asked to think of objections to the argument presented. They were asked to generate as many objections as they could think of and to make their objections as comprehensive as possible. Objections were classified according to the criteria set out by Shaw (1996) outlined in the introduction into assertion, argument or alternative based objections. A sample of 15% was rated by an independent judge, which yielded high consistency on classification of objections.

Results and Discussion

Data in this experiment were analysed using two methods. Firstly, differences in the amount of objections produced between groups was tested using t-tests for an unrelated design. Secondly, the Chi-square distribution was used to test for any differences between groups in the frequency of responses in different categories. In total, participants generated 462 objections across 9 scenarios and there was a significant difference between groups (t=7.576, df = 118, p<0.007), with young offenders producing more objections than the non-offending sample. Overall, subjects generated more assertion-based objections than any other type of objections for domain specific, high frequency scenarios as can be seen in Table 4.11 (64%); domain specific, low frequency (80%) as can be seen in Table 4.12 and domain general (58%) as can be seen in Table 4.13.

Objections

Within the domain specific high frequency scenarios (Table 4.11) pertaining to car theft, larceny and breaching the peace, an overall significant difference between groups was observed ($chi^2 = 45.92$, df = 2, p<0.001). Young offenders more frequently generated

both assertion- based objections (77%) in comparison to non-offenders (52%) and argument-based objections (23% versus 0). Non-offenders, on the other hand found it more difficult to generate any objections (48%) in comparison to young offenders who were able to generate objections to all scenarios in this category.

Table 4.11: Frequency and type of objections generated (domain specific high frequency)

	Young offenders	Non-offenders	Total
No objections given	0	29 (48%)	29 (24%)
Assertion-based objections	46 (77%)	31 (52%)	77 (64%)
Argument-based objections	14 (23%)	0	14 (12%)
Total	60 (100%)	60 (100%)	120 (100%)

This overall effect was also observed in the domain specific low frequency scenarios, (Table 4.12) with non-offenders unable to generate objections 33% of the time. In addition, young offenders produced assertion-based arguments more often (93%) than the non-offenders (67%) and this difference was reliable, $chi^2 = 26.67$, df = 2, p < 0.001.

Table 4.12: Frequency and type of objections generated (domain specific low frequency)

	Young offenders	Non-offenders	Total
No objections given	0	20 (33%)	20 (17%)
Assertion-based objections	56 (93%)	40 (67%)	96 (80%)
Argument-based objections	4 (7%)	0	4 (3%)
Total	60 (100%)	60 (100%)	120 (100%)

The non-offenders performed significantly better than the young offenders overall in the domain general scenarios (genetic engineering, beach littering, cemetery staffing) (chi² = 6.50, df = 2, p<0.03). As can be seen in Table 4.13, 51% of young offenders could generate no objections compared to 30% of non-offenders. Furthermore, non-offenders were better at generating assertion-based objections (68%) than were young offenders (48%). Few of the subjects offered any objections that could be classified as argument based for this scenario, while none of the subjects offered any objections that could be classified as alternative-based for any scenario.

Table 4.13: Frequency and type of objections generated (domain general)

offastes) were given by parti.	Young offenders	Non-offenders	Total
No objections given	31(52%)	18 (30%)	49 (41%)
Assertion-based objections	29 (48%)	41 (68%)	70 (58%)
Argument-based objections	0	1(2%)	1(1%)
Total	60 (100%)	60 (100%)	120 (100%)

Nature of Arguments

Analysis of the effects of the four rating types four rating types (strength, convincingness, strength and believability, convincingness and believability) on the total number of objections collapsed over both groups revealed no reliable differences between strength versus convincingness, Chi² = 1.33, df = 6, p<0.96 ns, strength versus strength and believability, (Chi²=6.94, df = 6, p<0.332 ns), and strength and believability versus convincingness, (Chi²=4.88, df =6, p<0.351 ns), with no rating effects being found on the number of objections made. Neither young offenders nor non-offenders produced significantly different numbers of objections as a function of this between-group factor as can be seen in Table 4.14. However, there was a reliable effect for strength and believability versus convincingness and believability, Chi²= 42.56, df =6, p<0.038, with participants generating more objections when they rated strength and believability. Furthermore, participants also generated more objections when they rated strength and believability than when they rated convincingness alone, Chi²= 34.85, df =6, p<0.048.

Subsequent comparisons on the effect of the between-group factor (strength, convincingness, strength and believability and convincingness and believability) when broken down by the type of scenario (high frequency, low frequency, domain general) rated by young offenders and non-offenders (see Table 4.14) showed no significant effects on the number of objections generated in the high frequency scenarios, chi² = 7.56, df = 6, p<0.27 ns. Although, participants who rated the strength and believability gave the highest percentage of objections (13% of the responses of young offenders and 10% of the responses of the non-offenders) in the high frequency scenarios. The same analysis for the low frequency scenarios again revealed no significant effect of type of rating made ($chi^2 = 6.60$, df = 6, p<0.35 ns) however the highest percentage of objections (12% of the responses of young offenders and 11% of the responses of the nonoffenders) were given by participants who rated the strength and believability. The domain general scenarios revealed no significant effect ($chi^2 = 4.95$, df = 6, p<0.55). In the case of the Domain General scenarios, young offenders generated the same number of objections across all 4 ratings (5%) while the non-offenders generated the greatest number of objections (11%) for strength of the argument alone. Overall, participants who rated the strength and believability across the three types of scenarios generated more objections (30%) and this was the same for both the young offenders and non-offenders. It must be noted that when rating strength and believability, the participants produced the greatest number of objections. While this difference between conditions were not statistically significant, this finding suggests that this may be the most effective method of enabling them to generate objections.

Table 4.14: Frequency of number of objections as a function of 4 types of argument ratings

Argument Ratings Young offenders	Domain specific (high frequency) Number	Domain specific (low frequency) Of	Domain general Objections	Total
Strength of argument	14 (9%)	15 (10%)	7 (5%)	36 (24%)
Convincingness of argument	12 (8%)	13 (9%)	8 (5%)	33 (22%)
Strength & believability	19 (13%)	18 (12%)	7 (5%)	44 (30%)
Convince* & believability	15 (10%)	14 (9%)	7 (5%)	36 (24%)
Total	60 (40%)	60 (40%)	29 (20%)	149 (100%)
Non-offenders	Number	Of	Objections	
Strength of argument	9 (8%)	9 (8%)	13 (11%)	31 (27%)
Convincingness of argument	6 (5%)	7 (6%)	10 (9%)	23 (20%)
Strength & believability	11 (10%)	12 (11%)	11 (10%)	34 (30%)
Convince* & believability	5 (4%)	12 (11%)	8 (7%)	25 (23%)
Total	31 (27%)	40 (36%)	42 (37%)	113 (100%)

^{*} Convincingness

Overall, the results of experiment 4 show that participants generated more assertion based objections than argument based objections, while no alternative based objections were generated by either the young offenders or the non-offenders. Young offenders were better at generating assertion based and argument based objections in comparison to non-offenders and this effect was reliable for domain specific high frequency scenarios and domain specific low frequency scenarios. Conversely, non-offenders were significantly better at generating objections to the domain general scenarios. In respect of the rating task, although not statistically reliable, participants generated more objections when they rated the strength and believability of an argument than when they made any other rating and this was consistent in domain specific high frequency and domain specific low frequency scenarios. Rating strength alone produced more objections for the domain general scenarios, but only for non-offenders.

The aim of this experiment was to determine whether domain specificity would facilitate a higher frequency of objections by young offenders and this was found to be the case. The young offenders were significantly better than non-offenders at generating objections to those scenarios which had a crime based content. By contrast, the non-offenders were better at producing objections to those scenarios which contained more general material. One explanation for this effect could be in terms of offenders general knowledge of crime, which could account for their superior performance not only in relation to the high frequency scenarios but also the low frequency ones. The non-offenders, while coming from similar socio-economic backgrounds to the young offenders had no involvement in criminal activity, therefore their knowledge of crime was based only on vicarious experience.

These findings are in accord with those of Shaw (1996). The participants found it easier to object to the truth of an assertion in an argument (assertion based arguments) than to the link between premises and conclusions (argument-based objections). In particular, the introduction of domain specificity (high and low) versus domain generality also provided support for a mental model theory that views participants as formulating models based in part on information in long term memory. It was easier for participants to provide assertion-based objections because they simply constructed an initial model and then determined the truth of the information. By contrast, argument-based objections require a search for alternatives while holding the initial models in working memory. The task of keeping multiple models in mind is difficult, as Johnson-Laird and Byrne have shown, because of the limitations of working memory. Furthermore, as Shaw has demonstrated, participants tend to lose track of which assertions are premises and which are conclusions, perhaps because all information is intuitively represented as a single model and not as a series of separate models simultaneously (Shaw 1996).

The domain specificity variable provided some illuminating findings. The young offenders were significantly more likely to make more assertion-based objections in comparison to the non-offenders in both the high frequency and low frequency scenarios that concerned crime related issues. By contrast, the non-offenders were able to draw more assertion-based objections to domain general information, which may be a consequence of their education level. Of those participants who generated argument-based objections (19 in total), fourteen of them were young offenders given the high frequency scenario. It is most likely due to their knowledge that these participants were able to say there was no or at best a weak link between the premises and conclusions.

Nonetheless, argument-based objections were the exception rather than the norm and it is likely that the high numbers of assertion-based objections were the result of concerns with salient weaknesses of the scenarios which were easily discerned by young offenders in the crime scenarios and not in the domain general scenarios.

When participants were required to rate the arguments contained in the high frequency and low frequency scenarios, no statistically significant differences were found. However, by looking at Table 4.14 it was found that those participants who rated the strength and believability of premises and conclusions generated more objections than those who rated strength alone, convincingness alone or convincingness and believability, and this was consistent for both young offenders and non-offenders. Non-offenders generated more objections when they rated the strength of an argument alone in the domain general scenarios. It would appear that participants who rated the strength and believability were facilitated in identifying the link between the premises and conclusions. Shaw (1996) also found an effect for strength and believability, with her participants generating a higher mean number of argument-based objections in this condition than any other, but her finding was not replicated here perhaps because of the overall paucity of argument based objections generated. The rating of strength and believability affected the number of objections but not the kind in the present experiment. Therefore, participants who rated premises and conclusions were not more able to represent these components separately and thus formulate argument-based objections as Shaw (1996) found.

In conclusion, the results of the present experiment indicate that assertion-based objections are easier to formulate. Moreover, young offenders are better than non-offenders at formulating assertion-based objections to information that they possess some specialised knowledge of. However their performance deteriorates on domain general information. The ensuing chapter provides a detailed account of crime specific knowledge in relation to burglary, which builds on the findings of the present experiment by looking at how burglars use domain specific knowledge. Good reasoning is equated with good searching strategies and the lack of argument-based objections was apparent which again can be accounted for by mental model theory which demonstrates that the process through which these arguments are generated are both difficult and time consuming (Johnson-Laird & Byrne, 1992). Nonetheless, young offenders were better than non-offenders at generating objections to those scenarios which had some relevance to them thus, the experimental hypothesis was supported.

Experiment 5: Reason Based Choice

When young offenders decide to commit a criminal offence does any deliberation take place? How are targets or victims chosen and what sort of information influences young offenders' decision to select one target or victim over another? This experiment is concerned with examining the choices that young offenders make in response to hypothetical crime scenarios. Furthermore, how do they weigh up the pros and cons associated with committing an offence against a particular target or victim? Studies of reason based choice are concerned with the role of reasons and arguments in making decisions. This analysis is associated with uncertainty, conflict and context effects. These effects typically enter into any deliberation which requires a choice to be made. This analysis has traditionally been found in the explanations of complex, real-world decisions such as political decisions (Shafir, Simonson, & Tversky, 1993), and contrasts with a formal modelling approach (or value based approach) such as that of Von Neumann & Morgernstern's (1944) expected utility theory which was derived from economics. This theory proposes that decisions are made by calculating the utility and probability of ranges of options, and lays down rules for good decision making (Manktelow, 1999). Another related approach is the prospect theory of Kahneman & Tversky (1979), which set out to explain why people tend to avoid risk when gains are in prospect, and seek risks when losses are in prospect (Manktelow, 1999). The formal modeling approach is most commonly used in economics and decision research and assigns a numerical value to each alternative where choice is seen as the maximisation of value. By contrast, reason based analyses have the merit of being more applicable to real world decisions (such as presidential decisions taken during the Vietnam war) and can capture significant aspects of people's deliberations (Berman, 1982; Betts & Gelb, 1979). Shafir et al. (1993) argue that examining reason based choice is useful because it reflects more closely the way individuals normally think and talk about choices. For example, if faced with a choice between two job offers people attempt to come up with reasons for and against each option as opposed to estimating their overall probabilistic values. Furthermore, reason based choice serves as a good means to understand the discord that may often distinguish decision making in everyday contexts as well as incorporating pertinent components such as relative advantages or anticipated regret which formal modelling theory is typically unable to account for. Young offenders are faced with decisions in the same way that

other people are, but what factors influence the choices they make in relation to the commission of criminal acts?

One analysis of how offenders make decisions is based on the analysis of choosing under uncertainty described by Shafir (1993). This approach posits that when faced with the problem of choosing between two options, or having to reject one of two options (for example between two job offers), the pros of an option will feature more prominently when choosing, while the opposite pattern will be observed for rejecting (i.e. cons will feature more prominently). If choosing and rejecting are complementary then Pc + Pr should always equal 100% (Pc and Pr denotes the percentage of participants who choose and who reject a particular option). However, Shafir provided participants with a choice between two options; an enriched option which had more positive and more negative features and an impoverished option which had fewer positive and fewer negative features. He predicted that Pc + Pr would be greater than 100% for the enriched option and less than 100% for the impoverished option. This prediction was based on the hypothesis that when people base their decisions on reasons for and against the choices under consideration, they are most likely to focus on reasons for choosing an option when deciding which to choose, and to focus on reasons for rejecting an option when deciding to reject. Shafir tested this prediction and observed this very pattern. In his study, when participants were asked who they would award custody of children/deny custody of children to in a divorce case, participants were significantly more likely to both award and deny custody to the enriched parent (about whom they were given more positive and more negative information) who had compelling reasons to be awarded custody (good income, close relationship with the child) and to be denied custody (health problems, long absences due to travel). The opposite pattern was observed for the impoverished parent (about whom they were given less positive and less negative information) who had no striking positive or negative features. This pattern has been replicated in hypothetical choices in relation to a variety of situations such as monetary gambles, college courses and holiday choices (Shafir (1993).

This approach has not, to date, been used to gain an insight into whether a homogeneous group such as young offenders would display the tendencies in choosing and rejecting that were observed by Shafir (1993) when making decisions about crime. It would seem reasonable that the non-offenders would display patterns of choosing and rejecting in line with Shafir's prediction since the scenarios contain information on criminal acts which are hypothetical to them. In contrast, the scenarios contain

Consequently, the aim of the present experiment was to determine whether young offenders and non-offenders, when presented with crime related scenarios would choose and reject between two options in exactly the same way that participants in previous research had. Given that the young offenders had personal knowledge of the content of the scenarios, while the non-offenders did not, it was predicted that there would be differences in the patterns of choosing and rejecting between the two groups.

Method

Materials and Procedure

A set of 3 scenarios was constructed based on the scenario construction of Shafir et al (1993). Each option contained five corresponding points of information. The impoverished option provided information that was neither particularly positive nor negative while the enriched option contained information that was both highly positive and highly negative. The scenarios were framed suppositionally to allow non-offenders to participate in the task. The scenarios concerned the hypothetical commission of crimes (burglary, car theft and a handbag snatch) and participants were given information on two possible options (impoverished versus enriched) to choose from. Below is an example of one of the scenarios (burglary) in which option A is the impoverished option and option B is the enriched option. The task for half of the participants was to indicate the house they would choose to burgle, while for the remaining half the task was to indicate which house they would reject (see Appendix 8 for all scenarios):

"Imagine that you are thinking about going out to commit a burglary in the next few days. You go to the area that you will commit the burglary in and start looking for a house. You see two houses that you think you could get into easily enough, but you have to choose one. Which house would you choose/ which house would you reject given the following pieces of information?"

Option A:

- some amount of information on house and occupants
- Some cover around house
- Unknown amount of money to gain

- Alarm might go off
- Guards may be called to the scene

Option B:

- Very good information on house And occupants
- · Very good cover around house
- Large amount of money to gain
- Good chance of triggering alarm
- Good chance of guards being called to the scene

All of the participants were randomly allocated to either the choose or reject categories (which for the burglary scenario was *carry through abandon*, for the car theft; *steal car/don't steal car* and for the handbag snatch was; *take the bag/don't take the bag*). All participants received the 3 scenarios, which were presented in a random order. The experimenter read through each scenario with each participant and recorded their responses on the booklet. Therefore, half of the young offenders and half of the non-offenders were asked which option they would choose, while the remaining half of the young offenders and non-offenders were asked which option they would reject.

A secondary task to this experiment confined to the young offenders only (n=60) was concerned with offenders beliefs about being apprehended for the crime they were currently in detention for. Through analysing offenders' subjective probabilities of being detected for a crime over time, it should be possible to gain some insight into how the pros and cons for the commission of any given crime are viewed. The aims of this secondary task were twofold. Firstly, two questions were posed to determine how offender estimates of expected sentence were similar to the actual sentences they received: What sentence did you think you would get when you were caught for the present offence? What sentence did you actually get? Secondly, this task was concerned with measuring young offenders beliefs about being caught for any typical offence they may have carried out, their beliefs about getting caught over a period of time, including the future and their corresponding level of worry associated with being apprehended. The questions were framed in a time sequence that is, What did you think your chance of getting caught was when you last committed a crime (one month, six months, twelve months, eventually before you were caught?) Imagine that you (someone else) are released from prison and they go and commit a crime. What do you think your (their)

chance of being caught for it is? All participants responded on a 5 point scale. (see Appendix 9).

Results and discussion

Reason Based Choice

The data from the reason based choice study showed significant differences between groups on two of the three scenarios. The burglary scenario (see Table 4.15) showed that overall, young offenders were significantly more likely to say they would carry out the burglary on the enriched option (that contained more positive and negative features) (32%) in comparison to the non-offenders (28%) and further, that they would not carry out the burglary on the enriched option more often (32%) than the non-offenders (25%), (chi² =6.43, df=2, p<0.02). Furthermore, 5 or 8% of the young offenders said they would commit burglaries on both options that is, when they were asked to choose or reject a house to burgle (depending on which condition they were in) they said they would burgle both houses. Twenty two percent of the non-offenders reported that they would both carry out the burglary on the impoverished option (which had no particularly evident positive or negative features) and 25% said they would not carry out the burglary on the impoverished option, being greater than the young offenders (10% and 18%) respectively and this difference was reliable, chi² = 8.77, df = 2, p<0.06. The percentages of Pc + Pr in relation to the enriched option amounted to 117% (28 + 32 chose to commit the burglary, +25 + 32 chose not to commit the burglary = 117%) while the Pc + Pr in relation to the impoverished option (22 + 10 chose to commit the burglary + 25 + 18 chose not commit the burglary) amounted to 75%, thereby supporting the prediction of Shafir (1993), and replicating his findings.

Table 4.15: Observed scores for reason based choice for impoverished and enriched burglary scenarios

	Young offenders	Non-offenders	Total
Impoverished option			
Commit burglary	6	13	19
Don't commit burglary	11	15	26
Enriched option			
Commit burglary	19	17	36
Don't commit burglary	19	15	34
Both*	5	0	5
Total	60	60	120

^{*}Indicates that participants said they would burgle both houses

A significant overall effect was also obtained between groups on the car theft scenario (chi² =15.57, df=2, p<0.001) and as can be seen in Table 4.16, more young offenders (48%) said that they would steal the enriched option (the car that had more positive and negative features) in comparison to the non-offenders (30%). Both groups agreed they would never refrain from stealing the car in the enriched option (i.e. all of the participants agreed they would not reject the enriched option). They agreed equally often (50%) that they would not steal the impoverished option (which had no striking positive or negative features). Furthermore, 20% of non-offenders said they would steal the impoverished car, while only1 young offender said he would take the car in both the enriched and impoverished scenarios. No replication of results was obtained for the prediction of Shafir (1993) and in fact the results appear to follow the opposite pattern since Pc + Pr for the enriched option amounted to 78%, while for the impoverished option Pc +Pr = 120%.

Table 4.16: Observed scores for reason based choice for car theft scenario

(impoverished and enriched options)

	Young offenders	Non-offenders	Total
Impoverished option			
Take the car	0	12	12
Don't take the car	30	30	60
Enriched option			
Take the car	29	18	47
Don't take the car	0	0	0
Both*	1	0	1
Total	60	60	120

^{*}Indicates participant who said he would steal both cars

The handbag snatch scenario once again did not replicate the findings previously found by Shafir (1993). However there was no method to calculate Pc + Pr since both young offenders and non-offenders agreed that they would take the bag from the impoverished option (the woman who had fewer positive and fewer negative features ascribed to her) and would not take the bag from the enriched option (the woman who had more positive and more negative features ascribed to her), as Table 4.17 shows.

Table 4.17: Observed scores on impoverished and enriched handbag snatch scenario

	Young offenders	Non-offenders	Total
Take impoverished bag	30	30	60
Do not take enriched	30	30	60
Total	60	60	120

Overall two of the three scenarios failed to replicate the earlier findings in the research on reasoned based choice. There was a significant difference observed between young offenders and non-offenders on their patterns of choosing and rejecting in the burglary scenario. Young offenders were more likely to both choose and reject the enriched option and non-offenders were about equally likely to choose and reject both the impoverished option and the enriched option. The findings on the car theft scenario failed to support the findings of Shafir, as did the handbag snatch scenario. The young offenders were significantly more likely to assert that they would steal the car in the enriched option while there was complete agreement that they would not steal the car in the impoverished option. In comparison, fewer non-offenders said they would steal the car in the enriched option while 20% of them said they would steal the car in the impoverished option. The

handbag snatch scenario revealed a pattern of choosing and rejecting that was complementary, (i.e. all of those participants asked to choose between the two options chose the impoverished option, while those asked two reject one of two options rejected the enriched option).

Beliefs about getting caught

Analysis of the differences between young offenders' expected sentence and actual sentence received can be seen in Table 4.18. The majority (75%) overestimated the sentence they actually received, while 20% underestimated and a small minority (5%) gauged their sentence correctly. An overall difference between their estimations was found to be significant, chi²=72.6, df=3, p<0.001. In addition, the young offenders were asked what their chances were of being caught after they last committed a crime to which 48 (80%) responded that 'they didn't think about it'. Six or 10% said they thought there was 'some chance' of being caught while the same number said there was 'no chance' of being caught (see Table 4.19).

Table 4.18: Offender estimations of sentence they thought they would receive.

UNDERESTIMATED	OVERESTIMATED	CORRECT	TOTAL
12 (20%)	45 (75%)	3 (5%)	60 (100%)

Table 4.19: Offender perceptions about being apprehended when they last committed a crime

Didn't think about getting caught	Some chance of getting caught	No chance of getting caught	
48(80%)	6(10%)	6(10%)	

Furthermore, offenders were also asked what they thought were their chances of being caught when they last committed a crime over 4 specified time periods (I month, 6 months, 12 months and Eventually) was and the results are in Table 4.20. From this, it can be seen that over a period of time, young offenders' perceptions do differ. For

example, they report that they 'don't think about being caught over 1, 6, or 12 months but think they have a 'good chance' of being apprehended eventually. Their level of worry with being apprehended over these time periods was measured and it was found that their level of worry and anxiety associated with being caught eventually was reliable, chi² =18.1, df=4 p<0.001.

Table 4.20: Offenders perceptions of getting apprehended over time

	Didn't think about it	Good chance	No chance	Always caught at scene
One month	65%	7%	13%	15%
Six months	42%	7%	36%	15%
Twelve months	68%	13%	3%	15%
Caught eventually	5%	85%	10%	0

When participants were asked what were their and somebody else's chances of being caught for a crime after they were released from prison, 53 or 88% said there was a good chance they would both be caught, chi² = 6.60, df= 4 p<0.1573 ns. The majority of young offenders (82%) said they were not worried about getting caught and sentenced during their last period of offending, while 10% reported being very worried and 8% said they were somewhat worried.

The results of experiment 5 show that overall, young offenders make different choices to non-offenders when faced with competing options about criminal offences from which they must choose or reject, and furthermore, they do so in a way that is not consistent with previous findings in the area. When young offenders are asked to speculate on the sentence they thought they would get for the offence they were currently in detention for, it was found that the vast majority of them overestimated their sentences. A related aspect of this concerns their expectations of being apprehended following the commission of their last offence, and the majority reported that they did not think about this factor, although they also thought they would be apprehended eventually, and were worried about this prospect.

The need to choose a particular option is something individuals are faced with on a daily basis, and as such, studies that concern such choosing should provide some account of the strategies involved in selecting one option over another. The results of the present experiment only provide limited support for the findings of Shafir, Simonson & Tversky (1993) who suggested that when faced with an enriched option or an impoverished option, people will tend to both choose and deny the enriched option because it possesses more negative and positive features. The results were affected by the content of the scenarios in this experiment. The burglary scenario showed support for their hypothesis with more participants saying they would both choose the house with more positive features to burgle but participants also said they would reject that house because it also contained more negative features. By contrast, the reverse was true for the car theft scenario, with more participants reporting that they would not steal the car which had neither positive nor negative striking features, but steal the car which had both positive and negative features. The handbag snatch scenario showed that all participants said they would take the handbag of the woman who was presented in the scenario as impoverished, that is the woman who did not appear to have any particular striking features while they reported that they would not take the handbag of the woman who presented with both positive and negative features (i.e. the enriched option). But why is this so?

The scenarios were constructed to resemble the equivalents used in Shafir et al's experiment, and as such contained the appropriate portions of positive, negative and neutral points. A likely explanation is that the scenarios used in this experiment had real world relevance to the young offenders (as most of them would have engaged in some, if not all of the crimes outlined in the scenarios) and to the non-offenders, to the extent that they inhabit communities in which crime may be visible, or they may know somebody who has engaged in crimes of these types. Therefore, the content may have overridden any reasoned choice strategy, if one exists. In relation to the handbag snatch there are definite moral issues at stake here. For example, the enriched option concerned an elderly woman in contrast to a middle-aged woman in the impoverished option. However, although being elderly is clearly an advantage in terms of an offender choosing a victim when compared to a stronger, younger woman, most offenders (and all offenders in this study) would refrain from mugging an elderly lady purely because of social mores. Amongst young offenders, it is simply unacceptable to admit to mugging an elderly

victim. What seems clear however, is that young offenders are drawing upon some knowledge of these crimes thereby relating what they would and would not do in these instances.

The results of the car theft scenario reflect the fact that when car thieves are considering between two options they will choose a car which has highly attractive properties to serve their purpose. But when rejecting, they will reject the 'weaker' option. Thus, it makes sense for them to select the most attractive option but to reject the least attractive one. Including more compelling reasons to not steal the car in the enriched option does not serve the purpose it is supposed to, as participants do not draw the conclusion that these negative items make it less attractive than the impoverished option.

The burglary scenario supported the hypothesis of Shafir et al and found that participants did choose and reject the enriched option more often over the impoverished one. The explanation is more straightforward than the others- there were simply more compelling reasons to risk burgling the house and also more compelling reasons for not burgling it. It would appear that some weighing up of pros and consentered into the equation in relation to the content of this scenario in comparison to the other two. Overall, it can be seen that highly salient and extraneous information is also incorporated into choosing strategies and current accounts of reason based choice may not have gone far enough to explore other important factors which impinge on decision making processes. Therefore, a very tentative conclusion may be drawn is that the analysis of reasoned based choice may not go far enough in explaining the choices that young offenders make with regard to criminal activity. Instead, young offenders appear to selectively attend to those salient features that are both beneficial to them and which are in keeping with the mores of their peers.

General Discussion

Overall, the results of these experiments represent a highly novel contribution to the research on young offenders. Looking at how young offenders reason about topics that contain information on crime (which they presumably know about) and comparing that reasoning to reasoning on more general topics is a useful way of taking the first step towards gauging what it is young offenders know and understand about criminal behaviour. Furthermore, what the results of the present study indicate is the potential for the development of programmes that foster 'good' thinking which would encourage

young offenders to see arguments that run counter to their own and which would help lessen the 'my side' bias that they displayed.

The results of experiment 3 demonstrated that the young offenders and nonoffenders (who were from areas characterised by deprivation and disadvantage) identified drugs and the need for excitement (the buzz) as the major causes of committing crime. The point of origin for these theories was derived from personal experience for the young offenders and vicarious experience for the young offenders. A point of interest worth noting here is that none of the participants reported deriving their knowledge from the educational system, which may imply that such discussions and debates do not occur either within the formal educational system for the non-offenders, nor the school system within the detention centre for the young offenders. Kuhn (1992) reported an effect of education level in her study, but only up to a certain point, in early adolescence. Similarly, her participants seemed to be influenced by broad and general experiences which were not derived solely from the educational system. The young offenders in the present study demonstrated a consistency between their causal theories and instrumental reasoning, assessed by asking, "what would help offenders refrain from offending"? By linking their solutions to the causes of crime they identified, demonstrates that they were thinking in a structured way. The non-offenders identified improved community resources as a way to combat offenders committing crimes, and the young offenders also agreed with this view.

The confidence displayed by the young offenders in their evidence being immutable was in contrast with that reported by the non-offenders. The young offenders, while offering someone else's viewpoint, categorically refused to accept that this person would be able to prove them wrong, essentially leaving their own theories uncontestable. Furthermore, they were able to offer rebuttals to the opposite viewpoint, which Kuhn (1991) sees as critical to the completion of an argument. In contrast, the non-offenders were unable to offer any rebuttals, instead reporting that they would be unable to prove someone else wrong. Overall, this experiment found that young offenders have the cognitive abilities to reason about criminal events and thus have the potential for adopting thinking strategies that would benefit them in relation to desisting from crime. The potential for such rehabilitation efforts will be discussed in the final chapter.

Experiment 4 reported that young offenders were significantly better than non-offenders at generating objections to two types of crime scenarios (high frequency and low frequency) but not to domain general scenarios. Furthermore, all of the participants

found it easier to generate assertion based objections (by objecting to the truth of the premises and conclusions) which in terms of the mental model theory, may result from not having to consider alternative possibilities or to consider the relationship between the premises and conclusions. By generating more objections to crime scenarios, the young offenders displayed their cognitive ability to reason informally just as they did in experiment 3, while one explanation for their inferior performance on the domain general scenarios could be their exclusion from the formal educational system. The lack of argument based objections by participants to all scenarios would indicate that they had trouble distinguishing between the conclusions and premises, which may be an activity that places heavy demands on working memory. This is consistent with the findings of Shaw (1996) who reported that participants did not naturally distinguish between claims and datum (i.e. premises and conclusions). From these results, a tentative conclusion is offered that young offenders, through their direct experience with crime, were able to produce more objections to crime related topics, while the non-offenders were able to produce more objections to the general topics scenarios as a function of their general knowledge, most likely obtained through the academic system.

Examining reasoned based choice with young offenders is a novel way to look for the salient features of potential targets and victims while also accounting for those features that may deter a young offender from committing a particular offence. The rational choice perspective (see chapter 1) implies a thinking process which, while not Benthamite, nonetheless involves some degree of means-end deliberation to satisfy needs and desires. Experiment 5 was concerned with the strategic processes involved in choosing between two competing options: an enriched option that has more negative and more positive features and an impoverished that has fewer positive and fewer negative features. Differences were observed between the young offenders and non-offenders in their patterns of choosing and rejecting for two of the scenarios (a burglary and a car theft). The young offenders said they would choose the enriched option for both scenarios more often than the non-offenders, while they also reported that they would reject the enriched option in the burglary scenario more often than the non-offenders. All participants displayed the same pattern of choosing and rejecting in the handbag snatch scenario by choosing the impoverished scenario and rejecting the enriched one. The most salient feature in this scenario emerged as the age of the victim (the enriched option referred to an elderly woman, while the impoverished option referred to a middle-aged woman). Therefore, it would appear that young offenders have the ability to attend to

features that they consider attractive or unattractive and which may impinge on their decision making processes. The secondary task in this experiment reported that the young offenders overestimated the sentences they received for their current offence and furthermore they had a tendency to avoid thinking about being apprehended for a crime for up to twelve months before they were caught. Tunnell (1992) found that the majority of his participants reported rarely thinking about being apprehended or incarcerated and refused to think beyond that. This experiment also asked the young offenders about being caught eventually for a crime, and the majority of them conceded there was a good chance. Furthermore, the young offenders reported that they were not worried about being caught during their last period of offending, although they did report being worried about being apprehended eventually. It may be possible to conclude that young offenders do not consider the risks or worry of being apprehended as they may only serve to distract them from committing further offences.

To neglect fundamental processes such as reasoning in young offenders is in some way to deny that these young people have the ability to think about the acts in which they engage or that these thoughts have an impact on the consequent decisions that they make about the crimes they commit. The next chapter is concerned with investigating the role crime specific knowledge has in relation to young offenders and extends the findings of this chapter by addressing decision making processes, memory performance and expertise.

CHAPTER FIVE:

AN EXAMINATION OF CRIME SPECIFIC KNOWLEDGE IN YOUNG BURGLARS

Introduction

The previous chapter reported the results of experiments that show how young offenders differ from non-offenders in thinking about crime specific issues. It is the aim of this chapter to add to the findings of the previous chapters by looking at youthful offending behaviour in an applied context. Therefore, this chapter is concerned specifically with examining crime-specific knowledge in young offenders, and focuses on the act of burglary. Young offenders predominantly carry out property offences (McLoughlin, Maunsell & O'Connell, in preparation; Farrington, 1995; O'Sullivan, 1998; Bates, 1996) and of those property offences, burglary constitutes a significant proportion (Garda National Juvenile Office, 1997). An attempt is made to demonstrate that exposure to a variety of risk factors alone cannot explain criminal outcomes, without some consideration of the contribution that offenders themselves bring to bear on specific situations. Increasing information of the steps involved in specific crimes could prove to be a rational and fruitful approach towards a meaningful understanding of offending behaviour per se, and yield productive results for situational crime prevention measures. Moreover, explanations of the genesis of people's involvement in crime is no longer adequate in offering explanations of offending behaviour without consideration of how information about the world is selected, attended to, and processed.

Why do offenders commit crimes, and what factors are likely to determine their future conduct? The rational choice perspective and related concepts which comprise situational theories, as outlined in chapter 1, will be explored more fully in this chapter. Crime-specific studies have focused on a variety of crime, including burglary (Bennett & Wright, 1984; Cromwell, Olson, & Avary, 1991; Wright & Decker, 1994; Wright, Logie & Decker 1995), shoplifting (Walsh 1980), vandalism (Sturman 1978; Ley & Cybrinsky, 1974), and mugging (Lejeune, 1977). The most popular theory of offending behaviour is a rational choice theory (outlined in chapter 1) which focuses on specific crimes in specific situations, rather than on, for example, personal or social characteristics of the offenders. This theory suggests that offences occur in response to specific opportunities when expected benefits (e.g., monetary gain) outweigh expected costs (e.g. incarceration). Criminal acts are distinguished from criminal involvement: Criminal acts are specific

events which may involve a variety of motives and methods; criminal involvement is the result of decisions to begin and continue or desist from engaging in criminal acts (Clarke & Cornish, 1985). Most crime-specific studies share the assumption that offenders seek to benefit themselves by decisions which are rational, at least to some degree. In the Cambridge study of Delinquent Development (see chapter 2), the most common reasons given for property offending were rational ones (Farrington, 1993c)

Is the decision to carry out a crime a rational one? One possibility is that offenders make rational, free choices among alternative courses of action on the basis of the potential risks and gains, seeking to maximise gains and minimise risks. This rational choice perspective has its origins in the classical theories of Beccaria and Bentham in the late eighteenth century, which assert that criminals are free, rational and hedonistic, and choose among a range of alternative courses of action dependent on the risks and gains, seeking to maximise the latter, while minimising the former. According to Barlow (1990), because offenders exercise free will in choosing among alternatives, they are responsible for their actions. The rational choice perspective has informed a range of crime-specific studies in recent years (e.g., Wright & Logie, 1988; 1995; Bennett, 1984; Nee & Taylor, 1988; Reppeto, 1974; Scarr. 1973; Feeney, 1986).

A central issue of contention, however, has been the degree of rationality exercised by offenders in planning and carrying out a criminal act, that is, how free and deliberate their choices are and how well they understand the implications of their choices (Clarke & Cornish, 1986: Cook, 1980). On the one hand, criminal decision making may be entirely rational, sequential and hierarchical in nature, starting with the decision to offend and resulting in target selection (e.g., Repetto, 1974; Walsh, 1980). For example, muggers may choose their victims based only on whether a reasonable gain can be achieved at a minimum risk, for example, a woman walking alone on an empty road (Lejeune, 1977). On the other hand, as was shown in the last chapter, an alternative explanation is that offenders are more likely to attend to other salient features as well, which may impact on their choices between alternatives (e.g. if it is an elderly woman walking alone on an empty road, the criminal act is less likely to occur over a more) 'suitable' alternative. Likewise, when burglars have decided to commit a burglary in a particular location, they base the selection of a target house on factors such as whether it is empty or occupied, and whether there is a risk of being detected when entering the house (Repetto, 1974). Detection of 'good' houses to burglars may be developed through experience (Brantingham & Brantingham, 1978). Property crime appears to fit well with

a rational choice perspective. Burglary is predominantly an instrumental crime, primarily committed to fulfil economic needs (Cromwell, Olsen, & Avary, 1991). Economic models of criminal decision making emphasise the importance of rewards and costs (Ehrlich, 1979: Cook, 1980), and from this perspective, crime may be a rational economic transaction or a rational occupational choice (Furlong & Mehay, 1981).

On the other hand, criminal decision making may be limited in its rationality (e.g., Clarke & Cornish, 1985; Cornish & Clarke, 1986; Payne, 1980). There is considerable psychological debate about whether or not *anybody* is capable of rational thought, given the mistakes people sometimes make even when they try to reason clearly, (for reviews see Evans, Newstead & Byrne, 1993; Manktelow & Over, 1993). People may take mental short cuts in their thinking in a variety of different sorts of situations (e.g., Kahneman, Slovic, & Tversky, 1983), and these short cuts may lead them into error. Their rationality itself may even be bounded or limited. Even when there is agreement that people may be rational in principle but err in practice (Johnson-Laird & Byrne, 1991), there remains debate about how rationality is achieved cognitively (e.g., Johnson-Laird & Byrne, 1991; Rips, 1994; Cheng & Holyoak, 1985). Criminal decision-making may involve little hierarchical, sequential weighing up of costs and benefits, and instead it may be bounded by the human limited capacity to process information or to keep multiple alternatives in mind.

An alternative perspective to the rational choice one is that offences such as burglary arise from an exploitation of opportunity rather than any rational calculation (Rengert & Wasilchick, 1985; Scarr, 1973). Increase in burglary may be the result of factors such as the increasingly carry-able nature of electronic goods or the increasing daytime emptiness of houses owned by couples both working outside the home (Cohen & Felson, 1979). The initial use of the concept of opportunism emerged with *anomie* theorists (e.g., Merton, 1957; Cloward & Ohlin, 1961) concerned with the restricted socio-economic opportunities of certain groups and its connection to offending. According to this perspective, the alert opportunism of burglars and other offenders may enable them to see criminal opportunity where non-offenders may not (Shover, 1971), just as, say, a car mechanic may look at the engine of a car and quickly establish if it is in need of attention.

The different theories of offending rationality result in different consequences for means to reduce crime. If crime is a result of opportunism, then removing the opportunity to offend should reduce crime. However, Decker (1972) reported that

motorists in New York simply parked their cars elsewhere when parking meters were installed to control parking. Similarly, closed circuit televisions were installed on buildings to deter the growing number of drug dealers in one area of Dublin, with apparently positive results. But, there remains the possibility that crime is displaced rather than reduced. For example, the expected reduction in car theft did not occur when all new cars in the UK were fitted with steering-column locks in 1971. Instead, offenders focused on pre-1971 models (Mayhew, 1976). Moreover, the rational choice perspective, whether of the complete rationality or limited rationality variety, may erroneously lead to the depiction of offenders as being more expert than they are (Hirschi, 1986). In fact, Hirschi has argued that offenders possess little skill when they begin their career or as they progress through it (see also Shaw & Blows, 1991). In contrast, Letkemann (1973) has suggested that the increasing complexities of technological devices such as alarm systems and locks require the development of some expertise in offenders.

Therefore the aim of this chapter is to examine the knowledge about burglary held by burglars, who could be argued to be experts in their domain (e.g., Letkemann, 1973). Experts usually not only know more about their domain, but their knowledge is better organised and leads to better performance in domain-related tasks (e.g., Bedard & Chi, 1992). A comparison is made of burglars' expertise to that of novices, that is, non-offenders. Experts and novices often differ not only in the specificity of knowledge they possess but also in their ability to deploy it (e.g., Bedard & Chi, 1992). Expert skill is usually domain-specific and there is little transfer to other domains, hence a comparison was also made of burglars' expertise to that of non-burglar offenders.

Overview of the experiments

In this chapter the results of two experiments are reported. The experiments are designed to examine crime-specific knowledge in young offenders for the crime of burglary. The first experiment, Experiment 6, examines expertise through the detection and recognition of crime-specific deterrents; the second experiment, Experiment 7, examines expertise through the nature of knowledge held about burglary. The experiments share certain features in their methodology, which will be reported first before outlining each of the experiments individually.

Design and participants in the experiments

The two experiments rely on a similar between-participants design: a comparison of an experimental group, burglary offenders, with two control groups, non-burglary offenders and non-offenders. The experiments were carried out with the same set of 90 young men, aged between 16 to 21 years, who participated voluntarily, (none of the participants had taken part in earlier experiments). The burglary offenders (n = 30) and the non-burglary offenders (n = 30) were recruited from the population incarcerated in St. Patrick's Institution for Young Offenders in Dublin, Ireland, which holds up to 180 prisoners on any given day. Access was granted by permission of the Republic of Ireland Department of Justice, Equality and Law Reform and the Governor of St. Patrick's. The burglary offenders were selected by a prison officer at random from those prisoners who were currently serving sentences for burglary-related offences and the officer maintained their anonymity through the allocation of a number to each participant. Likewise, the non-burglary offenders were selected at random from those prisoners who were currently serving sentences for non-burglary related offences. However, it was difficult to locate prisoners who had never committed a burglary since the inception of their criminal life, and prison officials on the basis of their knowledge of prisoners, selected those whom they believed had less than 10 admitted burglaries in their lifetime. The third group were non-offenders (n = 30) recruited from the fifth and transition year classes in a secondary school in an area of Dublin North characterised by a high proportion of local authority housing, high levels of unemployment, and high levels of drug abuse. None of the non-offenders had been involved in any burglaryrelated offences.

An initial set of questions established the following basic demographic information about the sample (see Table 1). The burglary offenders were on average 18 years old. On average, they had been in juvenile detention centres twice before, had 9 previous total convictions for all crimes and 2.4 prior incarcerations, 4.3 previous burglary convictions, and an average of 85 burglaries in their lifetime. The non-burglars were on average 18 years old. They had, on average been in juvenile detention centres twice before, had 12 previous total convictions for all crimes and 2.5 prior incarcerations, one previous burglary conviction, and 20 burglaries in their lifetime. They were, at the time of testing in detention on foot of a wide range of offences, but none were detained for burglary, murder, manslaughter, rape, fraud, or tax evasion.

Given their history of burglary, the label "non-burglary offenders" is used here simply to distinguish them from the burglary offenders whose primary criminal activity was burglary. The non-offenders were on average 17 years old. They had never been in juvenile detention centres, had no previous convictions for any crime and no prior incarcerations, no previous burglary convictions, and no burglaries in their lifetime (Appendix 10).

Table 5.1: Criminal history of the sample of burglars, non-burglar offenders and non-offenders; standard deviations in parentheses

	Burglars	Non-burglars	Non-offenders
Average age	18.16 (1.51)	18.39 (1.39)	17.12 (.92)
Average period in juvenile detention	1.56 (.50)	1.75 (.44)	0
Average no. of burglary convictions	4.3 (5.79)	0.75 (1.69)	0
Average burglaries to date	85	19	0
Average number of prior incarcerations	2.4 (2.75)	2.5 (2.76)	0
Total convictions for all crimes	9.1 (8.30)	12 (16.65)	0

All participants were interviewed individually by the author in quiet surroundings, in the prison without the presence of a prison officer in the case of the young offenders, and in the school without the presence of a teacher in the case of the non-offenders, and each testing session lasted approximately 25 minutes. A full debriefing followed each individual's testing session, with the opportunity for comments and questions.

Experiment 6: Detection and recognition of crime-specific deterrents

When burglars are shown photographs of houses, some with deterrents such as house alarms, or beware of the dog signs, and some without such deterrents, they tend to judge that the most attractive houses to burgle are the ones with no deterrents, more so

than non-burglars (Wright et al, 1995). When they are given an unexpected recognition test, consisting of photographs of the same houses, but this time with some of the deterrents removed, or with new deterrents added, they are able to detect the difference in the photographs better than non-burglars (Wright et al, 1995). These results are consistent with the idea that burglars have some expertise in their crime, and their expert knowledge contributes to their superior deterrent detection and their superior recognition memory.

The aim of the experiment is to replicate these results, with three important extensions. First, it is proposed to examine whether young offenders exhibit similar expertise. Previous studies of burglary expertise have focused on burglars in their late twenties who had carried out about 150 burglaries (e.g., Wright et al., 1995). The group of burglars in the present study were in their late teens and had carried out an average of 85 burglaries during their criminal history. Second, it is intended to compare burglars not only with non-offenders but also with other offenders whose expertise lies in other crime domains rather than burglary. Burglars may have superior detection and recognition of deterrents because of genuine expertise in their specific crime domain, in which case they should be better than non-burglar offenders; alternatively they may have superior detection and recognition because of some more general crime knowledge, in which case they should be better than non-offenders, but not better than non-burglar offenders.

Third, an examination of the consequences of burglars' superior detection and recognition skills on their levels of suggestibility will be carried out. This variable was investigated in experiment 2 in chapter 3 to ascertain levels of suggestibility using the Gudjonnson Suggestibility Scale (GSS2). Suggestibility in this experiment will use analogous materials to investigate whether possessing crime-specific knowledge acts as a form of protection from negative pressure and feedback. Some people are more vulnerable to interrogative suggestibility compared to others. The ability to discern and withstand misleading information may be influenced by diverse factors including intelligence and memory recall, social desirability, acquiescence and compliance (Gudjonsson, 1983; 1988). The Gudjonnson Suggestibility Scale (GSS2) measures the impact of leading questions and negative feedback using a story with 40 distinct pieces of information (e.g., Gudjonsson, 1986, 1989). Participants' immediate recall is obtained following the presentation of the story, and the scores range from 0-40. Twenty questions (15 of which are misleading) are then asked by the experimenter and this gives

a 'yield' score, that this, a score of how much they yielded to feedback about the questions asked earlier: "You have a number of errors. I am going to ask you the questions again, and please try to concentrate a little harder this time." The questions are asked again, and a 'shift' score is obtained, that is a score of how many answers they have changed as a result of the negative feedback. The number of 'shifts' from one sort of answer to another between the first period and the second gives a measure of suggestibility.

The aim of the experiment was to examine suggestibility in young offenders but within their own crime domain of expertise. It was conjectured that they may not be susceptible to suggestibility in a domain about which they are knowledgeable. To this end, the participants were given the series of photographs in the recognition test a second time, for which once again they were to say whether they had been shown the photograph before or not. Regardless of their performance on the initial recognition test, participants were given negative feedback, telling them they had done quite badly and were to try harder this time. Their tendency to 'shift' from one sort of answer to the other for each photograph was ascertained to obtain a measure of their suggestibility in their own domain of expertise.

Method

Materials

The author constructed sets of 7 by 5-inch black and white photographs of houses in their original state and with a number of burglary-deterrent features installed on or near each house, adapted from Wright et al (1995). The manipulated features were: (1) an alarm box, (2) a beware of the dog sign, (3) a car in the driveway, and (4) an extra lock visible on the front door. These features were chosen because they are commonly identified by crime prevention experts as being important for deterring residential burglars (Wright et al 1994; 1995; Cromwell et al, 1991). Sixteen of the 20 houses used by Wright et al (1995), were selected for their comparability to houses in suburban Dublin.

Two complementary sets of 32 photographs were constructed. Each set contained two photographs of each house, a frontal shot and a close-up of the front door. The two photographs were mounted as a pair on an A4 card (making a total of 16 cards). Two sets of photographs were constructed: in one set, eight of the photographs had burglary-relevant features visible and eight had none. In the second set, of the 8 houses that had a

burglary-relevant feature visible in the first set, four of the houses had their burglary-relevant feature removed, while four of the photographs of the houses were identical to the previous set. Of the 8 houses that had no burglary-relevant feature visible in the first set, four of the photographs of the houses in the second set added such a feature, and four of the photographs of the houses were identical to the previous set. The two sets were constructed so that we could give participants one of these two sets of photographs at random. An example of one of the pair of photographs is in Figure 2. The complete set of pictures may be found in Appendix 11.

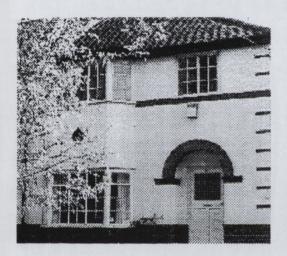




Figure 2: Example of house with burglary relevant feature attached and subsequently removed.

A checklist was also constructed (see Appendix 12) consisting of 20 physical characteristics of houses: 8 items that may make a property more attractive to a burglar e.g.: a post-filled letter box, large bushes in front garden, open fields at back of house, window open upstairs, corner house, metal window frames, tile roof, no dead bolt door; 8 items that may make it unattractive, e.g., the television switched on, neighbour's window overlooking backyard, car in neighbour's driveway, car in driveway, light on in front room, burglar alarm in house, dog in house, dead bolt on door, and 4 neutral items, e.g., the front door painted red, four bedroom house, peeling paintwork, well-kept house. The checklist was a modified version of the one used by Wright et al (1995) and the 20 questions were presented in a random order.

Procedure

The participants were tested individually. They had first answered a serious of questions about their criminal history, and suppositional questions about burglary (reported in a later section). They were shown 16 cards of two photographs each individually and they were asked, "would each of the following houses be attractive or unattractive to a burglar" on the basis of information from the photograph alone. A maximum of 30 seconds was allowed to scan each photograph, although most participants responded within about 15 seconds, with the burglar's average response time being about 6 seconds. The participants 'yes' or 'no' responses were recorded by the experimenter (Appendix 11a). The experimenter then read out each of the 20 items on the checklist and asked the participants whether each item would make a house more attractive, less attractive, or wouldn't make a difference to a burglar if he were deciding to burgle a house. Once again, the experimenter recorded all responses.

The participants were then given a surprise memory test. They were shown the set of photographs they had not previously seen in the target selection task (either set 1 or set 2). The participants were asked, "can you tell me whether each of these photographs are identical to the ones which you saw earlier", and they were given no indication as to the way in which the photographs might have been changed. The correct answer is that the photograph is the same as the previous one for 8 of the photographs (4 that originally had burglary-relevant features and 4 that had none), and the correct answer for the other 8 photographs is that there is something different in the photograph (4 that had burglary-relevant features removed and 4 that had burglary –relevant features added). The participants were allowed a maximum of 30 seconds to inspect each card, and the experimenter recorded their 'yes, the same and 'no, something different' responses.

The participants carried out an intervening task (the memory script questions reported in the next experiment). They were then given the suggestibility test. The experimenter gave participants negative feedback about their responses to the photographs (they were told: "You have made a number of errors, I am going to show you the photographs again, and please try and concentrate a little harder this time"), and they were shown the same photographs again. The photographs used in the memory test serve as an analogous task to the GSS2. The set of photographs are analogous to the story used in the GSS2. The scoring procedure was based on the GSS2 standard scoring procedure: Each of the 8 new photographs presented in the recognition memory test that

was incorrectly identified was scored 1 to obtain a 'yield' score, with a possible range from 0-8, that is, a score of how much they had yielded to the misleading photographs. The possible range of scores for the 'shift' score is 0-16, a change in the nature of the reply to any of the 16 photographs is scored as a 'shift', that is, a change from the original answer because of negative feedback. The possible range for the scores for total suggestibility is the sum of the yield and shift scores, that is, in the range 0-24.

Results and discussion

The data was analysed using a series of Kruskal Wallis tests, to determine whether the scores for the burglars, non-burglar offenders and non-offenders were significantly different. The statistics which are reported below (Chi²) result from the sample size being greater than 30. In this instance, the Statistical Package for the Social Sciences (SPSS) computes a value of Chi Square.

Detection of burglary deterrents

Burglars tended to judge houses to be attractive to burgle regardless of the presence of burglary deterrents compared to non-burglar offenders, as Table 5.2 shows. Photographs of houses with no burglary deterrents were judged to be attractive equally often by the burglars (33%), the non-burglars (30%), and the non-offenders (37%). Photographs of houses with burglary deterrents were also judged to be attractive by the burglars (40%), more than by the non-burglar offenders (32%) and the non-offenders (28%), $chi^2 = 7.83$, df = 2 p < 0.007. This difference between the burglars and others was reliable for three of the deterrents: a beware of the dog sign, $chi^2 = 8.85$, df = 2, p < 0.01, a car parked in the driveway, $chi^2 = 12.50$, df = 2, p < 0.001, and a house alarm, chi2 = 8.56, df = 2, p < 0.01, but not for a lock visible on the door, $chi^2 = 3.10$, df = 2, p < 0.211. In fact, in post –experiment interviews, the burglars often said that a car in the driveway would make a house even more attractive since it would facilitate a quick getaway.

Table 5.2: Percentages of judgements that a house would be attractive to a burglar as a function of the presence or absence of burglary deterrents

	No Deterrents	Deterrents	All houses
Burglars	33%	40%	73%
Non-burglars	30%	32%	62%
Non-offenders	37%	28%	65%

The results show that young burglars tended to judge houses to be attractive to burgle, regardless of the presence or absence of deterrents. They differ not only from non-offenders but also from non-burglar offenders in this respect, and these results suggests that their judgements are informed by their crime-specific experience rather than any general crime knowledge. Their judgements are different from older burglars also (Wright et al, 1995). Perhaps the difference can be ascribed to their younger age, as a result of the perceived invincibility common in youth? The explanation is unlikely given that the non-burglar offenders were the same age, but were deterred by the deterrents. Perhaps the difference may be ascribed to their lesser experience, having carried out about half as many burglaries as the older burglar? The next measure sheds some light on their level of expertise.

Judgement of burglary deterrents

Burglars made different judgements than non-burglar offenders and non-offenders about the importance of the 8 attractive features, 8 unattractive features, and 4 neutral features, and Table 5.3. summarises these results. Overall, burglars judged that the 8 attractive features would make a house attractive (67%) as often as non-burglar offenders (73%) and non-offenders (83%), $chi^2 = 1.63$, df=2, p<0.09, ns. No statistical differences were found on four of the items: a well kept house, $chi^2 = .35$, df = 2, p<0.84, ns; an open field at the back of the house, $chi^2 = .90$, df = 2, p<0.64, ns; a window open upstairs, $chi^2 = .3261$, df = 2, p<.85, ns; a post filled letter box, $chi^2 = .66$, df = 2, p<, 0.72, ns. The groups differed significantly on the remaining four attractive items, a corner house, $chi^2 = 6.41$, $chi^2 = 2$, $chi^2 = 6.41$, $chi^2 = 2$, $chi^2 = 9.08$,

p<0.01; large bushes in the front garden, $chi^2 = 6.60$, df = 2, p<0.0001; no dead bolt visible on the door, $chi^2 = 13.65$, df = 2, p<0.001.

However, burglars judged that the 8 unattractive features would make a house unattractive (25%) far less often than the non-burglar offenders (47%) and the non-offenders (81%), and this was reliable for dead bolt visible on front door, $chi^2 = 33.06$, df = 2, p< 0.001; the light on in front room, $chi^2 = 23.23$, df = 2, p<0.001; a car in the driveway, $chi^2 = 29.67$, df = 2, p<0.001; a neighbours' window overlooking house, $chi^2 = 33.50$, df = 2, p<0.001; a dog in the house, $chi^2 = 16.29$, df = 2 p<0.0003; a television on in the house, $chi^2 = 17.39$, df = 2, p<0.0002; burglar alarm on the house, $chi^2 = 23.08$, df = 2, p<0.001; metal window frames, $chi^2 = 20.39$, df = 2, p, 0.00. Instead, burglars judged these 8 unattractive features to be unimportant (74%), more often than the non-burglars did (46%), and the non-offenders (12.5%). Burglars judged that the 4 neutral features would not matter (93%) more than non-burglars (85%) and non-offenders (52%), with significant differences being found on all four items. Tile roof, $chi^2 = 23.30$, df = 2 p<0.001; peeling paintwork, $chi^2 = 18.18$, df = 2, p<0.0001; front door painted red, $chi^2 = 15.46$, df = 2, p<0.0004 and car in neighbours' driveway, $chi^2 = 9.12$, df = 2, p<0.01.

Table 5.3: Percentages of judgements by group that attractive features, unattractive features, or neutral features would make a house more attractive, less attractive, or would not matter

	Attractive Features	Unattractive	Neutral
		Features	Features
Burglars			
Attractive	67.5%	1%	1%
Unattractive	1%	25%	7%
Would not matter	31%	74%	93%
Non-burglars			
Attractive	73%	7%	7%
Unattractive	1%	47%	8%
Would not matter	26%	46%	85%
Non-offenders			
Attractive	83%	6%	21%
Unattractive	8	81%	27%
Would not matter	9%	12.5%	52%

The results from the checklist are consistent with the results from the photographs: young burglars are not deterred by common deterrents. From the tables they appear to differ not only from non-offenders in their judgements but also from non-burglar offenders.

Recognition memory for burglary deterrents

Burglars correctly identified photographs that they had seen before (92%) more than non-burglar offenders (82%) and non-offenders (76%), $chi^2 = 9.75$, df = 2, p<0.007. Burglars (50%) and non-burglars offenders (48%) were equally well able to identify the exact feature that had been changed in the 8 changed photographs more than non-offenders (1.5%), $chi^2 = 23.07$, df = 2, p<0.001. In addition, burglars were able to identify that something was different although they could not identify what (41%) more often than the non-burglar offenders (28.5%) and the non-offenders (11%), (see table 5.4) $chi^2 = 8.41$, df = 2, p<0.01.

Burglars were better than non-burglars and non-offenders at recognising the addition of a burglary deterrent when it was a car that had been added, $chi^2 = 15.61$, df = 2, p<0.0004, or an alarm, $chi^2 = 9.67$, df = 2, p<0.007, but they were just the same when it was a beware of the dog sign, $chi^2 = 5.11$, df = 2. P<0.07, or a lock, $chi^2 = 1.21$, df = 2, p<0.50. Burglars were better than non-burglar offenders and non-offenders at recognising the removal of a burglary deterrent when it was an alarm that had been removed, $chi^2 = 15.71$, $chi^2 = 1$

Table 5.4: Percentages of *correct* identifications for identical and changed photographs in the memory test

	8 Unchanged	8 Changed	8 Changed
	photos – Correct unchanged	photos – Correct on feature	photos – Correct on 'something'
Burglars	92%	50%	41%
Non-burglars	82%	48%	28.5%
Non-offenders	76%	1.5%	11%

Burglars were better able to detect changes to photographs of houses they had seen before than either non-offenders or non-burglar offenders. However, it is not entirely clear why some features were detected more easily while others were not. One explanation is that they were better at detecting the addition and removal of an alarm simply because it needs to be considered when they go and commit burglaries. During post-test interviews, burglars consistently reported 'dealing' with alarms by setting them off on one or more occasion sometime before they went to carry out the burglary. This tactic had the effect that owners typically get fed up with the alarm ringing, and switch it off. Another explanation is that this result provides strong support for the idea that young burglars have built up expertise in their crime domain that assists them in making fine-grained discriminations in memory recall for their specific domain. It suggests that their failure to be deterred by common deterrents is not due simply to their relative inexperience (of 85 burglaries). In addition, non-burglar offenders were better than non-

offenders in their recall judgements, and this advantage may result from their brief experience of burglary (about 20 burglaries on average).

Interrogative suggestibility

Burglars were less easily misled in their own domain of expertise compared to non-burglary offenders and to non-offenders. The burglars tended to 'yield' less often to the 8 false photographs in the initial recognition test (average yield score of 3 out of a possible score of 8) compared to the non-burglar offenders (5) and non-offenders (6), as Table 5.5 shows. More importantly, they tended to 'shift' less when they were given negative feedback about their performance and shown the 16 photographs again (average shift score of 4 out of a possible score of 16) compared to the non-burglar offenders (6) and the non-offenders (9). As a result, the average suggestibility score for burglars (7 out of a possible score of 24) is less than the average suggestibility score for non-burglar offenders (11), and non-offenders (15), and this difference is reliable, chi^2 15.46, chi^2 15.4

Table 5.5: Average yield, shift and overall suggestibility score

	Yield	Shift	Suggestibility
Burglars	3	4	7
Non-burglars	5	6	11
Non-offenders	6	9	15

Key: Yield score is the correct recognition of 8 changed photographs: 0-8

Shift score is a change of response after negative feedback to any of the 16 photographs: 0=no answers changed, 16=all answers changed

Suggestibility is the sum of yield and shift: 0=lowest possible suggestibility score, 24=highest possible suggestibility.

The burglars were more readily able to discern or withstand misleading information in their own specific domain than either the non-burglar offenders or the non-offenders. Although young offenders may be vulnerable to interrogative suggestibility in general (Gudjonnsson, 1991, 1996), this was not replicated in the earlier experiment (chapter 3) and in their own domain of expertise they appear to be less vulnerable than other offenders or non-offenders.

To summarise, the presence of burglary deterrents had no impact on burglars' tendency to judge houses to be attractive to burgle, while they were less likely to judge a

house as being unattractive to burgle in comparison to the other groups when those houses presented with typically unattractive features, such as a dead bolt visible on the front door or a light on in the front room of a house. Furthermore, burglars had a better memory performance than either the non-burglars or non-offenders when identifying houses they had seen before and were able to identify that something was different although they could not select the specific feature that had been changed. However, both non-burglars and burglars were equally well able to identify the exact feature that had been changed in comparison to the non-offenders.

Experiment 7: Crime-Specific Knowledge

Most people have information about burglary that they may have acquired from various sources, including media reports, fiction and victim experiences. Therefore, it is not unreasonable to expect that people can articulate their understanding about what occurs during burglaries, why they are carried out and what goals and plans are implied. People possess similar sorts of knowledge structures for commonly experienced events, perhaps because their knowledge is organised in long term memory in terms of memory structures such as scripts (e.g. Schank & Abelson, 1977; see also Schank, 1982; 1986). For example, when people are asked to list what happens in restaurants, they tend to mention similar sorts of events, including scenes for the initial setting (e.g., making reservations, waiting to be seated), ordering (reading menus, deciding on options, giving the order to the waiter), eating (including different courses, conversations), and leaving (including getting the bill, paying, calculating a tip) (e.g., Bower et al, 1979). Knowledge may be organised in memory in bundles that can be readily accessed and used to guide subsequent behaviour, or it may even be assembled when questioned into coherent packages (e.g. Barsalou, 1983). The extent to which burglars may hold crime-specific knowledge is of enormous potential importance. For example, if progress is to be made in terms of prevention of burglaries or even burglary control, then accessing the knowledge and information that burglars have about it will ensure that strategies for dealing with this problem are meaningful and cost-effective. The aim of this experiment is to examine burglars', non-burglar offenders and non-offenders understanding of the nature of burglary and to ascertain whether there are differences between participants accounts of what the process of burglary is about. This methodology has a distinct advantage over similar research (e.g. Feeney, 1986; Wright et al, 1995) insofar that a direct comparison may be made between matched groups to unravel whether burglars do possess more knowledge of the process of burglary. Moreover, it may be used to determine whether their knowledge of burglary is more sophisticated than non-burglar offenders or non-offenders. Burglars know more about themselves and burglaries than anyone else and it is expected that expert burglars would be able to articulate more detailed accounts of burglary.

Method

Materials and Procedure

A set of three questions were constructed designed to examine participants' understanding of the nature of burglary (Appendix 13). The first question examines participants' concept of burglary: "if you had to give somebody a definition of burglary, what would you tell them it is?" The second attempted to elicit their memory script for burglaries: "What do you think happens from the moment a burglar goes to commit a burglary?" followed by the probe, if required, "How do burglars actually go about committing the burglary?" The third question concerned planning: "Where and when do you think a burglar might make the initial decision to commit a burglary?" followed by the probe, if necessary, "Do they plan the burglary before they choose a property, or do they decide to burgle a property upon seeing it?" Their responses were recorded verbatim.

In addition, a suppositional task was also constructed which required participants to suppose they were going to commit a burglary and within this imaginary scenario, to provide answers to questions about various aspects of the situation. This set of 6 questions was based closely on Wright et al's (1995) questions, with the primary difference that the author modified their factual questions to be framed suppositionally, (e.g., "suppose you were going to commit a burglary...") and used the subjunctive mood for the specific questions (how would you...) rather than the indicative mood (how do you...), to enable non-offenders and non-burglar offenders to respond to the questions. Two questions concerned the specific process of committing burglary: "How would you break into a house?" and "Do you suppose you would drink alcohol or take drugs before you committed a burglary?" Two questions concerned the general mechanics of burglary, namely what sort of house and what sort of goods would be targeted: "What would you be looking for, mainly?" and "What do you think you might look for when you are trying to find a house to break into?" One question asked about motivation: "What do you think are the main reasons for committing burglary?" and a final question

examined experience as a victim of burglary: "Has your home ever been broken into? (How?)" (Appendix 14) The questions were presented in a random order to the participants.

Results and Discussion Memory scripts and plans

Burglars and non-burglar offenders gave more detailed accounts of burglary than did non-offenders, with more specific information, and they tended to include information concerning both the antecedents and consequents of the sequence of burglary, as Tables 5.6a-c show.

If you had to give somebody a definition of burglary, what would you tell them it is? Burglary was defined as breaking into a house or shops by burglars (57%), and non-burglar offenders (64%) more often than non-offenders (34%) $chi^2 = 6.64$, df = 2, p<0.03. Instead, non-offenders gave the more specific definition that burglary was breaking into a house *and stealing property* (45%) more often than burglars (17%) and non burglar offenders (21%), $chi^2 = 5.52$ df = 2, p<0.04 (Table 5.6a).

Table 5.6a: Percentages of responses by group to the question; If you had to give somebody a definition of burglary, what would you tell them it is?*

	Burglars	Non-Burglars	Non-offenders
Breaking into someone's home & stealing their property	17%	21%	45%
Breaking into a house/shop	57%	64%	34%
Easy way to get money	23%	14%	17%
Stealing without getting caught	7%	4%	14%
For the excitement/buzz	3%	0%	14%
Breaking the law	0%	4%	7%

^{*} Totals aggregate to more than 100% because subjects responded to more than one category.

What do you think happens from the moment a burglar goes to commit burglary? Step-by-step accounts by burglars (45%) and non-burglar offenders (44%) included steps concerned with targeting and monitoring a property more often than non-offenders (29%) $chi^2 = 10.78$, df = 2, p<0.004. Aspects of the situation concerned with getting into and out of the property were mentioned more often by burglars (35%) and non-burglar offenders (32%), than by the non-offenders (13%), $chi^2 = 3.80$, df = 2, p<0.001. Aspects of the script to do with searching the property (go to bedrooms first), were mentioned more often by burglars (62%) than by non-burglar offenders (46%) or non-offenders (38%), $chi^2 = 12.74$, df = 2, p<0.001. Aspects to do with getting rid of stolen goods (sell goods to pre-arranged buyer), were mentioned more by burglars (40%) and non-burglar offenders (42%), than non-offenders (26%), $chi^2 = 11.24$, df = 2, p<0.003 (see Table 5.6b).

Table 5.6b: Percentages of responses by group to the question: what do you think happens from the moment a burglar goes to commit a robbery?*

	Burglars	Non-Burglars	Non-offenders
Targeting and monitoring property	45%	44%	29%
Getting in and out of property	35%	32%	13%
Searching the property	62%	46%	38%
Getting rid of stolen goods	40%	42%	26%

^{*} Totals aggregate to more than 100% because subjects responded to more than one category.

Where and when do you think a burglar might make the initial decision to commit a burglary?

As Table 5.6c shows, all three groups considered that a burglary was planned equally often (burglars 33%, non-burglar offenders, 23%, non-offenders, 43% chi^2 1.39, df = 2, p<.49, ns), opportunistic (burglars, 20%, non-burglar offenders, 33%, non-offenders, 10% chi^2 2.23, df = 2, p<.32, ns), or both (burglars, 33%, non-burglar offenders, 33%, non-offenders, 17% chi^2 6.35, df = 2, p<0.04). Furthermore, non-offenders reported that burglary was planned by more experienced and/or non-drug using burglars more often (30%) than the burglars (13%) and the non-burglars (10%), $chi^2 = 15.43$, df = 2, p<.001.

Table 5.6c: Percentages of responses by group to the question: where and when do you think a burglar might make the initial decision to commit a robbery?

	Burglars	Non-Burglars	Non-offenders
Always planned	33%	23%	43%
Always opportunistic	20%	33%	10%
Both	33%	33%	17%
Planned by more experienced and/or non-drug using burglars	13%	10%	30%

Summary of Results

Burglars and non-burglar offenders gave definitions of burglary and accounts of the sequence of events in burglaries that were different from non-offenders. Burglars and non-burglar offenders' definitions focused on breaking and entering, whereas non-offenders focused on stealing. Burglars and non-burglar offenders gave accounts of the sequence of burglaries that contained more information about the antecedents (targeting and monitoring properties) and consequences (getting rid of stolen goods) than the non-offenders. Their accounts were more detailed in their concern with getting in and getting out of the property than non-offenders were. Burglars' accounts were more detailed than non-burglar offenders or non-offenders in their focus on searching the property for items to steal.

Suppositional Burglary Questions

Burglars gave different answers from the other groups to the specific questions about how exactly they would break into a house and whether they would use drugs when doing so. The three groups gave similar answers to the general questions about what they would try to steal, and what sort of house they would try to break into, and to the question concerning motivation, as Tables 5.7a-e show.

How would you break into a house?

Burglars said they would 'pop' a window with a screwdriver as their preferred mode of entry into a house (86%), more often than non-burglar offenders (37%) or non-offenders (10%), $chi^2 = 28.45$, df = 2,p<0.00. Instead, non-burglar offenders and non-offenders gave the less specific answer that they would open or smash a window (non-burglar offenders 60%, non-offenders, 90%), more often than burglars (16%), $chi^2 = 13.25$, df = 2, p<0.001. The non-offenders tended to say they would take neither drugs nor alcohol (67%), compared to the burglars (20%) and the non-burglar offenders (20%), $chi^2 = 15.45$, $chi^2 = 2$, p<0.00 (see Table 5.7a)

Table 5.7a: Frequencies and percentages (in parentheses) of responses by group to the question; How would you break into a house*

	Burglars	Non-burglars	Non-offenders
Back of house	7 (23%)	6 (20%)	18 (60%)
Pop window with screwdriver	26 (86%)	11 (37%)	3 (10%)
open/smash window	5 (16%)	18 (60%)	27 (90%)
Front door	7 (23%)	9 (30%)	3 (10%)

^{*} Group totals aggregate to more than 100% because subjects responded to more than one category.

What would you be looking for, mainly?

As Table 5.7b shows, money was a frequently mentioned item by all groups, cited by burglars (100%), non-burglar offenders (100%) and non-offenders (90%) $chi^2 = 2.64$, df = 2 p<0.15, ns. All three groups identified jewellery as a commonly sought item, cited equally often by burglars (97%), non-burglar offenders (90%) and non-offenders (93%), $chi^2 = 48$, df = 2, p<0.78, ns. The non-offenders cited electronic goods more frequently (93%) than non-burglar offenders (63%), or burglars (37%), $chi^2 = 13.98$, df = 2, p<0.00.

The non-offenders gave the generic response 'anything to sell' (56%) more frequently than burglars (23%) and non-burglar offenders (13%), $chi^2 = 9.82$, df = 2, p<0.007.

Table 5.7b: Frequencies and percentages (in parentheses) of responses by group to the question; What would you be looking for mainly?*

	Burglars	Non-burglars	Non-offenders
Money	30 (100%)	30 (100%)	27 (90%)
Jewellery	29 (97%)	27 (90%)	28 (93%)
Electronic goods	11 (37%)	19 (63%)	28 (93%)
Anything to sell	7 (23%)	4 (13%)	17 (56%)

^{*} Group totals aggregate to more than 100% because subjects responded to more than one category.

What do you think you might look for when you are trying to find a house to break into? Table 5.7c shows that all three groups cited evidence of wealth, which was mentioned equally often by burglars (83%), non-burglar offenders (83%) and non-offenders (63%), $chi^2 = 3.96$, df = 2 p < 0.13, ns. The non-offenders mentioned evidence of negative occupancy (40%) more frequently than the burglars (7%) and the non-burglar offenders (7%), $chi^2 = 9.69$, df = 2, p < 0.007. The non-offenders also mentioned the absence of burglary deterrents (e.g., house alarm, beware of dog sign etc.) more often (40%) than the burglars (13%) and the non-burglar offenders (17%), $chi^2 = 5.33$, df = 2, p < 0.06.

Table 5.7c: Frequencies and percentages (in parentheses) of responses by group to the question; What do you think you might look for when you are trying to find a house to break into?*

	Burglars	Non-burglars	Non-offenders
Negative occupancy	2 (7%)	2 (7%)	12 (40%)
Signs of wealth	25 (83%)	25(83%)	19 (63%)
No deterrents	4 (13%)	5 (17%)	12 (40%)

^{*} Group totals aggregate to more than 100% because subjects responded to more than one category.

Has your home ever been broken into? How?

Participants whose homes had been broken into reported differences in the mode of entry (see Table 5.7d). Non-offenders reported burglars getting in through a window more frequently (33%) than the burglars (19%) and the non-burglar offenders (0%), $chi^2 = 9.69$, df = 2 p < 0.01. Non-offenders had also experienced their homes being broken into via the rear of the house more frequently (21%) than either the burglars (0%) and the non-burglar offenders (8%), $chi^2 = 6.27$, df = 2, p < 0.04. Security measures were reported more frequently by non-offenders (63%) in comparison to burglars (17%) and non-burglar offenders (27%), $chi^2 = 15.42$, df = 2, p < 0.004.

Table 5.7d: Frequencies and percentages (in parentheses) of responses by group to the question; Has your home ever been broken into? How?

	Burglars	Non-burglars	Non-offenders
Yes	5 (17%)	8 (27%)	21 (70%)
No	25 (83%)	22 (73%)	9 (30%)
Rear of house	2 (40%)*	8 (100%)*	7 (33%)*
Window	3 (60%)*	0	14 (67%)*

^{*} pertains to those whose houses had been broken into

What do you think are the main reasons for committing burglary?

All groups supposed that drug use was a primary reason for burglary, cited equally often by burglars (73%), non-burglar offenders (67%) and non-offenders (100%), $chi^2 = 4.76$, df = 2, p<0.09 ns. Excitement or the 'buzz' was also cited equally often by burglars (50%), non-offenders (37%) and non-burglar offenders (30%), $chi^2 = 1.51$, df = 2, p<0.47 ns. The need to have money was reported equally often by burglars (50%), non-burglar offenders (50%) and non-offenders (33%), $chi^2 = 2.15$, df = 2 p<0.34 ns.

Table 5.7e: Frequencies and percentages (in parentheses) of responses by group to the question; What do you think are the main reasons for committing burglary?*

	Burglars	Non-burglars	Non-offenders
Drugs	22 (73%)	20 (67%)	30 (100%)
Excitement/buzz	15 (50%)	11 (37%)	9 (30%)
To get money	15 (50%)	15 (50%)	10 (33%)

^{*} Group totals aggregate to more than 100% because subjects responded to more than one category.

Summary of Results

The results show that burglars were significantly more likely to report a different mode of entry to a house (by popping a window with a screwdriver) than either the non-burglars or non-offenders. All groups agreed that money and jewellery would be the primary things to steal for a burglar, although the burglars were less likely to report stealing electronic goods e.g. televisions or videos. This was reflected in part by some comments made during the interview when burglars said their aim was to 'get in and out as quickly as possible'. Given the earlier findings that they are more likely to have a 'plan' when searching the property (in terms of which rooms they search first), their primary target is cash and jewellery which is easily concealed. The burglars focus on wealth as a factor in deciding whether a target is viable or not, and do not consider deterrents or signs of occupancy as often as the non-burglars and non-offenders. Non-offenders houses were more likely to have been targets for burglary than either of the other groups, and the mode of entry used in their homes generally concurred with the favoured mode of entry reported by the burglars.

General Discussion

The first experiment shows that burglars tended to judge houses to be more attractive to burgle regardless of the presence of burglary deterrents, compared to nonburglar offenders and non-offenders. One of the primary functions of the target selection task was to ascertain the types of environmental cues that burglars might use in assessing whether or not to burgle a particular property, and it was found that young Irish burglars were not deterred by environmental cues which are commonly used as burglar deterrents. In contrast, in the Wright et al (1995, 1994) studies, a car in the driveway significantly reduced the positive responses from burglars. In the present experiment, burglars frequently said that a car in the driveway would be an added bonus, facilitating a quick getaway, particularly at night. Information on the ability to selectively attend to particular information is revealing in a number of ways. Firstly, it demonstrates clearly that young Irish burglars are, on the whole better than non-burglars and non-offenders at assessing whether a target is suitable or not, allowing them to arrive at a decision to burgle or not. However, a possibility that warrants mention is that the burglars may simply be undeterred by the presence of deterrents, although it appears that this was not the case. Given their experience of burglaries (average of 85) it would appear more probable that they are operating with some degree of expertise based on previous knowledge, which was not exhibited by either the non-burglar offenders (average of 20 burglaries) or nonoffenders. This concurs with the availability heuristic (Tversky & Kahneman, 1974) which posits that estimates of the frequency of an event are determined by a mental availability. Put simply, what is known comes easiest to mind. The burglars during interview, relied on their knowledge of previous burglaries to deem whether a property was a good target or not. Furthermore, the burglars were able to decide very quickly whether a particular dwelling would be advantageous to burgle or not. The time allowed by Wright et al (1995) to look at each photograph was 30 seconds, and this convention was adopted for the present experiment. However, most subjects responded within 15 seconds, with the burglars' response time being an average of 6 seconds. While this does not imply that fast equals good, it clearly shows that burglars, in general were scanning the photographs with some knowledge of what to look for already in mind, and this is seen again in the memory performance task.

The first experiment shows that young burglars are better than non-burglar offenders and non-offenders in their ability to recognise changes in relation to crime-specific deterrents, such as a house alarm, in photographs of houses when they are given

an unexpected memory test. The experiment shows that young Irish burglars in their late teens with experience of approximately 85 burglaries show a similar pattern of expertise to older, more experienced burglars in their late twenties with experience of about 150 burglaries (Wright et al, 1995). The result indicates that even young offenders possess crime-specific expertise. The experiment also shows that burglars differ not only from non-offenders but also from offenders whose primary offence is not burglary. The results indicate that the superior recognition of deterrents arises from genuine expertise in the specific crime domain, rather than some more general crime knowledge.

Finally, the experiment shows that burglars were less susceptible to being misled by erroneous information and negative feedback within their specific crime domain (in the second memory test). The result indicates that crime-specific expertise may offer some protection from interrogative suggestibility, enabling individuals to discern and withstand misleading information in their domain of expertise. The findings on interrogative suggestibility were interesting in that the burglars were more likely to be confident in their responses. They were not effected by negative feedback in the way that the other two groups were. While these results may imply the need for more crime specific studies, several caveats concerning the generalizability of the findings are in order. Firstly, the GSS2 is a highly reliable, standardised measure, which in several replicated studies has held up well. By contrast, the present experiment is merely attempting to explore the notion that within the large range of crimes which may be committed by an individual, those who 'specialise' in one particular crime may be less susceptible to interrogative suggestibility when the misleading information focuses on that particular crime and its commission.

On the memory performance task, burglars remembered more relevant details, and outperformed the non-offenders and non-burglar offenders when noticing something was different about the photographs. It may be the case that although the burglars were not able to identify each feature correctly in this experiment, that with time and more involvement with burglary, their memory performance would improve as expected in normal cognitive performance. In comparison, the Wright et al (1995) study found that burglars remembered more burglary related features, but the difference was only statistically marginal. Therefore, the present experiment would indicate that young burglars have a high level of recognition accuracy for relevant features. This lends support to the assertion that burglars do possess superior cognitive skills to matched subjects, and concurs with Shover's (1971) concept of 'alert opportunism', which views

the processes which burglars employ as almost automatic and analogous to the processes which other skilled workers would display in relation to their profession. These findings are consistent with a rational choice perspective since decisions are being taken, but as Brantingham & Brantingham (1978) suggest, discriminative cues which are developed through experience and learning are used to locate and target 'good' sites for burglary, and that these cues are "a template which is used in victim or target selection. Potential victims or targets are compared to the template and either rejected or accepted, depending on the congruence" (p. 108). Therefore, decisions are processed rapidly and without conscious analysis each time, which also concurs with Tversky & Kahneman's (1974) and Kahneman, Slovic, & Tversky's (1982) judgmental heuristics, and subsequent errors, which require only a minimal amount of planning to arrive at a decision.

On the checklist items, the groups' levels of responding differed on all but four of the twenty items. The "yes" and "no" responses were interesting in that burglars provided far less "no" responses to unattractive features in comparison to the other two groups. However, the "would not matter" responses yielded the most interesting results. On this response level there was some disagreement between burglars and non-burglar offenders on five of the 20 items, all of which were assumed to be unattractive features. In all five cases, the burglars responded "does not matter", and what is apparent is that the presence of commonly identified security features such as an alarm, a beware of the dog sign, an extra lock, or the potential of being seen by neighbours, has little impact when young Irish burglars are weighing up the costs and benefits of a potential target. Features which do impact on their decision-making processes include positive wealth, negative occupancy, and easy access.

The second experiment shows that young burglars possess a more detailed memory 'script' about the process of burglary. Burglars and non-burglar offenders gave definitions of burglary and accounts of the sequence of events in burglaries that were different from those of non-offenders. Burglars and non-burglar offenders' definitions focused on breaking and entering, whereas non-offenders focused on stealing. Burglars and non-burglar offenders gave more detailed accounts of burglary than did non-offenders, with more specific information, and they tended to include information about the antecedents, such as targeting and monitoring a house, and the consequents, such as selling stolen goods. Their accounts were also more detailed in their concern with getting in and getting out of the property than those of non-offenders were. Burglars offered more detailed accounts of their focus on searching a property for items to steal than either the

non-burglar offenders or the non-offenders. The three groups had similar thoughts on whether burglaries were planned or opportunistic. Burglars provided more specific information about the nature of burglary in response to a suppositional scenario, particularly about how exactly they would break into a house and whether they would use drugs when doing so. The three groups had similar ideas about what they would try to steal, what sort of house they would try to break into, and what their motivation for the crime would be. The results suggest that young Irish burglars have more knowledge in memory about specific crimes, perhaps organised in more elaborated memory structures when compared to a group of non-burglars and non-offenders. The experiments suggest that young Irish burglars, just as any other skilled worker, develop skill and expertise in their domain.

The questionnaire was designed to glean information on criminal experience and any other background information that might be pertinent to the commission of a burglary. Burglars were more specific and almost always indicated that they would gain entry to a house by popping a window with a screwdriver. This was in contrast to the nonoffenders who said they would (suppositionally) gain access by getting through an open window or smashing a window. Money was the main reason cited for committing burglary by both burglars and non-burglar offenders, indicating the instrumental nature of burglary (Cromwell et al 1991). Twelve percent of the burglars said they would use heroin before the commission of a burglary, or if they were sick and in need of a fix, while non-burglar offenders were more likely to report the use of amphetamines. All three groups agreed that the need to have money was a primary factor in the decision to commit burglary, as was the buzz, or excitement. However, the non-offenders overestimated drug abuse as the primary factor in burglary commission in comparison with the burglars and non-burglar offenders. There was no evidence to suggest that if a burglar's home had been broken into previously, this would influence the way they would gain entry in the commission of burglaries on subsequent target sites. However, a small number of the non-offenders hypothesised about how they would gain entry based on their experience of having their own homes broken into.

The memory scripts and planning questions suggest that indeed burglars do appear to have some form of specialised knowledge that the non-offenders and non-burglar offenders do not share. While the burglars and non-burglar offenders demonstrated similarities in their accounts of burglary and gave similar specific information, the burglars reported more stages relevant to the commission of a burglary, usually in the

planning stage and getting rid of the stolen property which, along with the results of the target selection task and the memory performance task, suggests that these burglars are drawing on cognitive skills directly related to their experience of burglary and which are superior to the other two groups. The response type to the definition of burglary indicated that young offenders, but not specifically young burglars, display egocentricity, perceiving their crime as impersonal by disregarding the victim and any loss incurred by them. This may be explained to some extent by the possibility that offenders generally employ techniques of neutralisation (Matza, 1964; Sheley, 1980) to justify their behaviour. Examples of this technique were observed during the interview process by offenders who explained their actions with statements such as "I only rob houses in posh estates-they can afford it" or "they get a big claim (insurance) so I'm doing them a favour".

Have these findings offered support to the rational choice perspective? This perspective as outlined earlier suggests some degree of means-end deliberation and the findings from the present study indicate that burglars possess some degree of knowledge and structure which they utilise when they carry out a burglary. The reasons cited for the commission of burglary (need for money, the 'buzz') clearly involve a thinking process, which are integral to a decision to burgle being taken. The consistency with which the burglars selectively attended to certain features in comparison to the non-burglars and non-offenders would indicate that the results are not merely reflecting some general style which is generalisable to all crimes carried out by all young offenders. It is certainly evident that young Irish burglars demonstrated at least three of the five similarities which Bedard and Chi (1992) assert are found in expertise. They demonstrated that they possess more knowledge of burglary, their knowledge was better organised, with more steps in the planning and execution of a burglary being demonstrated, and their performance in domain related tasks was superior to those of the non burglars and non offenders. Given the findings of the present experiment and previous research in this area (e.g. Wright et al 1994, 1995, Bennett & Wright 1984; Clarke & Cornish 1985; Rengert & Wasilchick 1985); it is unlikely that Hirschi's (1986) assertion that the criminal career lacks any skill or sophistication is one which bears up well. On the contrary, it would appear that burglars, like other skilled workers, understand their business in a way in which it is both necessary and sufficient to have at the very least, some form of sophistication and skill. Furthermore, young burglars, given time and experience, may indeed translate that skill into expertise. These experiments clearly lend support to the notion of more crime

specific studies being carried out for a clearer understanding of the underlying cognitive mechanisms relating to offending behaviour.

CHAPTER SIX:

WHAT DO WE KNOW ABOUT WHAT YOUNG OFFENDERS THINK?

What have these empirical studies contributed to our understanding of young offenders, both in general terms, and in relation to the current state of research in Ireland, and how does the novel approach of understanding cognitive processes in this population improve our knowledge base of young offenders *per se*? The previous chapters provided findings from four studies of which three were directly concerned with exploring cognitive processes in young offenders. The first study provided a profile of young offenders by examining the prevalence of well-known risk factors associated with delinquency and a series of seven experiments were conducted in an attempt to gain a clearer understanding of the role that several important cognitive variables play in relation to young offenders. This final chapter will concern itself with firstly, summarising the main findings from those chapters. Secondly, consideration will be given to methodological issues and caveats concerning the findings. Finally, it will be argued that youthful offending research would be enhanced by a clearer understanding of the ways in which young offenders manifest their mental life, and that this may be achieved by developing methodologies which are both ecologically and content valid.

Findings from Study 1

The usefulness of approaching the understanding of youthful offending through the identification of risk and protective factors is well documented (Farrington et al, 1986; Loeber et al, 1986), and provides a sound and thorough backdrop from which appropriate policies may be created to improve conditions which contribute to or impact negatively on the prevalence of offending behaviour. The findings from the first study on 84 young offenders which represented the population in the secondary data analysis in Chapter 2 were broadly in agreement with those from the Cambridge Study in Delinquent Development (Farrington, 1995) and that of Bates (1996). We know a good deal about the factors which are associated with youth crime, and the research findings in the study conducted confirmed that key factors related to youth criminality are:

- Being brought up by a criminal parent or parents;
- Living in a family with multiple problems;

- Experiencing poor parenting and lack of supervision;
- · Poor discipline in the family and at school;
- Playing truant or being excluded from school;
- Associating with delinquent friends;
- Having siblings who offend;
- Early involvement in offending.

The single most important factor identified in predicting future involvement in offending was the age at which a young person first came into contact with the National Juvenile Office, with those young offenders who came to the attention of the Gardai at early ages (12, 13 and 14 years of age) having the most serious and largest number of prosecutions laid against them. While the multiplicity of risk factors identified may lead to the pathway of youthful offending, the two most important risk factors identified for young Irish offenders (McLoughlin et al, in press) were: being identified as 'out of control' by a relevant agency (e.g. probation officer, psychiatrist, psychologist) and inadequate parental supervision.

Many studies have shown that conditions within the multi-problem milieu such as parental criminality, neglect, passive or rejecting childrearing attitudes, erratic or harsh discipline, conflicts, large families, and socio-economic disadvantage correlate with the incidence and manifestation of delinquent careers (Farrington et al, 1986; Loeber et al, 1986). The age at which offending commenced emerged as the most significant predictor of prosecution levels, with those children whose offence history started at an early age relative to the rest of the sample having the largest number of prosecutions recorded against them. The mean age of first involvement was 13 years. Of particular concern was that almost one-third of the sample had their first contact with the Garda by the age of 12 years and these children would appear to be at the greatest risk of recidivism. There was some evidence in 18% of the total sample that the young person had, from an early age demonstrated problematic behaviour of some form and that in many cases this problem behaviour persisted and at key times in the young person's life was exacerbated by some additional factor(s). However, it must be emphasised that it is difficult to conjecture from these findings, as few of the young people had records which referred to their behaviour in early childhood. Young people who were identified as being out of control were significantly more likely to have higher rates of prosecutions and this concurs with the

findings of several studies (e.g.Farrington & West, 1990; Rutter & Giller, 1983; Spivack, 1983; Charlebois, LeBlanc, Gagnon, Larivee & Trembly, 1993), which found that behaviours which come under the generic term of "out of control" could be identified as predictors of later delinquency and conduct problems as early as the pre-school period. There is voluminous research on parental supervision and the effect of broken homes in the literature, and this research adds to that, through the findings that young people who were exposed to inadequate parenting/guardianship were significantly more likely to manifest more serious patterns of offending. Furthermore, those young people who resided with both parents had a significantly lower number of prosecutions recorded against them in comparison to those living in other circumstances.

In conclusion, official profiles of young people who offend reflect only the characteristics of those young people who have been apprehended and officially processed by the juvenile justice system. While such profiles cannot tell us about the characteristics of all young people who commit offences they are, nevertheless, useful in reflecting the characteristics of those young people who appeared before the courts. The findings from Chapter 2 confirmed that young Irish offenders, like their peers from abroad, present with a multitude of adversarial problems which contribute to the development of offending behaviour. This research lends weight to the argument for more monetary, social and psychological investment into the protection of young children to ensure that each child in Ireland is afforded appropriate advocacy and safety where necessary.

Findings from Study 2

The exploratory study presented in Chapter 3 consisted of two experiments which dealt with some known correlates of youthful offending, namely intelligence, self-esteem, self-report offending behaviour and interrogative suggestibility. A total of 67 participants who were accessed from three young offenders' institutions and two secondary schools took part in this study to ascertain any differences between young offenders and non-offenders. The results pertaining to intelligence in the first experiment repeated the well-documented finding that non-offenders perform significantly better than young offenders overall on measures of IQ. Most interesting however, was the finding in relation to practical intelligence. The young offenders, in this particular section, performed significantly better than their non-offending counterparts on tasks which, to them, have some meaning and which hold a degree of value to them. The practical intelligence tasks

required participants to consider what they would do if they suspected a friend was in trouble, or what would be the easiest and quickest way they could get from point A to point B in a funfair situation, all of which involved the use of prior knowledge.

The use of general, academic measures of intelligence have limited scope for populations such as young offenders to perform in any adequate way. Most of the young offenders tested for this study had left school before any formal exams had taken place, and many, in accord with the findings in Chapter 2, spoke of how they had left school at the age of 10 or 11 years of age. Other researchers (e.g. Bates 1996) have also found that found the educational attainment levels of young offenders were significantly below their expected levels when standardised measures of IQ were used. This ostracism from the formal educational system immediately places young offenders at a disadvantage when undertaking most forms of psychometric testing, but particularly when standard IQ tests such as the WISC-R are employed. This psychometric 'flaw' is misleading to some extent, since many young offenders display cognitive skills which are superior to non-offenders in domains in which they operate on a frequent basis, and this was shown clearly in the domain of burglary in Chapter 5.

While there are many explanations for the association of low intellectual functioning with delinquency, such as class, family, or temperament characteristics, the issue remains, that the majority of young offenders have not had the benefit of a full and enriching school experience, which immediately places them at a huge disadvantage when formal testing takes place during their school years. This practice ignores those skills, which if uncovered at an early age, might provide an outlet for diversion through alternative educational programmes. Hyland (1999) recently criticised the Irish schooling system for maintaining practices which alienate those young people at risk of early school leaving and which do nothing to affirm those who always end up at the bottom of the ability pile. The investigation of practical intelligence is one which clearly needs more attention and which may prove useful in understanding how prior knowledge informs young offenders decisions in relation to crime.

The findings on the self- esteem measure revealed a pattern that indicated that young offenders were no more likely to report low self-esteem than their non- offending counterparts. A significant association was observed between socio-economic status and self-esteem, with those participants who were from the higher range of the social strata obtaining higher self-esteem scores. Given the many difficulties that young offenders experience in their social and personal milieu (which were examined in Chapter two), it

appears somewhat surprising that the young offenders display such high levels of self-esteem. However, one possible conclusion that may be drawn is that within the young offenders' reference group (i.e. other offenders with whom they were detained) they were held in high regard for possessing the qualities needed to survive emotionally in a detention centre (e.g. toughness) which may be esteem enhancing in and of itself. It may therefore be appropriate to explore esteem via a multi-dimensional approach, incorporating cognitive, social and emotional components, which may enhance our knowledge base of young offenders in the Irish judiciary process, and ultimately impact on the decisions to incarcerate, which can be costly and ineffective, providing no positive rehabilitation effects in the long term.

The second experiment in Chapter 3 was concerned with interrogative suggestibility and levels of self-report offending. While interrogative suggestibility has been correlated with low self-esteem in previous research, such a correlation did not emerge as a significant finding in the present study. One explanation may be that the high self-esteem possessed by the young offenders acted as a buffer against the negative feedback given during the GSS2. There was no overall difference between groups on their levels of interrogative suggestibility and at least two possible explanations exist for the lack of a difference. Firstly, an age effect may have been operating, and a small but positive correlation was observed between interrogative suggestibility and age, which may have accounted for the non-significant findings overall. Another explanation may be that the young offenders were, on the whole, much more sceptical of the nature of the test than the non-offending sample. The GSS 2 is administered under the guise of a memory test, and during testing, the young offenders were much more likely to question the nature of the test. In contrast, the non-offenders participated in the test without querying any aspect of its validity. Given the overriding aim in judicial processes of obtaining truthful, uncontaminated accounts of events, the issue of interrogative suggestibility should be researched more thoroughly to gain an understanding of the processes and possible correlates involved.

The self-report data on offending revealed that there were distinct differences between the two samples on overall levels, with young offenders reporting more than double the offences of the non-offending sample. Additionally, there were large significant differences on the categories of car theft, drugs related offences, (which included buying, selling, or using drugs), aggravated theft, fraud, burglary, driving offences and theft, with the young offenders reporting the commission of these offences

more frequently than the non-offenders. However, there were very small, non-significant differences between the two samples on the categories of arson, public disorder offences, possession of a weapon, actual bodily harm and minor offences, with the non-offenders reporting the commission of these offences almost as often as the young offenders. The results indicated that while there are indeed differences between the two populations, as would be predicted, there are still some striking similarities in areas that are serious offences, such as arson, possession of a weapon and actual bodily harm. There appears to be acceptability amongst young males to carry offensive weapons, and this has been observed in other research into self-report offending studies (e.g. Mc Quoid, 1996). Social Control theorists such as Hirschi (1969) believe that protection from involvement in crime results from having a commitment to the norms of society, attachment to significant others, involvement in conventional activities and having a belief/value system consistent to that of mainstream society. While it may be argued that the young offenders in this study violated some of these parameters, since they were in detention at the time of testing, the non-offenders by contrast had never been in trouble with the law, yet still reported committing relatively serious offences. An alternative explanation for the similarities between the young offenders on levels of self-reported arson, public disorder offences, possession of a weapon, actual bodily harm and minor offences comes from the rational choice perspective (Clarke & Cornish, 1985). As was outlined in Chapter 1, this theory sees criminal acts being mediated by some degree of means-end deliberation and considers the situations and opportunities in which crime occurs as being important factors in the overall decision to offend. By this account, minor offences including writing graffiti and lying about your age to get into an overage certificate film would be judged opportunistic, while carrying a weapon implies some degree of premeditation. What is clear however, is that the exploration of levels of offending is one that merits further attention if an equitable criminal justice system is to be ensured.

Therefore, the results from the first two experiments showed that while young offenders did not perform as well as non-offenders on tasks such as math ability, or comprehension, they performed significantly better at tasks (which are of more relevance to them) that measure practical intelligence. They had levels of self-esteem comparable to the non-offenders and furthermore were not more suggestible than their non-offending counterparts. Non-offenders reported the commission of certain offences (e,g possession of a weapon) as often as the young offenders did. However, the young offenders reported more than double the number of offences in total than the non-offenders.

Findings from Study 3

The three experiments in Chapter three were concerned with the reasoning skills that young offenders possess, particularly with regard to crime related topics and issues, and how they might differ from non-offenders' reasoning skills. These experiments were carried out with 120 participants, 60 of whom were serving a period of detention and 60 from two secondary schools who were similar in age and who lived in identifiable 'high risk' areas where low socio-economic status is the norm. The first experiment, Experiment 3 in the thesis, was concerned with the causal theories that participants would attribute to crime, what evidence they could give to support their theories, and what counterevidence they could generate. It was found that both young offenders and non-offenders attributed drugs as the primary cause of crime, followed by the search or need for excitement (which they referred to as 'the buzz'). All of the young offenders reported that they knew what caused crime from their personal experience, while for the majority of non-offenders, their source of knowledge was through knowing people involved in criminal activity.

When asked to provide evidence to support their theories, young offenders referred to their own case as evidence for their causal line of thinking and non-offenders also extended their causal line by suggesting that speaking to people involved in crime would provide evidence to support their theories. It is clear then that it is not only young offenders who conceive of their knowledge of crime as absolute- the non-offenders also suggested that offenders could provide evidence of support. Both groups of participants agreed that a counter argument to their causal theories would suggest a bad background as a cause of crime, and the young offenders suggested that they would be referred to as 'scumbags'. However, the young offenders were absolutely certain that this opposing theory could not be supported with evidence. By contrast, the non-offenders were less certain, and suggested that media reports would be used to support an opposing theory. A related element to this uncertainty emerged when non-offenders reported that they would be unable to disprove such a theory while in contrast, the young offenders suggested a variety of methods to do so. All of the young offenders believed their theories could not be disproved, and all of the non-offenders were less confident and believed their theories could be disproved. The two groups showed consistency in their reasoning since the methods they suggested would help prevent offending tied in with their major causal theories (drug treatment facilities and better community resources).

Experiment 4 was concerned with evaluating the frequency and quality of objections that the young offenders and non-offenders could generate in response to crime specific scenarios and more general topics. It was reported that overall, participants found it easier to produce more assertion based objections (objecting to the truth of a premise or conclusion of an argument) (Shaw, 1996). When domain specificity was taken into account, between group differences emerged. Young offenders produced more objections to the crime specific scenarios in comparison to non-offenders. The non-offenders however, were better able to generate more objections than the young offenders to scenarios which concerned more general issues (domain general). A further manipulation investigated whether rating arguments by: 1- strength, 2 - convincingness, 3- strength and believability and 4 - convincingness and believability would impact on the number of objections made, and it was found that participants, but not specifically young offenders, who rated the strength and believability of an argument produced a higher number of objections. An explanation of why more assertion based objections were produced was given by considering the mental models theory (Johnson-Laird & Byrne, 1991; 1996) which suggests that assertion based arguments are easier to produce because only one model is constructed and its truth determined.

The third experiment in this chapter, Experiment 5, explored strategic choosing based on the theory of reasoned based choice (Shafir, 1993), with the aim of assessing what factors are taken into consideration by young offenders when they are faced with two competing options. The overall results did not replicate the findings of previous research, and a tentative explanation offered to account for the discrepancies was that the information that young offenders use in selecting targets also considers other salient information such as their 'moral code' being violated. A secondary task in this experiment concerned young offenders beliefs about being apprehended for a crime over a time period and it was reported that offenders generally do not think about getting caught over 1,6 or 12 months, but they think there is a good chance that they will be caught eventually.

These experiments have two important consequences. The first is that young offenders can reason about their involvement in crime and give good accounts of why it happens, and what factors may contribute to the reduction of crime by young offenders. Secondly, if they have the ability to reason to some degree about that which they are involved in, then rehabilitation efforts could be directed towards the development of thinking skills that challenge their existing thought processes and provide alternative

thinking strategies that have the potential to help them at the very least delay acting on their decisions until they have considered possible alternatives to achieving their aims (eg. to get a 'buzz' from joyriding).

Findings from Study 4

Chapter 5 reported a series of two experiments carried out with 90 participants that investigated crime specific knowledge in relation to burglary. This knowledge was compared between young burglars, young offenders whose primary activity was something other than burglary and non-offenders. The results clearly show that domain specific skills are being utilised in very specific ways. It was found that young Irish burglars possess more knowledge of burglary, their knowledge was better organised, with more steps in the planning and execution of a burglary being demonstrated and their performance in domain related tasks was superior to those of the non burglars and non offenders.

The first experiment in this study, Experiment 6 reported that burglars tended to judge houses to be attractive to burgle regardless of the presence of burglary deterrents, compared to non-burglar offenders and non-offenders and the burglars, during interview, relied on their knowledge of previous burglaries to deem whether a property was a good target or not. Furthermore, they were able to decide very quickly whether a particular dwelling would be advantageous to burgle or not, taking less than 15 seconds to arrive at a decision. While this does not imply that fast equals good, it clearly shows that burglars, in general, were scanning the photographs with some knowledge of what to look for already in mind, and this is seen again in the memory performance task. The checklist items demonstrated that the presence of commonly identified security features such as an alarm, a beware of the dog sign, an extra lock, or the potential of being seen by neighbours have little impact when young burglars are weighing up the costs and benefits of a potential target. Features which do impact on their decision-making processes include positive wealth, negative occupancy, and easy access. The decision making and expertise questions suggest that indeed burglars do appear to have an expertise or at the very least, some form of specialised knowledge that the non-offenders and non-burglar offenders do not share. This is evidenced in the way that the burglars reported more stages relevant to the commission of a burglary, usually in the planning stage and getting rid of the stolen property which, along with the results of the target selection task and the memory performance task, suggests that these burglars are drawing on cognitive skills

directly related to their experience of burglary and which are superior to the other two groups.

The second experiment in this chapter, Experiment 7, showed that young burglars provide a more detailed memory 'script' about the process of burglary. On the memory performance task, burglars remembered more relevant details, and outperformed the non-offenders and non-burglar offenders when noticing something was different about the photographs, therefore indicating that young burglars have a high level of recognition accuracy for relevant features.

The young burglars showed a superiority in their ability to recall crime-specific deterrents, such as a house alarm, in photographs of houses when they were given an unexpected memory test, which appeared to be derived from experience. The result indicates that even young offenders possess crime-specific expertise and that the superior recognition of deterrents arises from genuine experience and expertise in the specific crime domain, rather than some more general crime knowledge. When interrogative suggestibility was investigated through the use of novel analogous materials in the second memory test, it was demonstrated that burglars were less susceptible to being misled by erroneous information and negative feedback about their specific crime domain. The result indicates that crime-specific expertise may offer some protection from interrogative suggestibility, enabling individuals to discern and withstand misleading information in their domain of expertise.

The results of these experiments were consistent with a rational choice perspective. This approach provides a firm framework for analysing and understanding the decision-making processes used by young offenders and has the added benefit of gaining information from offenders themselves on specific crime problems. Many of the burglars and non-burglar offenders gave definitions of burglary and accounts of the sequence of events in burglaries that were different and more extensive than non-offenders. Burglars and non-burglar offenders' definitions focused on breaking and entering, whereas non-offenders focused on stealing. Burglars and non-burglar offenders gave more detailed accounts of burglary than did non-offenders, with more specific information, and they tended to include information about the antecedents, such as targeting and monitoring a house, and the consequents, such as selling stolen goods. Their accounts were also more detailed in their concern with getting in and getting out of the property than non-offenders were. The results suggest that young burglars had more knowledge in memory about specific crimes, perhaps organised in more elaborated

memory structures and that rational elements entered into the decision making calculus of the young burglars.

Therefore, young burglars, given time and experience, may indeed translate their already evident skills into expertise. This study clearly lends support to the need for more crime specific studies to be carried out for a clearer understanding of the underlying cognitive mechanisms relating to offending behaviour, and draws attention to the link between the knowledge base which young burglars possess and how that knowledge manifests itself in consequent behaviour.

Methodological Issues

Several caveats regarding the generalisability of the findings reported here are in order. Firstly, the findings in Chapter 2 were based on a secondary data analysis. While this method of sampling has certain advantages, there are some inevitable drawbacks, which need to be delineated. When sourcing data through archival methods researchers are limited to the data which are contained in the reports or records themselves. In general, there was a high degree of variation in quantity and quality of data contained in the reports and records accessed, which could have impacted on the overall results obtained. Of course, inferences could not be made where information was not available on a particular variable and the position remains, that only where information was recorded in the reports accessed could it be included. One obvious method to eliminate this problem would be to interview young offenders directly.

The methodological approach of the two experiments in Chapter 3 was quasi-experimental. This study was exploratory in nature, and conducted with a variety of age groups. The offending sample consisted of young offenders held in detention centres for 12-16 year olds and two detention centres which cater for 16-21 year olds. This wide age range is problematic within groups, since the impact of ordinary developmental processes such as maturation levels could certainly have acted as an extraneous factor. The between group age differential is even more noticeable, with access being gained only to younger school participants, with the result that only very tentative conclusions might be drawn from the results. This weakness was due to the bureaucratic constraints on accessing participants and was a recurring difficulty throughout all of the studies. A further difficulty with this exploratory study related directly to the constraints of time allocated by the relevant authorities to the running of the experiments in this study. Consequently, this study was conducted with groups of participants as opposed to individuals sessions.

This feature without doubt had a detrimental effect on the performance of the young offenders, who found it difficult to maintain high levels of concentration in the presence of other young offenders some of whom were behaving in ways that were generally distracting. Furthermore, a knock-on effect of this was that although 90 participants participated in this study, only the data from 67 could be used in the data analysis, due to incomplete information. The methodology employed for the three experiments in Chapter 4 and the two experiments in Chapter 5 adopted a more rigorous approach and the experimental and control groups were better balanced, with reasonable sample sizes reached in both studies.

The usefulness of this experimental method is evident, since direct comparison with a more heterogeneous sample was carried out in comparison to the more traditional cross-sectional or longitudinal approach which is usually adopted in research of this nature. This is not to deny the obvious strengths and merits of those methodologies, but merely to acknowledge that looking only at a group of problem-laden participants who largely share common features does not allow for the prediction or measurement of any differences between groups which might have implications for the problem of youthful offending or any efforts to address it. Finally, each of the variables which were under consideration in these studies could warrant a thesis in its own right. In the present thesis however, it was deemed appropriate to investigate the expanse of the issues, given the overriding aim of assembling a profile of the impact of cognitive processes on young offenders' behaviour.

Implications of the research findings

The findings of this thesis have two main implications. First, it has implications with regard to the shortage of research carried out at both a general level and a more crime-specific approach in relation to young offenders in Ireland. O' Sullivan (1998) has harshly criticised the lack of research conducted in Ireland on this area, and consequently the issue of redressing this imbalance remains critical. This thesis is but a small contribution to an area that deserves significantly more attention and the multi-faceted nature of offending behaviour should be reflected in the approaches used to address it. This thesis has shown that offenders are capable of displaying normal cognitive processes in some areas such as reasoning, while in others, their performance on tasks that measure crime-specific knowledge is superior to participants who are similar in age, family and social background. The advocacy of investigating cognitive processes is not to deny the

need to continue carrying out research with young offenders which reveals more of the social processes involved, rather that it is time to acknowledge that in order to theorise about young offenders, their cognitive capacities and limitations must be explored, understood and addressed.

The second implication pertains to the rehabilitation of young offenders. As the results of these studies show, young offenders display practical intelligence, possess the cognitive skills to reason about issues that directly involve them and to make judgements and decisions that impact on their involvement in crime. There is scope in the approach adopted in this thesis to develop methods to challenge some deep-seated beliefs about crime which some young offenders hold. This may be achieved through a thorough methodical appraisal of cognitive processes. One such approach may be achieved by helping young offenders to adopt 'good' thinking strategies which involves considering alternative viewpoints that run counter to their own beliefs. This could be achieved by engaging them in the practice of thinking as opposed to merely teaching them about thinking. A similar approach was used by Perkins (1986) in high schools, colleges, graduate schools, and professional schools to improve reasoning about social and political issues. It was reported that the training that works best involves 'scaffolds' or prompts, that force participants to generate reasons that run counter to their own initial position. Such prompts are said to reduce the 'my side' bias that was displayed by the young offenders in study 3. Having spent many months testing young offenders in several detention centres, it was not uncommon to hear justifications for criminal acts with statements such as "I only robbed in posh areas" or in the case of car theft for joyriding: "I did them (the car owner) a favour because they'll get the insurance money". By focusing on statements such as these, and engaging them in a discourse that involves the consideration of alternative points of view, the challenge of enabling young offenders desist from crime may be tackled on a day to day basis.

At present, in the detention centres where the testing sessions took place, many of the young offenders reported spending a large part of their time speaking with other young offenders about crimes they had committed. Social interaction offers a natural corrective to the egocentrism of individual minds and we try out our own theories or beliefs in social discourse, which corrects what they have failed to take into account. By introducing social diversity to young offenders even within the simplest everyday conversation, increases the likelihood that their thought processes will be enhanced.

However, this is unlikely to be achieved if the only social discourse that young offenders engage in is with other like-minded individuals who share the same beliefs.

These studies provide a profile of some of the cognitive processes of young offenders in Ireland, and by extension, young offenders generally. It has shown that contrary to popular belief and despite a consistent adversarial constellation of factors operating in their lives, young offenders do possess skills and qualities which are advantageous to them in their offending career. By researching and understanding these processes, an opportunity exists to not only complement the existing body of research on offending behaviour, but also to intervene effectively to rehabilitate and prevent young offenders only developing expertise on crime. Instead, by harnessing their practical intelligence, reasoning and decision making skills and channelling them more productively, a positive and effective contribution can be made. Finally, this thesis has contributed in some small way to redress the dearth of research into young offenders in Ireland. What is needed is a thoughtful and intelligent response to youth crime. One that speaks to the needs of young people, victims and the long-term best interests of society as a whole. Moreover, it is suggested that the greatest rewards for crime prevention strategies will be obtained by paying attention to cognitive processes such as the thinking skills and decision making processes that young offenders possess and utilise. It is in these processes that the mechanics and technicalities of criminal acts may be understood more fully, and a platform for understanding crime specific behaviour evolve.

REFERENCES

Adler, F. (1975). Sisters in crime. New York: McGraw-Hill.

Ageton, S., & Elliot, D. (1974). The effects of legal processing on self concept. *Social Problems*, 22, 87-100.

Agnew, R. (1985). Social control theory and delinquency: A longitudinal test. *Criminology*, 23, 47-60.

Ajzen, M. D. S. (1987). Attitudes, traits, and actions, dispositional prediction of behaviour in personality and social psychology. In L. Berkowitz (Eds.) *Advances in experimental social psychology*. San Diego: Academic Press.

Akers, R. (1990). Rational choice, deterrence, and social learning theories in criminology. Journal of Criminal Law and Criminology, 81, 653-676.

Arbuthnot, J., & Gordon, D. A. (1986). Behavioural and cognitive effects of a moral reasoning development intervention for high risk behaviour disordered adolescents. Journal of Consulting and Clinical Psychology, 54, 208-216.

Asquith, S. (1996). Children and young people in trouble with the law. Research Highlights in Social Work (30).

Austin, R. (1978). Intelligence and adolescent theft. *Criminal Justice and Behaviour*, 5, 212-225.

Bacik, I. &. O.Connell, M. (1998). *Crime and Poverty in Ireland*. Dublin: Round Hall Sweet and Maxwell.

Baldwin, J. (1979). Ecological and area studies in Great Britain and the United States. In N. Morris & M. Tonry (Eds.), *Crime and Justice*, *Vol. 1* (pp. 29-66). Chicago: University of Chicago Press.

Baldwin, J., & Bottoms, A. E. (1976). *The urban criminal*. London: Tavistock.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*,

44, 1175-1184.

Barclay, G. C. (1990). The peak age of known offending by males. *Home Office Research Bulletin*, 28, 20-23.

Barlow, H.1990. Introduction to Criminology. Boston: Little, Brown.

Baron, J (1995). In Evans, J (Ed) (1996). Thinking and reasoning. Psychology Press Publishers.

Barri Flowers, R. (1990). The adolescent criminal. Folkstone: McFarland.

Bates, B. (1996) Aspects of Childhood Deviancy: A Study of Young Offenders in Open Centres in the Republic of Ireland. Unpublished doctoral thesis.

Bates, B. (1996). Aspects of childhood deviancy: A study of young offenders in open centres in the Republic of Ireland. Clonmel: St. Joseph's.

Bedard, J. & Chi, M. (1992). Expertise: Current directions. Psychological Science, 1 (8), 135-0139.

Bennett, T. H., & Wright, R. (1984). Burglars on burglary. Aldershot: Gower.

Bentham, J. (1948). An introduction to the principles of morals and legislation. Oxford: Blackwell.

Bernard, T. J. (1984). Control criticisms of strain theories. *Journal of Research in Crime and Delinquency*, 21, 353-372.

Bhagat, M., & Fraser, W. I. (1970). Young offenders images of self and surroundings, a sematic enquiry. *British Journal of Psychiatry*, 117, 381-387.

Blackburn, R. (1993). *The psychology of criminal conduct: Theory, research and practice*. New York: Wiley.

Blasi, A. (1980). Bridging moral cognition and moral action: a critical review of the literature. *Psychological Bulletin*, 88, 1-45.

Blumstein, A., Farrington, D. P., & Moitra, S. (1985). Delinquency careers. Innocents, desisters, and persisters. In M. Tonry & N. Morris (Eds.), *Crime and justice: an annual review of research*. Chicago: University of Chicago.

Bortner, M., & Williams, L. (1997). Youth in prison. Routledge.

Bottomley (1979). Crime and penal policies: the criminologists dilemma. Hull: Hull University Press

Bottomley, A. K. (1979). Criminology in focus. Oxford: Robertson.

Bowlby, J. (1949) Forty-Four Juvenile Thieves: Their Characters and Home-Life. London: Bailliere, Tindall & Cox.

Bower, G. (1976). *Comprehending and recalling stories*. Address to the APA, Washington, DC.

Bowling, B., Graham, J., & Ross, A. (1994). Self-reported offending among young people in England and Wales. In J. Junger-Tas, G-J. Terlouw, & M. W. Klein (Eds.), Delinquent behaviour among young people in the western world. (pp. 42-64). Amsterdam: Kugler.

Box, S. (1981). Deviance, reality, and society. London: Holt, Rhinehart, and Winston.

Boyle, M. H., & Offord, D. R. (1986). Smoking, drinking and use of illicit drugs among adolescents in Ontario: Prevalence, patterns of use and socio-demographic correlates.

Canadian Medical Association Journal, 135, 1113-21.

Braine, M. (1978). On the relation between the natural logic of reasoning and standard logic. *Psychological Review*, 85, 1-21

Brandt, D. E. (1988). *The psychology and treatment of young offenders*. Springfield: Thomas USA.

Brantingham, P. J., & Brantingham, P. L. (1975). The Spatial Patterning of Burglary. Howard Journal of Penology and Crime Prevention 14: 11-24.

Bright, J. (1992). Crime prevention in America: A British perspective. Chicago: University of Illinois, Office of International Criminal Justice.

Bright, J. (1993). Youth crime prevention. Swindon: Crime Concern.

Brinkley, A., fitzgerald, M., & Greene, S. (1998). Substance use in early adolescence: A study of the rates and patterns of substance use among pupils in Dublin. Unpublished Paper.

Brown, S. (1998). Understanding youth and crime. Open University Press.

Bruce, V. (Eds) (1996). Unsolved mysteries of the mind. Erlbaum (UK) Taylor and Francis.

Buikhuisen, W. & Hoekstra, H. (1974). Factors related to recidivism. *British Journal of Criminology*, 14, 63-69.

Burke, H., Carney, C. & Cook, G. (1981). Youth and justice: young offenders in Ireland. Dublin: Turoe Press.

Burke, H., Carney, C., & Cooke, G. (1980). Youth and justice: Young offenders in Ireland. Dublin: Turoe Press.

Bursik, R. J. (1988). Social disorganization and theories of crime and delinquency: Problems and prospects. *Criminology*, 26, 519-51.

Bursik, R. J., & Webb, J. (1982). Community change and patterns of delinquency. *American Journal of Sociology*, 88, 24-42.

Burt, C. (1944). The Young Delinquent. London: University of London Press.

Campbell, A. (1991). The girls in the gang. Oxford: Basil Blackwell.

Canter, R. J. (1982a). Sex differences in self report delinquency. *Criminology*, 20, 373-393.

Caplan, N. S., & Siebert, L. A. (1964). Distribution of juvenile delinquent intelligence test scores over a thirty-four year period. *Journal of Clinical Psychology*, 20, 242-247.

Carroll, J. S., & Weaver, F. M. (1986b). Shoplifter's perceptions of crime opportunities. In D. B. Cornish & R. V. G. Clarke (Eds.), *The reasoning criminal*. New York: Springer-Verlag.

Carroll, J., & Weaver, F. (1986). Shoplifter's Perceptions of Crime Opportunities: A Process Tracing Study. In The Reasoning Criminal: Rational Choice Perspectives on Offending, edited by Derek Cornish and Ronald Clarke. New York: Springer Verlag. Carroll, J., & Weaver, F. (1986a). Shoplifters' perception of crime opportunities: a process-tracing study. In D. B. Cornish & R. V. Clarke (Eds.), The reasoning criminal. (pp. 19-38). New York: Springer-Verlag.

Ceci, J. & Roazzi, A.(1994). The effects of context on cognition: Postcards from Brazil. In Strenberg, R & Wagner, R. (1994). (Eds) Mind in context: Interactionist perspectives on human intelligence. Cambridge University Press

Ceci, S. & Liker, J. (1986). *Academic and non-academic intelligence: an experimental separation*. In R.J. Sternberg & R. Wagner (Eds.) Practical intelligence. Cambridge, England: Cambridge University Press.

Cernkovich, S. A., & Giordano, P. C. (1979). A comparative analysis of male and female delinquency. *Sociological Quarterly*, 20, 131-145.

Chaiken, J. & Chaiken, M. (1982). Varieties of criminal behaviour. Santa Monica, CA: Rand.

Chandler, M. (1973). Egocentrism and antisocial behaviour: The assessment and training of social perspective taking skills. *Developmental Psychology*, 9, 326-332.

Cheng, P. & Holyoak, K. (1985). Pragmatic reasoning schemas. *Cognitive Psychology*, 17, 391-416.

Cheng, p. & Holyoak, K. (1985). Pragmatic reasoning schemas. *Cognitive Psychology*, 17, 391-746

Chess, S. & Thomas, A. (1984). *Origins and evolution of behaviour disorders*. New York: Bruner/Mazel.

Clarke, R. V. (1983). Situational crime prevention: Its theoretical basis and practical scope. In M. Tonry & N. Morris (Eds.), *Crime and justice, Vol. 4* (pp. 225-56). Chicago: University of Chicago Press.

Clarke, R. V. (1992). Introduction. In R. V. Clarke (Ed.), *Situational crime prevention:* Successful case studies (pp. 3-36). New York: Harrow and Heston.

Clarke, R. V. (1995). Situational crime prevention. In M. Tonry & D. P. Farrington (Eds.), *Crime and justice, Vol. 19* (pp. 91-150). Chicago: University of Chicago press.

Clarke, R. V. G. (1977). Psychology and crime. *Bulletin of the British Psychological Society*, 30, 280-283.

Clarke, R. V., & Cornish, D. B. (1985). Modelling offenders' decisions: A framework for research and policy. In M. Tonry & N. Morris (Eds.), *Crime and justice*, *Vol.* 6 (pp. 147-85). Chicago: University of Chicago Press.

Clarke, R., & Cornish, D. (1983). Crime Control in Britain: A review of Policy Research.

Albany: State University of New York Press.

Clarke, R., & Cornish, D. (1985). *Modelling Offenders' Decisions: A Framework for Research and Policy* pp 147-85 In Crime and Justice: An Annual Review of research, edited by Michael Tonry and Norval Morris. Chicago: University of Chicago Press. Cloward, R. A., & Ohlin, L. E. (1960). *Delinquency and opportunity*. New York: Free

Cohen, A. K. (1955). Delinquent boys. Glencoe, Illinois: Free Press.

Press.

Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: a routine activity approach. *American Sociological Review*, 44, 588-608.

Coie, J. D., Watt, N. F., West, D. J., Hawkins, J. D., Asarnow, J. R., Markman, H. J., Ramey, S. L., Shure, M. B., & Long, B. (1993). The science of prevention: a conceptual framework and some directions for a national research programme. *American Psychologist*, 48, 1013-22.

Colby, A., & Kohlberg, L. (1987). *The measurement of moral judgement*. Cambridge: Cambridge University Press.

Cole, M., & Means, B. (1981). Comparative studies of how people think. Harvard University Press.

Conger, R. D. (1976). Social control and social learning models of delinquent behaviour: A synthesis. *Criminology*, 14, 17-40.

Cook, G., & Richardson, V. (Ed.). *Juvenile justice at the crossroads*. Dublin: Department of Social Administration, U. C. D.

Coopersmith, S. (1981). *Self-Esteem Inventories*. California: Consulting Psychologists Press.

Cornish, D. B., & Clarke, R. V. G. (Ed.). (1986). *The reasoning criminal: Rational choice perspectives on offending*. New York: Springer-Verlag.

Cowie, J., Cowie, V., & Slater, E. (1968). *Delinquency in girls*. London: Heinmann. Cressey, D. & Ward, D. (1969). *Delinquency, crime and social process*. New York-London: Harper and Ron.

Cromwell, Paul, James Olson, and D'Aunn Avary. 1991. Breaking and Entering: An Ethnographic Analysis of Burglary. Newbury Park, CA:Sage.

Dalgleish, T., & Power, M. (Eds) (1999). Handbook of cognition and emotion. Wiley and Sons.

DeFleur, M. C., & Quinney, R. (1966). A reformulation of Sutherland's differential association theory and a strategy for empirical intervention. *Journal of Research in Crime and Delinquency*, 3, 1-22.

Deng, Xiaogang (1997). The deterrent effects of initial sanction on first-time apprehended shoplifters. *International journal of offender therapy and comparative criminology*, 41(3) 284-297.

Department of Justice (1997). *Tackling crime - discussion paper*. Dublin: Government Stationery Office.

Department of Justice FBI (1989) *Uniform Crime Reports*. Washington DC: US Government Printing Office.

Dishion, T. J., Patterson, G. R., & Kavanagh, K. A. (1992). An experimental test of coercion model: Linking theory, measurement and intervention. In J. McCord & R. Tremblay (Eds.), *Preventing antisocial behaviour* (pp. 253-82). New York: Guilford.

Dishion, T., Loeber, R., Stouthamer-Loeber, M. & Patterson, G. (1984). Skill deficits and male adolescent delinquency. *Journal of Abnormal Child Psychology*, 12, 37-54.

Douglas, J. W. B., Ross, J. M., Hammond, W. A., & Mulligan, D. G. (1966).

Delinquency and social class. British Journal of Criminology, 6, 294-302.

Eisen, M. (1972). Characteristic self-esteem, sex, and resistance to temptation. *Journal of Personality and Social Psychology*, 24, 68-72.

Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin*, 94, 100-131.

Eiser, R. (1980). Cognitive social psychology; A guidebook to theory and research. McGraw-Hill.

Elliot, D. S., & Huizinga, D. (1983). Social class and delinquent behaviour in a national youth panel, 1976-1980. *Criminology*, 21, 149-177.

Elliot, D. S., & Voss, H. L. (1974). Delinquency and dropout. Lexington: Heath and Co.

Elliot, D. S., Huizinga, D., & Ageton, S. S. (1985). *Explaining delinquency and drug use*. Beverly Hills, CA: Sage.

Emler, N. & Reich, S. (1995). *Adolescence and delinquency*. Blackwell Publishers. Emler, N., & Reicher, S. (1995). Adolescence and delinquency. Blackwell Publishers.

Epstein, S. (1973). The self-concept revisited: Or a theory of a theory. *American Psychologist*, 28, 404-416.

Erlbaum.

Ernst, C. & Angst, J. (1983). Birth order: It's influence on personality. New York: Springer Verlag.

Evans J, Newstead, E & Byrne, R. (Ed) Human Reasoning the psychology of deduction (1993). Lawrence Erlbaum Associates Ltd.

Evans, J. (Ed) (1996). Thinking and reasoning. Psychology Press Publishers.

Eyo, I. D. (1981). British delinquents and non-delinquents on seven domains of the self concept. *Journal of Psychology*, 109, 137-145.

Farelly, J. (1991). *Crime, custody and community: Juvenile justice and crime*. Dublin Voluntary and Statutory Bodies.

Farrington, D. P. (1978). The family background of aggressive youths. In L. Hersov, M.

Berger, & D. Shaffer (Eds.), Aggression and anti-social behaviour in childhood and adolescence (pp. 73-93). Oxford: Pergamon Press.

Farrington, D. P. (1972). Delinquency begins at home. New Society, 21, 495-97.

Farrington, D. P. (1973). Self-reports of deviant behaviour: Predictive and stable? *Journal of Criminal Law and Criminology*, 64, 99-110.

Farrington, D. P. (1979). Environmental stress, delinquent behaviour, and convictions. In I. G. Sarason & C. D. Spielberger (Eds.), *Stress and anxiety* (pp. 93-107). Washington DC: Hemisphere.

Farrington, D. P. (1981). The prevalence of convictions. *British Journal of Criminology*, 21, 173-175.

Farrington, D. P. (1983). Randomized experiments on crime and justice. In M. Tonry & N. Morris (Eds.), *Crime and justice* (pp. 257-308). Chicago: University of Chicago Press. Farrington, D. P. (1984). Measuring the natural history of delinquency and crime. In R. A. Glow (Eds.), *Advances in the behavioural measurement of children* (pp. 217-63). Greenwich, Connecticut: JAI Press.

Farrington, D. P. (1986a). Age and crime. In M. Tonry & N. Morris (Eds.), *Crime and justice* (pp. 189-250). Chicago: University of Chicago Press.

Farrington, D. P. (1986b). Stepping stones to adult criminal careers. In D. Olweus, J. Block, & M. R. Yarrow (Eds.), *Development of anti-social and pro-social behaviour* (pp. 359-84). New York: Academic Press.

Farrington, D. P. (1987). Epidemiology. In H. C. Quay (Eds.), *Handbook of juvenile delinquency* (pp. 33-61). New York: Wiley.

Farrington, D. P. (1988). Studying changes within individuals: The causes of offending. In M. Rutter (Eds.), *Studies of psychological risk* (pp. 158-83). Cambridge University Press.

Farrington, D. P. (1989a). Later adult life outcomes of offenders and non-offenders. In M. Brambring, F. Losel, & H. Skowronek (Eds.), *Children at risk: Assessment, longitudinal research, and intervention* (pp. 220-44). Berlin: De Gruyter.

Farrington, D. P. (1989b). Self-reported and official offending from adolescence to adulthood. In M. W. Klein (Eds.), *Cross-national research in self-reported crime and delinquency* (pp. 399-423). Dordrecht, Netherlands: Kluwer.

Farrington, D. P. (1990). Implications of criminal career research for the prevention of offending. *Journal of Adolescence*, 13, 93-113.

Farrington, D. P. (1991). Childhood aggression and adult violence: Early precursors and later life outcomes. In D. J. Pepler & K. H. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 5-29). Hillsdale, NJ: Erlbaum.

Farrington, D. P. (1992a). Criminal career research in the United Kingdom. *British Journal of Criminology*, 32, 521-86.

Farrington, D. P. (1992b). Explaining the beginning, progress and ending of anti-social behaviour from birth to adulthood. In J. McCord (Eds.), *Facts, frameworks and forecasts: Advances in criminological theory* (pp. 253-86). New Brunswick, NJ: Transaction Press. Farrington, D. P. (1992c). Juvenile delinquency. In J. C. Coleman (Eds.), *The school years* (pp. 123-63). London: Routledge.

Farrington, D. P. (1992d). Trends in English juvenile delinquency and their explanation. International Journal of Comparative and Applied Criminal Justice, 16, 151-63.

Farrington, D. P. (1993a). Childhood origins of teenage anti-social behaviour and adult social dysfunction. *Journal of the Royal Society of Medicine*, 86, 13-17.

Farrington, D. P. (1993b). Understanding and preventing bullying. In M. Tonry & N.

Morris (Eds.), Crime and justice (pp. 381-458). Chicago: University of Chicago Press.

Farrington, D. P. (1994a). Childhood, adolescent and adult features of violent males. In L.

R. Huesman (Eds.), *Aggressive behaviour: Current perspectives* (pp. 215-40). New York: Plenum Press.

Farrington, D. P. (1994b). Early developmental prevention of juvenile delinquency. Criminal Behaviour and Mental Health, 4, 209-27. Farrington, D. P. (1995a). Later life outcomes of truants in the Cambridge study. In I. Berg & J. Nursten (Eds.), *Unwillingly to school* (pp. 96-118). London: Gaskell. Farrington, D. P. (1995b). The development of offending and anti-social behaviour from childhood: Key findings from the Cambridge study in delinquent development. *Journal of Child Psychology and Psychiatry*, 36, 929-64.

Farrington, D. P. (1995c). The explantation and prevention of youthful offending. In J. D. Hawkins (Ed.), *Delinquency and crime: Current theories* (pp. 68-148). Cambridge: Cambridge University Press.

Farrington, D. P., & Burrows, J. N. (1993). Did shoplifting really decrease? *British Journal of Criminology*, 33, 57-69.

Farrington, D. P., & West, D. J. (1990). The Cambridge study in delinquent development: A long term follow up of 411 males. In G. Kaiser & H. J. Kerner (Eds.), *Criminality*, personality, behaviour, life history. Heidelberg: Springer-Verlag.

Farrington, D. P., & West, D. J. (1993). Criminal, penal and life histories of chronic offenders: Risk and protective factors and early identification. *Criminal Behaviour and Mental Health*, *3*, 492-523.

Farrington, D. P., Berkowitz, L., & West, D. J. (1982). Differences between individual and group fights. *British Journal of Social Psychology*, 21, 323-333.

Farrington, D. P., Gallagher, B., Morley, L., St. Ledger, R. J., & West, D. J. (1986b). Unemployment, school leaving, and crime. *British Journal of Criminology*, 26, 335-56. Farrington, D. P., Langan, P. A., & Wikstrom, P. O. H. (1994). Changes in crime and punishment in America, England and Sweden between the 1980s and the 1990s. *Studies in Crime and Crime Prevention*, 3, 104-31.

Farrington, D. P., Loeber, R., & Van Kammen, W. B. (1990). Long-term criminal outcomes of hyperactivity-impulsivity-attention deficit and conduct problems in childhood. In L. N. Robins & M. Rutter (Eds.), *Straight and devious pathways from childhood to adulthood* (pp. 62-81). Cambridge: Cambridge University Press.

Farrington, D. P., Ohlin, L. E., & Wilson, J. Q. (1986). *Understanding and controlling crime*. New York: Springer-Verlag.

Farrington, D., Ohlin, L., & Wilson J. (1986). Understanding and controlling crime: Toward a new research strategy. Springer Verlag.

Feeney, F. (1986). *Robbers as Decision-Makers* in Cornish & Clarke (eds), The Reasoning Criminal: Rational Choice Perspectives on Offending, New York: Springer Verlag.

Felson, M. (1986). Linking criminal choices, routine activities, informal control and criminal outcomes. In D. B. Cornish & R. V. G. Clarke (Eds.), *The reasoning criminal: The rational choice perspectives on offending.* New York: Springer-Verlag. Ferguson, H., Gilligan, R., & Torode, R. (Ed.). (1993). *Surviving childhood adversity*. Dublin: Social Studies Press.

Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1993). The effects of conduct disorder and attention deficit in middle childhood on offending and scholastic ability at age 13. *Journal of Child Psychology and Psychiatry*, 34, 899-916.

Feshbach, S., & Price, J. (1984). The development of cognitive competencies and the control of aggression. *Aggressive Behaviour*, 10, 185-200.

Figuera-McDonough, J. (1984). Feminism and delinquency. *British Journal of Criminology*, 24, 325-342.

Furlong, A., & Cartmel, F. (1997). Young people and social change: Individualization and risk in late modernity. Buckingham: Open University Press.

Furnham, A., Forde, L., & Cotter, T. (1998). Personality and intelligence. *Personality and Individual Differences 24* (2), 187-192.

Furstenberg, Brooks-Gunn, & Morgan (1987a,b,). Crime and penal policies: the criminologists dilemma. Hull: Hull University Press.

Galotti, K. Approaches to studying formal and everyday reasoning (1989). *Psychological Bulletin*, 105, no.3, 331-335.

Galotti, K., Komatsu, L. & Voelz, S.(1997). Children's differential performance on deductive and inductive syllogisms. *Developmental Psychology*, 33, 1, 70-78

Galotti, K., Komatsu, L., & Voelz, s. (1997). Children's differential performance on deductive and inductive syllogisms. *Developmental psychology 33* (1) 70-78.

Garda Siochana, An (1997). Annual Report of An Garda Siochana. Dublin Stationery Office.

Garnham, A & Oakhill, J. (1997). Thinking and reasoning. Blackwell Publishers Ltd.

Gavin, H. (1998). The essence of cognitive psychology. Prentice Hall Europe.

Gibbons, D. (1975). Offender Typologies-Two Decades Later. *British Journal of Criminology*, 15, 140-156.

Gibbs, J. C., & Schnell, S. V. (1985). Moral development "versus" socialisation: A critique. *American Psychologist*, 40, 1071-1080.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge MA: Harvard University Press.

Gilovich, T. (1981). Seeing the past in the present: the effect of associations to familiar events on judgments and decisions. *Journal of personality and social psychology*, 40 (5), 797-808.

Gilovich, T. (1991). How we know what isn't so; The fallability of human reason in everyday life. Maxwell Macmillan Canada Inc.

Glaser, D. (1979). A review of Crime Causation Theory and it's Application. In Crime and Justice: An Annual Review of Research, vol. 1, edited by Michael Tonry and Norval Morris. Chicago: University of Chicago Press.

Glueck, S. & Glueck, E. (1950). *Unravelling Juvenile Delinquency*. New york: Harper and Row.

Goddard, H. H. (1914). Feeble-mindedness: Its causes and consequences. New York: MacMillan.

Gold, M. (1978). Scholastic experiences, self esteem and delinquent behaviour: A theory for alternative schools. *Crime and Delinquency*, 24, 290-308.

Goldstein, A. P., & Glick, B. (1994). The prosocial gang. London: Sage Publications.

Goodey, J. (1997). Boys don't cry: Masculinities, fear of crime and fearlessness. *British Journal of Criminology*, 37(3), 401.

Graham, J. (1988). Schools, disruptive behaviour and delinquency. London: H.M.S.O.

Graham, J., & Bennett, T. (1995). Crime prevention strategies in Europe and North America. Monsey, NY: Criminal Justice Press.

Graham, J., & Bowling, B. (1996). Young people and crime. Home Office research study 145. London: Home Office.

Greenwald, A. G., & Pratkanis, A. R. (1984). The self. In R. S. Wyer & T. K. Scrull (Eds.), *Handbook of social cognition*. Hillsdale NJ: Erlbaum.

Griffin, C. (1993). Representations of Youth: The study of youth and adolescence in Britain and America. Cambridge: Polity Press.

Gudjonsson, G, & Clark, N.K. (1986). Suggestibility in Police Interrogation: A Social Psychological Model. *Social Behaviour*, 1, 83-104.

Gudjonsson, g. & Singh, K.(1984b). The relationship between criminal conviction and interrogative suggestibility among delinquent boys. *Journal of Adolescence*, 7, 29-34. Gudjonsson, G. (1983). Suggestibility, intelligence, memory recall and personality: an experimental study. *British Journal of Psychiatry*, 142, 35-37.

Gudjonsson, G. (1988a). The relationship of intelligence and memory to interrogative suggestibility: The importance of range effects. *British Journal of Clinical Psychology*, 27, 185-187.

Gudjonsson, G. (1993). The psychology of interrogations, confessions and testimony. Wiley and sons.

Hagell, A. & Newburn, T. (1994). Persistent young offenders. London: Policy Studies Institute.

Hagell, A. & Newburn, T. (1996). Family and social contexts of adolescent re-offenders. Journal of Adolescence, 19, 5-18.

Hagell, A., & Newburn, T. (1994). *Persistent young offenders*. London: Policy Studies Institute.

Hanson, C. L., Hengeller, S. W., Haefle, W. F., & Rodick, J. D. (1984). Demographic, individual, and family correlates of serious and repeated crime among adolescents and their siblings. *Journal of Consulting and Clinical Psychology*, 52, 528-538.

Harvey, M. & Byrd, M. (1998). The relationship between perceptions of self-esteem, patterns of familial attachment, and family environment during early and late phases of adolescence. *International Journal of Adolescence and Youth* 7, 93-111.

Hawkins, J. (Ed) (1996). Delinquency and crime. Current theories. Cambridge University Press.

Healy, W. & Bronner, A. (1936). *New Light on Delinquency and its Treatment*. In C.R. Hollin. Psychology and Crime. (1989). London and New York: Routledge.

Healy, W., & Bronner, A. (1986). New light on delinquency and it's treatment. New Haven, Conn: Yale University Press.

Heilbrun, A. B. (1982). Cognitive models of criminal violence based on intelligence and psychopathy levels. *Journal of Consulting and Clinical Psychology*, *50*, 546-557.

Hengweller, S. W. (1989). Delinquency in adolescence. London: Sage.

Hill, M., & Aldgate, J. (Ed.). (1996). *Child welfare services: Developments in law, policy, practice and research.* London: Jessica Kingsley Publishers.

Hindelang, M. J., Hirschi, T., & Weis, J. G. (1981). *Measuring delinquency*. Beverly Hills, CA: Sage.

Hirschi, T. (1969). Causes of delinquency. Berkeley: University of California Press.

Hirschi, T. (1986). On the Capability of Rational Choice and Social Control Theories of Crime. In The Reasoning Criminal: Rational Choice Perspectives on Offending, edited by Derek Cornish and Ronald Clarke. New York: Springer Verlag.

Hirschi, T. (1986). On the compatibility of rational choice and social control theories of crime. In D. B. Cornish & R. V. G. Clarke (Eds.), *The reasoning criminal: Rational choice perspectives on offending*. New York: Springer-Verlag.

Hirschi, T., & Gottfredson, M. (1988). Towards a general theory of crime. In W.

Buikhuisen & S. A. Mednick (Eds.), Explaining criminal behaviour Leiden: Brill.

Hirschi, T., & Hindelang, M. J. (1977). Intelligince and delinquency: A revisionist review. *American Sociological Review*, 42, 571-587.

Hogan, R. (1973). Moral conduct and moral character. A psychological perspective. *Psychological Bulletin*, 79, 217-232.

Home Office (1989a). Criminal statistics: England and Wales 1988. London: H.M.S.O.

Home Office (1993a). Criminal statistics, England and Wales, 1991. London: H.M.S.O.

Home Office (1994). Criminal statistics, England and Wales. London: H.M.S.O. Offord,

D. R. (1982). Family backgrounds of male and female delinquents. In J. Gunn & D. P.

Farrington (Eds.), Abnormal offenders, delinquency, and the criminal justice system Chicester: Wiley.

Hough, M., Clarke, R. V. G., & Mayhew, P. (1980). Introduction. In R. V. G. Clarke & P. Mayhew (Eds.), *Designing out crime*. London: HMSO.

Huesmann, L. R., Eron, L. D., & Yarmel, P. W. (1987). Intellectual functioning and aggression. *Journal of Personality and Social Psychology*, 52, 232-240.

Irish National Teacher's Organisation. Youthful offending: A report. Dublin: I.N.T.O. Jeffery, C. (1977). *Crime prevention through environmental design*. Beverly Hills, CA:

Sage.

Jeffrey, C. R. (1976). Criminal behaviour and physical environment: A perspective. American Behavioural Scientist, 20, 149-174.

Jennings, W. S., Kilkenny, R., & Kohlberg, L. (1983). Moraldevelopmental theory and practice for youthful and adult offenders. In W. S. Laufer & J. M. Day (Eds.), *Personality theory, moral development, and criminal behaviour* Lexington: Lexington Books.

Johnson, N., & Payne, J. (1986). The decision to commit a crime. In D. B. Cornish & R. V. G. Clarke (Eds.), *The reasoning criminal: Rational choice perspectives on offending*

New York: Springer-Verlag.

Johnson-Laird, P & Byrne, R. (1996). A model point of view. In Evans, J (Ed) (1996). Thinking and reasoning. Psychology Press Publishers.

Johnson-Laird, P & Shafir, E. (Ed) Reasoning and decision making (1993). Blackwell Publishers.

Junger-Tas, T., Terlouw, G. & Klein, M. (1994). Delinquent behaviour among young people in the Western World. Amsterdam: Kugler Press.

Jurkovic, G. J. (1980). The juvenile delinquent as a moral philosopher: A structural developmental approach. *Psychological Bulletin*, 88, 709-727.

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 20, 341-350.

Kahneman, D., Slovic, p.,& Tversky, A. (1982). Judgement under Uncertainty: Heuristics and Biases. New York: Cambridge University Press.

Kandel L, E., Mednick, S.A., Kierkegarrd-Sorensen, L., Hutchings, B., Knop, J.,

Rosenberg, R., & Schulsinger, F. (1988). IQ as a protective factor for subjects at high risk for antisocial behaviour. *Journal of Consulting and Clinical Psychology*, 56, 224-226.

Kaplan, H. (1980). Delinquent behaviour in defense of self. New York: Pergamon Press.

Kaplan, P. J., & Arbuthnot, J. (1985). Affective empathy and cognitive role taking in delinquent and nondelinquent youth. *Adolescence*, 20, 323-333.

Kohlberg, L. (1976). Moral stages and moralisation: The cognitive developmental approach. In T. Lickon (Ed.), *Moral development and behaviour*. New York: Holt, Rhinehart, and Winston.

Kolvin, I., Miller, F. J. W., Fleeting, M., & Kolvin, P. A. (1988). Social and parenting factors affecting criminal-offence rates: Findings from the Newcastle thousand-family study (1947-1980). *British Journal of Psychiatry*, *152*, 80-90.

Kolvin, I., Miller, F. J. W., Scott, D. M., Gatzanis, S. R. M., & Fleeting, M. (1990). *Continuities of deprivation?* Aldershot: Avebury.

Kuhn, D. (1992) Thinking as argument. Harvard educational review 62, 2, 155-178.

Kuhn, D. The skills of argument (1991). Cambridge University Press.

Kurtines, W. M. (1984). Moral behaviour as rule governed behaviour: a psychosocial role-theoretical approach to moral behaviour and development. In W. M. Kurtines & J.

W. Gewirtz (Eds.), Morality, moral behaviour and moral development Chicester: Wiley.

Kvart, I. (1986). A theory of counterfactuals. Hackett Publishing Company.

Ladd, G. W., & Profilet, S. M. (1996). The child behaviour scale: A teacher-report measure of young children's aggressive, withdrawn, and prosocial behaviours.

Developmental Psychology, 32(6), 1008-1024.

LeBlanc, M., & Frechette, M. (1989). Male criminal activity from childhood through youth. New York: Springer-Verlag.

Leonardi, A., Syngollitou, E., & Kiosseoglou, G. (1998). Academic achievemnet, motivation and possible selves. *Journal of Adolescence 21*, 219-222.

Leonardi, A., Syngollitou, E., & Kiosseoglou, G. (1998). Academic achievemnet, motivation and future selves. *International Journal of Adolescence and Youth* 7, 195-177.

Lickona, T. (1976). Critical issues in the study of moral development. In T. Lickona

(Ed.), Moral development and behaviour. New York: Holt, Rhinehart, and Winston.

Loeber, R. & Dishion, T. (1983). Early predictors of male delinquency: A review. *Psychological Bulletin*, 94, 69-99.

Loeber, R. (1987). Behavioural precursors and accelerators of delinquency. In W.

Buikhuisen & S. A. Mednick (Eds.), *Explaining criminal behaviour* (pp. 51-67). Leiden: Brill.

Loeber, R., & Dishion, T. (1983). Early predictors of male delinquency. *Psychological Bulletin*, 94, 68-99.

Loeber, R., & Farrington, D (Ed) (1998). Serious and violent juvenile offenders. Sage Publishers.

Loeber, R., & Stouthamer-Loeber, M. (1987). Prediction. In H. C. Quay (Ed.), *Handbook of juvenile delinquency* (pp. 352-82). New York: Wiley.

Loeber, R., Stouthamer-Loeber, M., Van Kammen, W. B., & Farrington, D. P. (1991). Initiation, escalation and desistance in juvenile offending and their correlates. *Journal of Criminal Law and Criminology*, 82, 36-82.

Logie, R., Wright, R., & Decker, S. (1992). Recognition Memory Performance and Residential Burglary. *Applied Cognitive Psychology 6: 109-23*.

Losel, F., Bender, D., & Bliesener, T. (Ed.). (1992). *Psychology and Law: International perspectives*. Berlin: Walter de Gruyter.

Lund, N. L., & Salary, H. M. (1980). Measured self concept in adjudicated juvenile offenders. *Adolescence*, 15, 65-74.

Lynam, D., Moffit, T., & Stouthamer-Loeber, M. (1993). Explaining the relation between IQ and delinquency: Class, race, test motivation, school failure or self-control? *Journal of Abnormal Psychology*, 102, 187-96.

Lyon, J. (1996). Adolescents who offend. Journal of alolescence 19, 1-4.

Maguire, M, Morgan, R. & Reiner, R. (1997). *The Oxford handbook of criminology* (2 ed.). Oxford: Oxford University Press.

Maguire, M. (1982). Burglary in a dwelling. London: Heinemann.

Mandel, D. Lehman, D & Yuille, J.(1995). Reasoning about the removal of a child from home: A comparison of police officers and social workers. *Journal of applied social psychology*, 25, 10 906-921.

Manktelow, K. Reasoning and thinking (1999). Psychology Press Ltd.

Manneheim, H. (1965). Comparative criminology. London: Routledge and Kegan Paul.

Mason, M. A., & Gambrill, E. (Ed.). (1994). Debating children's lives: Current controversies on children and adolescents. Thousand Oaks, CA: Sage Publications.

Matza, D. (1964). Delinquency and drift. New York: Wiley.

Mawby, R. & Walklate, S. (1997). The impact of burglary: A tale of two cities. International Review of Victimology, 4, 267-295.

Mc Loughlin, E., Maunsell, C. & O' Connell, M. (in preparation). *Children in the Irish Juvenile Justice System*.

McCandless, B. R., Persons, W. S., & Roberts, A. (1972). Perceived opportunity, delinquency, race and body build among delinquent youth. *Journal of Consulting and Clinical Psychology*, 38, 281-287.

McCord, J. (1979). Some child-rearing antecedents of criminal behaviour in adult men. Journal of Personality and Social Psychology, 37, 1477-86.

McCord, J. (1982). A longitudinal view of the relationship between paternal absence and crime. In J. Gunn & D. P. Farrington (Eds.), *Abnormal offenders, delinquency, and the criminal justice system* (pp. 113-28). Chicester: Wiley.

McGarvey, B., Gabrielli, W., Bentler, P. M., & Mednick, S. (1981). Rearing, social class, education, and criminality: A multiple indicative model. *Journal of Abnormal Psychology*, 90, 354-364.

McQuoid, J. (1996). The ISRD study- self-report findings from Northern Ireland. *Journal of Adolescence*, 19, 95-98.

Mehlbye, J. & Walgrave, L. (Eds) (1998). Confronting youth in Europe. AFK Forgalet.

Meltzer, L. J., Roditi, B. N., & Fenton, T. (1986). Cognitive and learning profiles of delinquents and learning disabled adolescents. *Adolescence*, 21, 581-591.

Merton, R. K. (1939). Social structure and anomie. *American Sociological Review*, 3, 672-682.

Metfessel, M., & Lovell, C. (1942). Recent literature on individual correlates of crime. *Psychological Bulletin*, 39, 133-164.

Moir, A., & Jessel, D. (1997). A mind to crime; the controversial link between the mind and criminal behaviour. Signet.

Morash, & Rucker, (1989). Implementing criminal justice policies: Sage research progress series in criminology vol. 26

Murray, C. A. (1976). The link between learning disabilities and juvenile delinquency. Washington DC: Office of Juvenile Justice and Delinquency.

National Youth Federation (1996). Justice for young people. Irish Youth Work Press.

Nelson, J. R., Smith, D.J., & DODD, J., (1990). The moral reasoning of juvenile delinquents: A meta-analysis. *Journal of Abnormal Child Psychology* 18, 231-239.

Newman, O. (1972). Defensibile space: crime prevention through urban design. New York: MacMillan.

Newman, T., & Stanko, E. A. (1994). *Just boys doing business*? London: Routledge. Newson, J., & Newson, E. (1989). *The extent of parental physical punishment in the UK*. London: Approach.

Nisbett, R. (Ed) Rules for reasoning (1993). Lawrence Erlbaum Associates, Inc.

Nisbett, R., Krantz, D, Jepson, C. & Kunda, Z. (1983). The use of statistical heuristics in everyday inductive reasoning. *Psychological Review*, 90, 4, 339-363.

O' Sullivan, E. (1998). In I. Bacik & M. O'Connell (Eds.), *Crime and Poverty in Ireland*. Dublin: Round Hall Sweet & Maxwell.

O' Connell, M. (1996). Crime news and public views: An investigation into the relationship between the public perception and media portrayal of crime. Unpublished Doctoral thesis.

O' Sullivan, E. (1998). Confronting youth in Europe-juvenile crime and juvenile justice. Edited by J. Mehlbye. AKF Forgalet.

Oaksford, M. & Chater, N. (1998). Rationality in an uncertain world. Psychology Press Ltd.

Offord, D. R., (1982). Family backgrounds of male and female delinquents. In N. J. Gunn and D. P. Farrington (eds) Abnormal Offenders, Delinquency, and the Criminal Justice System. Chichester: Wiley.

O'Mahony, P. (1993). Crime and punishment in Ireland. Dublin: The Round Hall Press. O'Mahony, P. (1997). Mountjoy prisoners: A sociological and criminological profile. Dublin: Government Stationery Office.

O'Mahony, P., Cullen, R., & O'Hora, M. J. (1985). Some family characteristics of Irish juvenile offenders. *The Economic and Social Review*, 17(1), 29-37.

OPUB IE. JUSTICE la: 36

OPUB IE: DAIL 3: 28.

Osborn, S. G. (1980). Moving home, leaving London, and delinquent trends. *British Journal of Criminology*, 20, 54-61.

Osborn, S. G., & Shaftoe, H. (1995). Safer neighbourhoods? London: Safe Neighbourhood Unit.

Osherson, D. (1975). Logic and models of logical thinking. In R. Falmagne (Ed.),

Reasoning: representation and process in children and adults. Hillsdale, NJ:

Palmer, E. & Hollin, C. (1998). A comparison of patterns of moral development in young offenders and non-offenders. *Legal and Criminological Psychology*, 3, 225-235.

Palmer, E. & Hollin, C. (1999). Social competence and sociomoral reasoning in young offenders. *Applied Cognitive Psychology*, 13, 79-87.

Palmer, E., & Hollin, C. (1996a). Sociomoral reasoning, perceptions of own parenting and self-reported delinquency. *Personality and Individual Differences*, 21, 175-182.

Patterson, G. R. (1982). Coercive family process. Eugene, Oregon: Castalia.

Patterson, G. R., Chamberlain, P., & Reid, J. B. (1982). A comparative evaluation of a parent training programme. *Behaviour Therapy*, 13, 638-50.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, Oregon: Castalia.

Payne, J. (1980). Information Processing Theory: Some Concepts and Methods Applied to Decision Research. In Cognitive Processes. In Choice and Decision Behaviour, edited by Thomas Wallsten, Hillsdale, N.J.: Erlbaum.

Perfect, M., & Renshaw, J. (. (1996). Misspent Youth: Tackling offending behaviour, preventing youth crime, developing a strategy. London: The Audit Commission for Local Authorities.

Perkins, D. N. (1986). *Knowledge as design*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Piaget, J. (1959). Language and thought of the child. London: Routledge and Kegan Paul. Piliavin, I., Hardyck, A. J., & Vadum, A. C. (1968). Constraining effects of personal costs on the transgressions of juveniles. *Journal of Personality and Social Psychology*, 10, 227-231.

Power, M. J., Alderson, M. R., Phillipson, C. M., Shoenberg, E., & Morris, J. N. (1967). Delinquent schools? *New society*, *10*, 542-43.

Power, M. J., Benn, R. T., & Morris, J. N. (1972). Neighbourhood, schools, and juveniles before the courts. *British Journal of Criminology*, 12, 111-32.

Pugh, G., & Parton, N. (Eds.). (1996). Children and Society. Chicester: Wiley.

Pulkinen, L. (1988). Delinquent development: theoretical and empirical considerations. In M. Rutter (Ed.), *Studies of psychosocial risk* (pp. 184-99). Cambridge: Cambridge University Press.

Quay, H. C. (1987a). Patterns of delinquent behaviour. In H. C. Quay (Ed.), *Handbook of juvenile delinquency* New York: Wiley.

Quay, H.C. & Blumen, L. (1963). Dimensions of Delinquent Behaviour. *Journal of Social Psychology*, 61, 273-277

Raine, T. (1993). The psychopathology of crime: Criminal behaviour as a clinical disorder. London: Academic Press.

Reckless, W. C. (1961). *The crime problem*. New York: Appleton-Century-Crofts. Reckless, W. C., & Dinitz, S. (1967). Pioneering with self concept as a vulnerability factor in delinquency. *Journal of Criminal Law, Criminology and Police Science*, 58, 515-523.

Reiss, A. J. (1986). Why are communities important in understanding crime? In A. J.

Reiss, A. J., & Tonry, M. (Eds.), Communities and crime (pp. 1-33). Chicago: University of Chicago Press.

Reiss, A. J. (1988). Co-offending and criminal careers. In M. Tonry & N. Morris (Eds.), *Crime and justice* (pp. 117-70). Chicago: University of Chicago Press.

Reiss, A. J., & Farrington, D. P. (1991). Advancing knowledge about co-offending: Results from a prospective longitudinal survey of London males. *Journal of Criminal Law and Criminology*, 82, 360-95.

Rengert, G., & Wasilchick, J. (1985). Suburban Burglary: A Time and a Place for Everything. Springfield IL: Charles C Thomas.

Reppetto, T. (1974). Residential Crime. Cambridge, Mass.: Ballinger

Reppetto, T. (1976). Crime Prevention and the Displacement Phenomenon. *Crime and Delinquency 22: 166-77*.

Riley, D., & Shaw, M. (1985). *Parental supervision and juvenile delinquency*. London: H.M.S.O.

Rips, L. (1983). Cognitive processes in propositional reasoning. *Psychological Review*, 90, 38-71

Roff, M., Sells, S. & Golden, M. (1972). Social adjustment and personality development in children. Minneapolis: University of Minnesota Press.

Rottman, D. (1980), Crime in the Republic of Ireland: Statistical trends and their interpretation. Dublin: ERSI.

Rutherford, A. (1992). Growing out of crime. Winchester: Waterside Press.

Rutter, M. (1981). The city and the child. American Journal of Orthopsychiatry, 51, 610-25.

Rutter, M. (1983). School effects of pupil progress: Research findings and policy implications. *Child Development*, 54, 1-29.

Rutter, M., & Giller, H. (1983). *Juvenile delinquency: Trends and perspectives*. Harmondsworth: Penguin.

Rutter, M., Cox, A., Tupling, C., Berger, M., & Yule, W. (1975a). Attainment and adjustment in two geographical areas: 1. The prevalence of psychiatric disorder. *British Journal of Psychiatry*, 126, 493-509.

Rutter, M., Maughan, B., Mortimore, P., & Ouston, J. (1979). Fifteen thousand hours. London: Open Books.

Rutter, M., Yule, B., D., Q., Rowlands, O., Yule, W., & Berger, M. (1975b). Attainment and adjustment in two geographical areas: 3. Some factors accounting for area differences. *British Journal of Psychiatry*, 126, 520-33.

Sampson, R., & Laub, H. (1993). Crime in the making: pathways and turning points through life. Harvard University Press.

Sankey, M. & Huon, G. (1999). Investigating the role of alienation in a multicomponent model of juvenile delinquency. *Journal of Adolescence*, 22, 95-107.

Santilla, P., Ekholm, M., & Niemi, P. (1999). The effects of alcohol on interrogative suggestibility: The role of state-anxiety and mood states as mediating factors. *Legal and Criminological Psychology*, 4, 1-13.

Scarr, H. (1973). *Patterns of Burglary*. For the U.S. Department of Justice. Washington, D.C.: Government Printing Office.

Scriven, D. (1995). Crime does pay. Minerva Press.

Shafir, E, Simonson, I & Tversky, A. (1993). In Johnson-Laird, P & Shafir, E (Ed) Reasoning and decision making (1993). Blackwell Publishers.

Shapiro, R., Siegel, A., Scovill, L, & Hays, J. (1998). Risk-taking patterns of female adolescents: what they do and why. *Journal of adolescence*, 21, 143-159.

Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas*. Chicago: University of Chicago Press.

Shaw, C. R., & McKay, H. D. (1969). *Juvenile delinquency and urban areas (Revised Ed.)*. Chicago: University of Chicago Press.

Shaw, V. (1996). The cognitive processes in informal reasoning. Psychology Press, UK: Taylor & Francis.

Shoemaker, D. (1990). Theories of delinquency. Oxford: Oxford University Press.

Shouksmith, G. (1970). Intelligence, creativity and cognitive style. Batsford Ltd.

Simon, R. J., & Baxter, S. (1989). Gender and violent crime. In N. A. Weiner & M. E.

Wolfgang (Eds.), Violent crime, violent criminals. Newbury Park, CA: Sage.

Slovic, P., Lichtenstein, S. (1968). The Relative Importance of Probabilities and Payoffs

in Risk-Taking. Journal of Experimental Psychology Monograph, vol 78, no 3, part 2.

Solomon, G. S., & RAY, J.B. (1984). Irrational Beliefs of Shoplifters. *Journal of Clinical Psychology*, 40, 1075-1077.

Spivack, K. (1983). *Institutional settings: An environmental design approach*: New York: Human Science Press.

Steffenmeiser, D. J., Allan, E.A., Harer, M.D. & Streifel, C (1989). Age and the distribution of crime. *American Journal of Sociology*, 94, 803-831.

Sternberg, R. & Wagner, R. (Eds.). (1988). *Practical Intelligence*. Cambridge, England: Cambridge university Press.

Sternberg, R. (1977). Component processes in analogical reasoning. *Psychological Review*, 84, 353-378.

Sternberg, R. (1984). Toward a triarchic theory of human intelligence. *The Behavioural and Brain Sciences*, 7, 269-315.

Sternberg, R. (1985). Beyond IQ. Cambridge University Press.

Sternberg, R. (1994). *Thinking and problem solving* (Ed.): San Diego-London: Academic Press

Sternberg, R.& Rifkin, B. (1979). The development of analogical reasoning processes. Journal of Experimental Child Psychology, 27, 195-232.

Strenberg, R & Wagner, R. (1994). (Eds) *Mind in context: Interactionist perspectives on human intelligence*. Cambridge University Press.

Sturman, A. (1980). Damage on buses: the effects of supervision. In R.V.G. Clarke & P. Mayhew (EDS), Designing out crime. London HMSO.

Sutherland, E. H. (1945). Is "white collar crime" crime? *American Sociological Review*, 10, 132-138.

Sutherland, E. H., & Cressey, D. R. (1974). *Criminology* (9th ed.). Philadelphia: Lippincott.

Sykes, G., & Matza, D. (1957). Techniques of neutralisation: A theory of delinquency. American Sociological Review, 22, 664-673.

Tavecchio, L., Stams, G., Brugman, D., & Thomeer-Bouwens, M. (1999). Moral judgement and delinquency in homeless youth. *Journal of Moral Education*, 28 (1), 63-79.

Taylor, E. A. (1986). Childhood hyperactivity. *British Journal of Psychiatry*, 149, 562-73.

Tennent, G., & Gath, D. (1975). Bright delinquents: A three-year follow up study. *British Journal of Criminology*, 15, 386-390.

Thornberry, T. P., & Farnworth, M. (1982). Social correlates of criminal involvement: Further evidence on the relationship between social status and criminal behaviour.

American Sociological Review, 47, 505-18.

Thornberry, T. P., Lizotte, A. J., Krohn, M. D., Farnworth, M., & Jang, S. J. (1994). Delinquent peers, beliefs and delinquent behaviour: A longitudinal test of interactional theory. *Criminology*, 32, 47-83.

Thornton, D. (1987a). *Moral development theory*. In B.J. Mc Gurk, D.M. Thornton, & M. Williams (EDS) Applying psychology to imprisonment. London: HMSO.

Tobin, P. (1990). Ways Ahead: A case study of community development in an inner city area of Dublin. Dublin: Barnardo's.

Toulmin, S. E. (1958). *The use of argument*. Cambridge: Cambridge University Press. Trasler, G. (1968). *The Formative years*. London BBC.

Tremblay, R., McCord, J., Boileau, H., Charlebois, P., Gagnon, C., LeBlanc, M. & Larivee, S. (1991). Can delinquent boys be helped to become competent? *Psychiatry*, *54*, *148-161*.

Tunnell, D. (1992). Choosing crime: The criminal calculus of property offenders.

Chicago: Nelson-Hall)

Tversky, A., & Kahneman, D. (1974). Judgement under Uncertainty: Heuristics and Biases. *Science* 185: 1124-31.

Tyler, T. (1990). Why people obey the law. London: Vale University Press.

U.S. Department of Justice & F.B.I. (1989). *Uniform crime reports*, 1988. Washington DC: U.S. Government Printing Office.

Wadsworth, M. (1979). Roots of delinquency. London: Martin Robertson.

Walgrave, L. & Mehlbye, J. (1998). Juvenile crime and juvenile justice (Eds).

Copenhagen: AKF Forlaget.

Walsh, A., Petee, T. A., & Beyer, J. A. (1987). Intellectual imbalance and delinquency: Comparing high verbal and high performance IQ delinquents. *Criminal Justice and Behaviour*, 14, 370-79.

Walsh, D. (1980) Break-Ins: Burglary from Private Houses. London: Constable

Warr, M. (1993). Parents, peers and delinquency. Social Forces, 72, 247-64.

Weiner, I. (1982). Child and adolescent psychopathology. New York: Wiley & Sons.

Weis, J. G. (1987). Social class and crime. In M. R. Gottfredson & T. Hirschi (Eds.), *Positive criminology*. Beverly Hills, CA: Sage.

Wells, L. E., & Rankin, J. H. (1991). Families and delinquency: A meta-analysis of the impact of broken homes. *Social Problems*, 38, 71-93.

Wells, L.E., (1978). Theories of deviance and the self-concept. *Social Psychology* 41, 189-204.

West, D. (1982). Delinquency: Its roots and prospects. London: Heineman Educational.

West, D. J., & Farrington, D. P. (1973). Who becomes delinquent? London: Heinemann.

West, D. J., & Farrington, D. P. (1977). The delinquent way of life. London: Heinemann.

Wilde, Oscar. (1986). *The complete illustrated stories, plays and poems of Oscar Wilde*. Chancellor Press, London.

Williams, G. (1978). Textbook of criminal law. London: Stevens and Sons.

Williams, J. & Dunlop, L. (1999). Pubertal timing and self-reported delinquency in male adolescents. *Journal of Adolescence*, 22, 157-171.

Willigenburg, T. Criminals and moral development: Towards a cognitive theory of moral change in Tam, H. (Eds) (1996). Punishment, Excuses and moral development. Avebury. Wilson, H. (1980). Parental supervision: A neglected aspect of delinquency. *British Journal of Criminology*, 20, 203-35.

Wilson, J. Q., & Herrnstein, R. J. (1985). *Crime and human nature*. New York: Simon and Schuster.

Wise, s. & Upton, G. (1998). The perceptions of pupils with emotional and behavioural difficulties of their mainstream schooling. *Emotional and Behavioural Difficulties*, 3, 3-12.

Wolfgang, M., Figlio, R., & Sellin, T. (1972). *Delinquency in a birth cohort*. Chicago: University of Chicago Press.

Wright, R., & Decker. S. (1994). Burglars on the Job: Streetlife and Residential Breakins. Boston: Northeastern University Press.

Wright, R., Decker, S., Redfern, A., & Smith, D. (1992). A Snowball's Chance in Hell: Doing Fieldwork with Active Residential Burglars. *Journal of Research in Crime and Delinquency* 29: 148-61.

Wright, R., Logie, R., & Decker, S. (1995). Criminal Expertise and Offender Decision Making: An Experimental Study of the Target Selection Process in Residential Burglary. Journal of Research in Crime and Delinquency 32:39-53.

Wylie, R. C. (1968). The present status of self theory. In E.F. Borgatta & Lambert (EDS) Handbook of personality theory and research. Chicago: Rand Mc Nally.

Yochelson, S., & Samenow, S. (1976). *The criminal personality*. New York: Jason Aronson.

Young, J. & Matthews, R.(1992). *Questioning left realism*. In R. Matthews & J Young (EDS) Issues in realist criminology. London: Sage.

APPENDICES

Appendix 1

Coding Schedule for In-depth Profile in Study 1

Source of information

Id number

Name

Sex

Date of birth

Date of probation report

Date probation service first involved

Date/month/year as above

Current offence child has committed

Second current offence (if any) child has committed

Third current offence (if any) child has committed

Consequences or outcome of current case

Sanction given

Has the child committed offences previous to current ones

y(es) or n(o)

Previous offence type (earliest) carried out

Previous offence type (next after earliest) carried out

Previous offence type (two after earliest) carried out

Age at which offending commenced

Sanction for earliest offence carried out

Sanction for next after earliest offence

Sanction for second after earliest offence

Contact with the JLO

Any information about cautioning from JLO

Any other relevant information about the child's offending

Child's position in family e.g. third born = 3

Number of siblings

Parental status 1= living with both parents, 2= living with mother, 3= living with father

4 = institution, 5= other living arrangement

Parental marital status 1 = married, 2 = separated, 3 = divorced, 4 = other

If separated, degree of contact with absent parent

l= n(ot) a(pplicable), 2 = not known, 3 = contact never/rare 4 = contact ok, 5 = contact very good

How many years prior to date of current child offending did separation take place

Father's current job

Father's previous job

Mother's current job

Mother's previous job

Who is child living with currently

l = mother and father, 2 = mother, 3 = mother and partner, 4 = father, 5 = father and new partner, 6 = other

Is the home estimated to be deprived

Is the home privately owned, rented, corporation/local authority, other

Any additional family information

Is child currently at school?

School status and location

School year child is in (at time of report)

If the child left school, what age

Any comments in the report level of attending

If there was evidence of truanting, at what age did it commence (at a serious level)

Did the child show disruptive behaviour at school

Did the child show attention deficit at school

Did the child show learning problems at school

Any information from main assessment of child's academic ability

Any information from a secondary source on child's academic ability

Any information on quality of child's social interaction in school

Any other issues involving the child at school

Any information on child's current employment status

1 = full-time, 2 = part-time, 3 = apprenticeship, 4 = other work, 5 = na (at school)

Type of work

Any evidence of substance abuse by child?

Any evidence of alcohol abuse by child?

Any evidence of drug abuse by child?

If evidence of substance abuse by child, then age abuse began

Any evidence of physical abuse of child?

If evidence of physical abuse of child, by who?

Any evidence of sexual abuse of child?

If evidence of sexual abuse of child, by who?

Age at which first physical/sexual abuse against child began?

How severe was the abuse?

Any evidence of child being exposed to domestic violence?

Age at which child first exposed to domestic violence?

How severe was the domestic violence witnessed by child?

Describe the child's attitude

Describe the child's behaviour

Any evidence the child was easily influenced by peers

How involved was the child with his/her peer group

Did the child exhibit an out of control pattern of behaviour in any situation?

Was there any evidence that the child received poor supervision by parents, guardians, teachers?

Was there any evidence that the child as expected to take on to much responsibility?

Any evidence of anti-social behaviour before the age of 7?

If yes, what evidence

Any evidence of substance abuse by father?

Any evidence of alcohol abuse by father?

Any evidence of drug abuse by father?

If father took drugs, then what kind

Level of substance abuse by father

What kind of treatment did father receive for substance abuse

Any evidence of substance abuse by mother?

Any evidence of alcohol abuse by mother?

Any evidence of drug abuse by mother?

If mother took drugs, then what kind

Level of substance abuse by mother

What kind of treatment did mother receive for substance abuse

Any evidence of substance abuse by sibling?

Any evidence of alcohol abuse by sibling?

Any evidence of drug abuse by sibling?

If sibling took drugs, then what kind

Level of substance abuse by sibling

What kind of treatment did sibling receive for substance abuse

Any information on parent/s general level of coping with child

Any information on parent/s general attitude towards child

Any other member of a child's family involved in crime

Type of offence the other family member/s were involved in

Type of penalties they received

Did the child have any contact with the health board/community care services

Did the child have any contact with social work services

Did the child have any contact with psychiatric services

Did the child have any contact with psychological services

Did the child have any contact with probation and welfare services

Did the child have any contact with any other services

Did any other family member have any contact with the health board/community care services

Did any other family member have any contact with social work services

Did any other family member have any contact with psychiatric services

Did any other family member have any contact with psychological services

Did any other family member have any contact with probation and welfare services

Did any other family member have any contact with any other services

Any other information on the child

Level H

STERNBERG

TRIARCHIC ABILITIES TEST (Modified)

Name		Date	-
School		Grade	-
Racial or Ethnic Group	Sex	Birthdate	-
For office use only:			

Copyright 1993 by The Psychological Corporation.

For use only as a research instrument in Javits Act Program Grant No. R206R00001, funded by the Office of Educational Research and Improvement, U.S. Department of Education.

DIRECTIONS

Each passage contains an unknown word that is underlined. Read each passage and choose the word that has the same meaning as the unknown word as it is used in the question.

Circle the letter next to the answer you choose.

SAMPLE A

The <u>vin</u> was green, so I started to cross the street.

Vip most likely means

A. car

B. sign

C. light

D. tree

SAMPLE B

The day was hot, and many people were outside enjoying the sunshine. Many tems were on the lake. Some pulled waterskiers

Tem most likely means.

A. wave

(B.) boat

C. raft

D. duck

- 1. Zod took their first trip to the moon 1800 years ago via two stories by Lucian of Samosata, who may therefore properly be called the father of science fiction. In one of his tales, titled "True History", the trip was accidental. A ship sailing in mysterious waters was blown to the moon by a sudden storm. In the other story, the trip was premeditated. Its hero, Icaromenippus, undertook long training with the wings of large birds and finally became airborne and flew to his
- B. reader
- C. scientist
- D. explorer

- destination. Zod most likely means A. astronaut
- Any retail business that ignores its regular clientele, in order to discover on new jids, may discover that sales do not increase. The new interest generated may not be enough to compensate for the loss in sales caused by dissatisfied patrons who begin to shop elsewhere.

Jid most likely means

- A. product
- B. customer
- C. advertisement
- D. investment

3. Gazing upon the first signs of geps, the traveler stood still and silent. Before him, the mighty Sandrus Mountain peaks rose into the clouds, until the snowy caps were almost indistinguishable from the white fleece hovering over them. When the sun came up, its rays lit up the snow like rainbows.

Gep most likely means

- A. dawn
- B. land
- C. winter
- D. life

Today the news comes at such a fast pace that we often find ourselves absorbing contradictory information without stopping to think through the mivs. Sometimes, of course, we have simply misunderstood what we hear or read. But at other times, the news is made up of half-truths or ambiguous statements out of context.

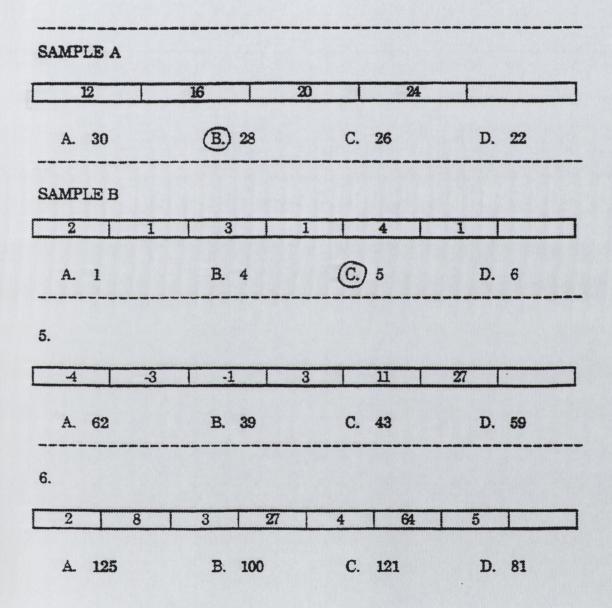
Miv most likely means

- A. fallacy
- B. consequence
- C. inconsistency
- D. reason

Part 2 DIRECTIONS

Each question contains a series of numbers. Each number in the series is related to one or more of the numbers before it by some rule. Find the rule, and figure out what number should come next in the series.

Circle the letter next to the answer you choose.



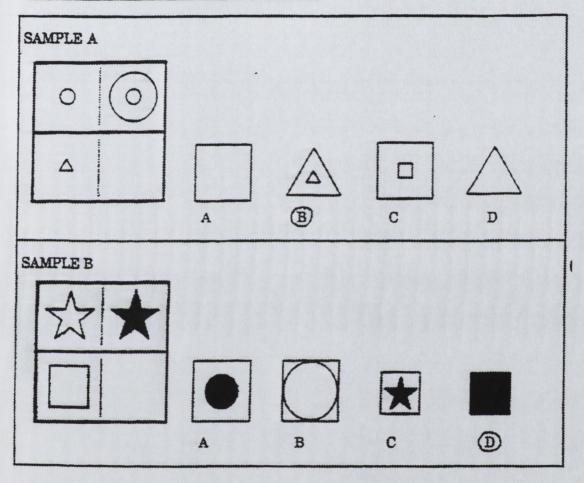
7. 169 100 256 49 16 A. 1 B. 4 C. 8 D. 9 8. 3 2 12 6 48 18 A. 66 B. 192 C. 132 D. 144

STOP

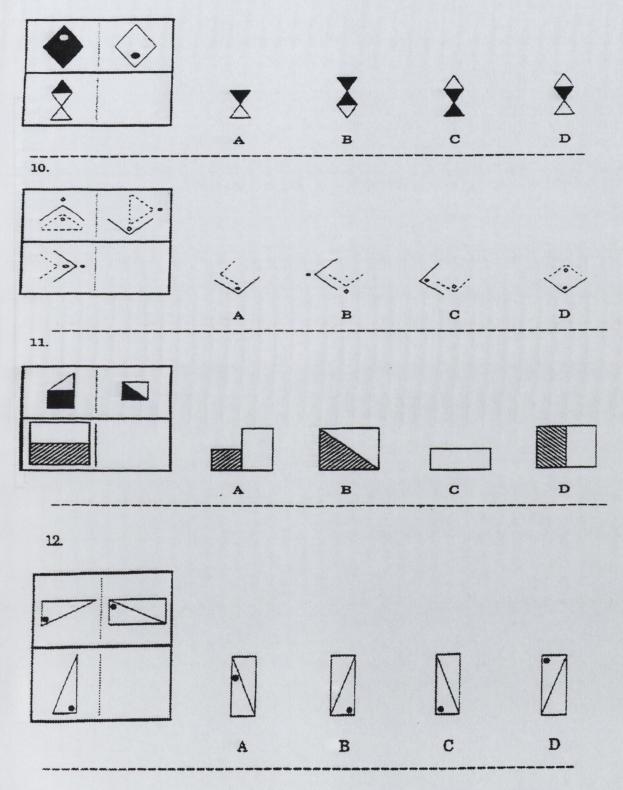
Part 3 DIRECTIONS

In each question, the shapes in the top row of boxes go together in a certain way. Choose the shape that goes with the shape in the bottom row in the same way that the shapes in the top row go together.

Circle the letter under the answer you choose.



9.



STOP

Each question gives you information about a situation involving a high school student. Read each question carefully. Choose the answer that provides the <u>best</u> solution, given the specific situation and desired outcome.

Circle the letter next to the answer you choose.

Linda was awarded a scholarship for college that covers all expenses except of her books and supplies. She expects that she will need approximately \$1000 per year. Being financially independent is of utmost importance to her. Which solution is most likely to give her the money she needs and still remain financially independent?

- A. Use the money she hopes to receive from graduation gifts instead of spending it on new clothes for college.
- B. Tell her summer employer that she will work the extra hours offered to earn the money she will need.
- C. Take out a student loan.
- D. Borrow the money from her parents.

John's family moved to Dublin from Cork during his first year in secondary. He enrolled in the local secondary school two months ago but still has not made friends and feels bored and lonely. One of his favorite activities is writing stories. What is likely to be the most effective solution to this problem?

- A. Volunteer to work on the school newspaper staff.
- B. Spend more time at home writing columns for the school newsletter.
- C. Try to convince his parents to move back to Cork.
- D. Invite a friend from Cork to visit during Christmas break.

You want to pursue a career as a professional swimming coach and were expecting to get a job coaching the swim team at a local recreational center this summer. The director informed you that they decided to hire someone else. Which of the following solutions is most likely both to provide you with the most summer income and with the best experience related to your career goals?

- A. Continue to apply for jobs as a swimteam coach until you have exhausted all the possibilities. If that plan fails, assume you have tried your best and borrow the money from your parents.
- B. Refuse to work this summer unless you get a job coaching a swim team.
 Instead you could spend the summer practicing your swimming.
- C. Talk with your swim coach about opportunities in the community for volunteering as an assistant swim coach and get a full-time night job at a local supermarket.
- D. Ask the director if there are still positions available as a lifeguard and hope you will be able to demonstrate your talent as a swimming instructor.

You are planning a party and want to invite all of your classmates. One of your closest friends tells you that he/she will not come to the party if you invite a person with whom he/she has had repeated disagreements. You suspect that your friend is testing your loyalty. You still want to invite the other person, despite your friend's objections. Assuming you want to assure your friend of your loyalty and not offend the other person, which is the best solution?

- A. You don't invite the other person but apologise to him/her and try to explain why you feel like you need to honor your friend's request.
- B. You invite the other person and tell your friend that you hope he/she will choose to come anyway.
- C. You invite the other person and then discuss your reason's with your friend and try to assure him/her of your loyalty.
- D. You decide to have another party later in the year and invite the other person to that instead.

Nancy, a leaving cert. Student wanted to seek information regarding prestigious colleges to which she might apply four a major in mathematics. Which of the following solutions is most likely to proved the best and quickest source of information?

- A. Ask both the high school guidance counselor, who is likely to have information about college math programs on file; and your math teacher, who can assess the merits of different programs.
- B. Ask the English teacher, who attended a prestigious college and who has two children who also attend prestigious colleges.
- C. Consult the local university library to see what information is available from college catalogs and from reference books that compare colleges.
- D. Ask the high school guidance counselor, who is likely to have information about college math programs on file.

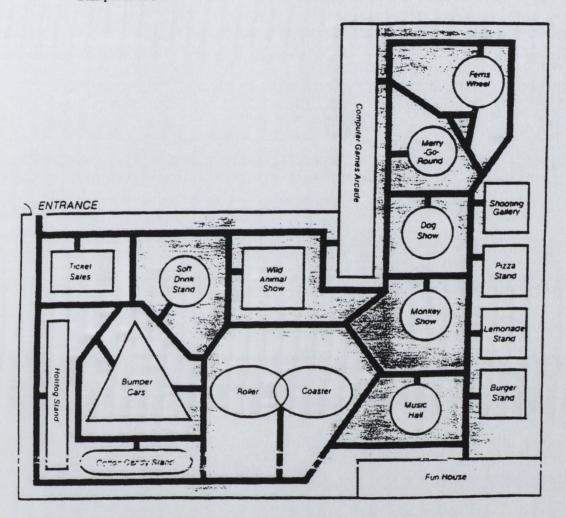
You suspect that your best friend, age 17, and has been coming to school intoxicated. Assuming that you want to find the most effective way to help your friend and, if possible, avoid any disciplinary action against him/her, which of the following would be the best solution?

- A. Ask your parents for advice even though you are afraid they may inform your friend's parents, and may ask you which of your other friends drink.
- B. Ask your friend about his/her drinking habits and suggest that he/she call the substance abuse counselor who recently visited your school.
- C. Report your suspicions to a teacher, the guidance counselor, or the school principal and ask that no disciplinary action to be taken against your friend.
- D. Give your friend some literature on teenage alcoholism, explaining your concerns about the effects of his/her drinking.

Each question asks you to find routes on a map and to choose the best route to take. Read each question carefully and choose the best answer.

Circle the letter next to the answer you choose.

Below is a map of an entertainment park. To go from one place to another, you must use the streets that are shaded black. Use the map to answer Sample A & B.



You are at the Burger Stand. You want to go to the front of Ticket Sales to meet some friends. If you walk the shortest way, you will pass the entrance to the

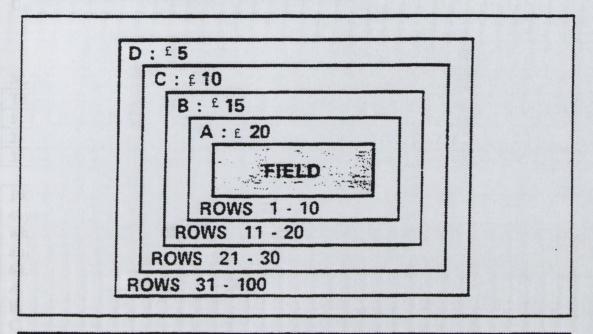
- A. Lemonade Stand and Computer Games Arcade
- B. Music Hall and Wild Animal Show
- C. Music hall and Soft Drink Stand
- D. Monkey Show and Wild Animal Show

You walk from the Lemonade Stand to the Computer Games Arcade. Your friend walks from the Shooting Gallery to the Roller Coaster. Which of these will both of you most likely pass?

- A. Merry-Go-Round
- B. Music Hall
- C. Pizza Stand
- D. Dog Show

Each question asks you to use information about everyday things. Read each question carefully and choose the best answer.

Circle the letter next to the answer you choose.



SAMPLE A

Tickets to the big game are fast selling out, but a few are still available at prices shown on the above diagram. Jason and his brother get tickets in Section A, but his parents settle for seats in Row 25. How much did the four tickets cost altogether?

A. £40

B. £ 50

(C.)E 50

D. £ 90

SAMPLE B

Mike wants to buy two seats together and is told there are pairs of seats available only in Rows 8, 12, 49, and 95-100. Which of the following is not one of his choices for the total price of the two tickets?

A.£ 10

(B) £20

C.£ 30

D.£ 40

Use the table below to answer questions 19 & 20.

MATH TEST GRADES

TEST	Linda	Louise	
1	65	86	
2	84	91	
3	72	72	

19. If the upcoming final examination counts as much as the two test grades, what is the lowest grade Linda can make and still maintain her C average? (C =	20. If the final exam counts as two test grades, and Louise skips the exam, thus receiving a grade of zero, what will her final average be?
69.5 to 79.4)	A. 44
A. 57	B. 53
B. 58	C. 66
C. 64	D. 88
D. 65	

DIRECTIONS

In each question below, there are three underlined words. The first two underlined words go together in a certain way. Choose the word that goes with the third underlined word in the same way that the first two goes together.

Each question has a "Pretend" statement. You must suppose that this statement is true. Sometimes the statement will be important in helping you choose the correct answer and sometimes it will not. Think of the statement, and then decide which word goes with the third underlined word in the same way that the first two underlined words go together.

Circle the letter next to the answer you choose.

SAMPLE A	SAMPLE B
Money falls off trees.	Birds live in caves
Snow is to shovel as dollar is to	Fish is to scale as bird is to
A. bill	A. tree
B. rake	B. egg
C. bank	C. feather
D. green	D. nest
	E.

Birds sing in choirs.	Prophets procrastinate.
Actor is to monologue as canary is to	Historian is to past as prophet is to
A. robin	A. present
B. soprano	B. memory
C. solo	C. future
D. music	D. delay
Colors are audible	The sea cries.
Flavor is to tongue as shades is to	Water is to sand as ocean is to
A. ear	A. salt
B. light	B. tear
C. sound	C. beach
D. hue	D. sob

DIRECTIONS

In each problem below, you will employ unusual mathematical operations in order to reach the solution. There are two unusual operations: graf ar : flix. First, read how the operation is defined. Then, decide what is the correct answer to the question.

Circle the letter next to the answer you choose.

There is a new	mathematical o	peration called	graf. I	t is	defined	88	follows:

x graf y = x + y, if x < y

x graf y = x - y, if otherwise. but

There is a new mathematical operation called flix. It is defined as follows:

a flix b = a + b, if a > b

a flix b = a x b, if a < bbut

a flix b = a + b, if a = band

SAMPLE A

How much is 4 graf 7?

A. -3

B. 3

D.-11

SAMPLE B

How much is 4 flix 7?

B. 11

C. 3

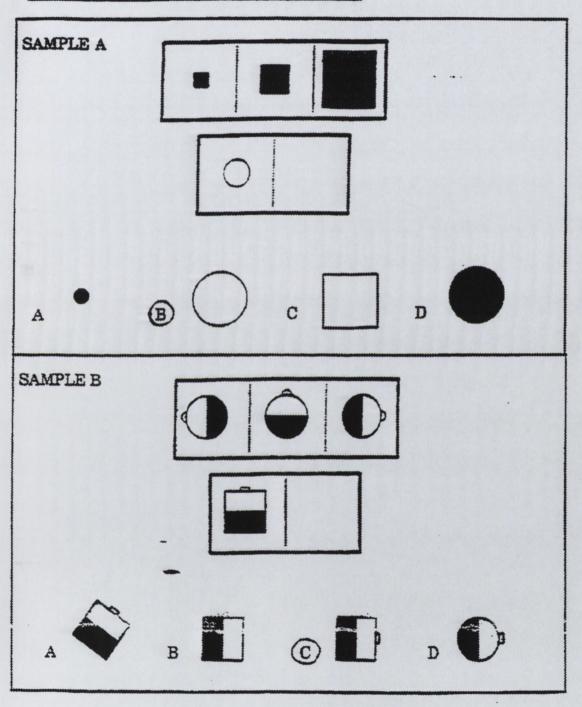
D. -11

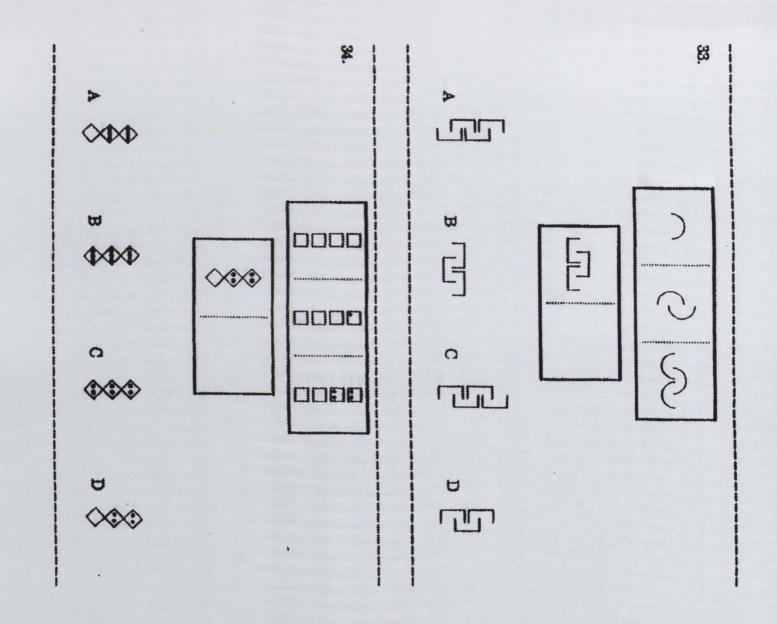
29. How much	is 13 graf 5?			
A. 5	B. 18	C. 13	D. 8	
30. How much	is 3 flix 7 ¹ / ₂ ?			
A. 10 ¹ / ₂	B. 21 ¹ / ₂	C. 22 ¹ / ₂	D. 4 ¹ / ₂	
31. How much	is 7 graf 7?			
A7	B. 49	C. 14	D. 0	
32. How much	is 100 flix 50?			
A 2	B. 150	C. 1	D. 50	
				STOP

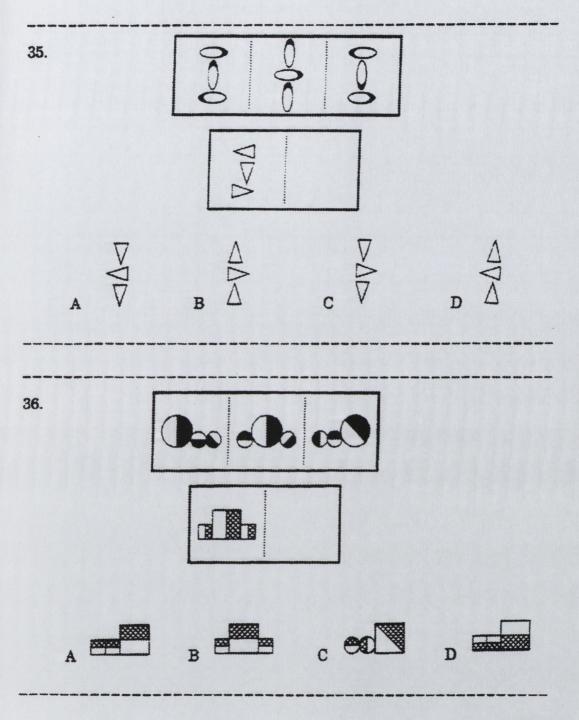
DIRECTIONS

In each question, the shapes in the first row of boxes go together in a certain way to form a pattern. The second row of boxes follows the same pattern. Decide what shape goes in the empty box.

Circle the letter next to the answer you choose.







STOP

Appendix 3

Coopersmith Self-Esteem Inventory (School Form)

"If a statement describes how you usually feel, put an x in the column "like me". If the statement does not describe how you usually feel, put an x in the column "unlike me"

Start @ 1987 by W.H. Freemon & Do. Putelshed in 1981 by Consulting Psychologisk Press, Inc. All lights reserved. It is uniqueful in regrosture or occupi this form without written permission from the Publisher.	28. I'm easy to like. 29. My parents and I have a lot of fun together.	26. I never warry about anything.	29. Toffen wish I were sameane else. 25. I con't be depended on.		22. I usually finel as if my twenths are pushing me.			18. I'm not as nice looking as must people.	17. I often feel upset in school.	16. There are many limes when I'd like to leave home.	15. I have a law opinion of myself.	14. Klds usually follow my ideas.	13. Things are all mixed up in my life.	12. It's pretty tough to be me.	11. My parents expect too much of me.	D. Im popular with was my own age. D. My nareate usually consider my feetings.		S. I get upset easily at home.	S. I'm a half of fun to be with.	U 4. I can make up my mind without too much trouble.	3. There are lots of things about myself I'd change if I could.	2. I find it vary hard to talk in front of the class.	1 1. Things usually don't bather me.	Like Unlike
Gen Sch 19dd	☐ 66. I'm a failure. ☐ 57. I get upset easily when I'm scoided. ☐ 38. I always know what to say to people.	54. My reachers make me feet I'm not good enough. [] 55. I don't care what hoppens to me.		51. I often feet ashamed of mysalf. 52. Kids pick on me vary often.		1 49. I don't like to be with other people.	U 46. I really don't like buing a sid	17. I can make up my mind and stick to it.	U 46. I'm not doing as well in school as I'd like to.	☐ 45. I never get scolded.	☐ ☐ 44. No one pays much affention to me at home.	☐ ☐ 43. I understand myse*.	42. I like to be called on in class.	11. I like everyone I know.		37. I'm doing line desi work lind i con.	36. I'm never happy.	35. I'm often sorry for the things I do.	34. Someone always has to tell me what to do.	33. I'm proud of my school work.	32. I always do the right thing.	31. I wish I were younger.	30. I spend a lot of time daydreaming.	Like Unike

CONTENTS OF THE GSS 2 STORY.

ANNA AND JOHN / WERE A HAPPILY MARRIED COUPLE / IN THEIR THIRTIES./ THEY HAD THREE CHILDREN, / TWO BOYS / AND A GIRL. / THEY LIVED IN A SMALL BUNGALOW / WHICH HAD A SWIMMING POOL / IN THE GARDEN. / JOHN WORKED IN A BANK / AND ANNA WORKED IN A BOOKSHOP / WITH HER SISTER / MARIA. / ONE TUESDAY / MORNING / IN JULY / THE COUPLE WERE LEAVING THE HOUSE / TO GO TO WORK / WHEN THEY SAW A SMALL BOY / GOING DOWN A STEEP SLOPE / ON A BICYCLE / AND CALLING FOR HELP. / ANNA AND JOHN RAN AFTER THE BOY / AND JOHN CAUGHT HOLD OF THE BICYCLE / AND BROUGHT IT TO A HALT. / THE BOY APPEARED VERY FRIGHTENED / BUT UNHURT / AND SAID THAT THE BRAKES ON HIS BICYCLE HAD BROKEN. / ANNA AND JOHN RECOGNISED THE BOY, / WHOSE NAME WAS WILLIAM / HE WAS THE YOUNGEST / SON OF THEIR NEIGHBOURS / WHO WORKED FOR A WELL-KNOWN / TRAVEL AGENCY / IN A NEARBY TOWN.
SOMETIMES IN THE WINTER MONTHS / THE TWO COUPLES HAD GONE SKI-ING TOGETHER / BUT THE CHILDREN OF BOTH FAMILIES / HAD PREFERRED TO STAY WITH THEIR GRANDPARENTS / WHO LIVED IN THE COUNTRY./

APPENDIX 4a

Questions on the GSS2 were given following the story to obtain a 'Yield' score And after time interval to obtain 'Shift' score

- 1. Were the couple called Anna and John?
- 2. Did the couple have a dog or a cat?
- 3. Did the boy's bicycle get damaged when it fell on the ground?
- 4. Was the husband a bank director?
- 5. Did the couple live in a small bungalow?
- 6. Did the boy on the bicycle pass a stop sign or traffic lights?
- 7. Was the boy frightened of the big van coming up the hill?
- 8. Did the boy have some minor bruises as a result of the accident?
- 9. Was the boy's name William?
- 10. Did the boy drop the books he had been carrying whilst riding the bicycle?
- 11. Was Anna worried that the boy might be injured?
- 12. Did john grab the boy's arm or shoulder?
- 13. Did the couple recognise the boy?
- 14. Did the boy commonly ride the bicycle to school?
- 15. Was the boy taken home by Anna or John?
- 16. Was the boy allowed to stay away from school on the day of the accident?
- 17. Did the couple's children sometimes stay with their grandparents?
- 18. Was the boy frightened of riding the bicycle again?
- 19. Was the weather wet or dry when the accident happened?
- 20. Did the couple have a skiing cottage in the mountains?

APPENDIX 4b Scoring sheet for GSS2

IMMEDIATE RECALL YIELD SHIFT

NS 1 (yes)

NS 5 (yes)

NS 9 (yes)

NS 13 (yes)

NS 17 (no)

*(NS) = NON SUGGESTIVE QUESTION.

Self-Report Offences List

"Please place a tick beside 'NO' if You have never carried out the offence and 'YES' if you Have"

List of things you might have done

No Yes How Often In the Last Year?

- 1. Travelled on a bus, train or dart without paying your fare.
- 2. Driven a car without a licence and/or insurance.
- 3. Driven a car without a licence or were disqualified.
- 4. Driven a car or moped when you've drunk more than the limit.
- 5. Damaged something, like a phone box, house window, etc.
- 6. Written Graffiti.
- 7. Got into an 18 certificate film by lying about your age.
- 8. Stolen money from a gas or electricity meter, public phone, vending machine, video game machine etc.
- 9. Stolen anything from any kind of shop.
- 10. Stolen anything from someone's home.
- 11. Taken a car, motorbike or moped without the owners permission.
- 12. Stolen anything from a person, like a purse or bag.
- 13. Sneaked into a house or building intending to steal something.
- 14. Bought or sold something you knew was stolen.
- 15. Sold a cheque book, credit card, cash point card, belonging to someone else.
- 16. Carried a weapon (knife, gun) to use to defend yourself.
- 17. threatened someone with a weapon to try to get them to give you something.
- 18. Got into a fight in public somewhere, at the football, outside the pub, etc.
- 19. Bought drugs for your own use.
- 20. Sold drugs to someone else.
- 21. Set fire to something on purpose.
- 22. Hurt someone (not in your family) enough to cause some injury.

Interview Schedule for Thinking as Argument
"I am going to ask you some questions
about criminal offences, please answer as honestly as you can."

Participant Number
Age
Present Offence
Length of Sentence Currently Serving

CAUSAL THEORY AND JUSTIFICATION

1 Why do offenders breach bail (commit larceny, UTMV) anything else?(probe, when subject completes initial response) la which of these would you say is the main cause? (if multiple causes mentioned) 2 how do you know that this is the cause? 3 just to be sure that I understand, can you explain exactly how this shows that this is 3a the cause?(probe if necessary) if you were trying to convince someone else that your view is right, what evidence 4 would you give to try to show this? can you be very specific, and tell me some facts you could mention to try to convince 4a somebody?(probe if necessary) is there anything further you could say to help show that what you Ove said is 5 is there anything someone could say or do to prove that this is what causes... 6 can you remember when you began to hold this view? 7 (if no) have you believed it for as long as you remember? 7a (if yes) can you remember what it was that led you to believe that this is the cause? 7b

CONTRADICTORY POSITIONS

- suppose now that somebody disagreed with your view that this is the cause. what 1 might they say to show that you were wrong? what evidence might this person give to try to show that you were wrong? 2 just to be sure I understand, can you explain exactly how this would show that you 2a were wrong?(probe if necessary) is there any fact or evidence which, if it were true, would show your view to be 3 wrong? (if not already indicated) could someone prove you were wrong? 4 a person whose view is very different from yours-what might they say is the major 5 cause?(omit if alternative theory already generated) suppose that someone disagreed with you and said that 6
- suppose that someone disagreed with you and said that _____ was the cause. what could you say to show that this other person is wrong?(include if no alternative theory generated)
- just to be sure I understand, can you explain exactly how this would show the person was wrong?(probe if necessary)
- 7 would you be able to prove this person wrong?
- 8 what could you say to show that your own view is correct?(if not already indicated)

INSTRUMENTAL REASONING/ASSESSMENT OF CONSISTENCY

- is there any one important thing which, if it could be done, would lessen prisoners breaching bail, committing larceny, UTMV?
- 2 why would this lessen it?

Scenarios for Processes in Informal Reasoning

"Arguments consist of premises (matters of opinion and matters of fact) that support conclusions (the main point of the argument). I am going to go through some arguments with you and I want you to rate the strength of the argument by thinking about the premises and conclusions. I also want you to think of as many objections to the arguments that you can and the objections cannot just be "I disagree with the argument".

(In this version participants are asked to rate the strength of the argument only; in remaining three versions subjects are asked to make different types of ratings:

- 1. Convincingness of the argument.
- 2. Strength of the argument and Believability of the premises and conclusions,
- 3. Convincingness of the argument and Believability of the premises and conclusions).

DOMAIN SPECIFIC, HIGH FREQUENCY

Unauthorised taking of a motor vehicle (UTMV) is an offence which has many effects. Some of these include feelings of anger and upset by the car owner, higher insurance costs, disruption to peoples lives, and for some people, the loss of their jobs. It has been argued that better security systems installed in cars, along with more severe prison sentences should stop much of the car theft that goes on

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

Larceny is a term used to describe any offence in which theft of an object or money takes place, and it is usually applied to burglaries and theft from cars. Recently, however, there has been a lot of news coverage about certain banks taking money from their customers by increasing interest rates without telling the customers. Given that money was stolen from people, these banks should be charged with larceny

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

The jailing of an 18 year old girl in Mountjoy for a week raises serious questions about prison accommodation and sentencing policy. She had been sentenced for breaking a glass window in a takeaway, and had also breached an order binding her to keep the peace after previous convictions for being drunk and disorderly. It seems a harsh decision when so many others, guilty of much more serious offences are released because there is no room for them. Therefore it can be argued that it is wrong to lock up a troubled girl with murderers, robbers and drug addicts

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

DOMAIN SPECIFIC - LOW FREQUENCY

People are often cruel to animals. This can range from starving them right through to physically beating them, sometimes even killing them. There have been several cases of cruelty to animals highlighted in the papers over the past couple of years, in connection with horses and dogs mainly. The Irish Society for the Prevention of Cruelty to Animals have been working very hard to get convictions for people who are cruel to animals, and there are some people who would argue that anyone who abuses animals should get a prison sentence

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

Importing drugs can have a serious impact on society. When people start taking drugs, the crime rate goes up and families can often be very hurt and damaged by the effects of drugs. There are more people in prisons who have committed crimes as a result of taking drugs, while there are not very many in prison for importing drugs into Ireland. This means, that the people who bring drugs into the country get away more often than the people who take the drugs, therefore, the Gardai should concentrate more on finding and arresting those people who import drugs and the crime rate would go down

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

It is worse for a bank manager to steal from a client by secretly "loading" fees than it is for those who steal similar amounts through shoplifting or robbery. The banker who steals has a good income coming in. White collar crime is on the increase yet the resources devoted to it's detection are totally inadequate. In the rare cases where they are found out the tendency of the judiciary has been to impose suspended or very light sentences. Unless those responsible for stealing money from bank clients are jailed it will offer further encouragement to the white collar criminal

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

DOMAIN GENERAL

Ever since Dolly the sheep was cloned from a scrap of udder it has been clear that the ethics of genetics would be one of the great issues of the 21st century. It is also a very emotive one which means it is much easier to generate heat than light on an issue that awakens very strong feelings. It is an issue on which the utmost public vigilance must be shown. There are potentially many good things that could flow from genetic research that could benefit humankind. But there is also a fear of creating Frankensteins in the form of genetically altered fish, animals or vegetables that could cause problems as yet unforeseen. The onus must be on the researchers to prove that what they are doing is safe.

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

The findings by coastwatch that 90% of our beaches are littered with plastic bottles and discarded cans must be a cause for grave concern, if not surprise. There is unfortunately, an element of truth in the jibe about the dirty Irish. What is needed are active litter wardens who can perhaps modify people's behaviour with on-the-spot fines. Coastwatch reports too that the booming economy which has led to more development near our coasts is leading to many beaches suffering from some level of sewage pollution, although it notes that major sewage outbreaks are on the decline, as a nation we need to value more the beauty of what we have.

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

A loved one has died and you are naturally consumed with grief but brace yourself to organise the funeral and burial. All the arrangements - the newspaper notices, calls to family and friends, undertakers and burial are finalised. A phone call comes at the last minute: due to staffing problems at one of the biggest cemeteries in the country, nobody will be available to dig the grave and oversee the burial. Do officials expect people to hold off dying until they get their rosters right or sick grave-diggers come back to work? They clearly need to increase staffing levels at the cemetery or hire temporary workers to replace those out on sick leave

how strong do you think this argument is?

highly	quite	somewhat	mildly	not
strong	strong	strong	strong	strong

Reasoned Based Choice

Imagine that you are thinking about going out to commit a burglary in the next few days. You go to the area that you will commit the burglary in and start looking for a house. You see two houses that you think you could get into easily enough, but you have to choose one. Which house would you choose to burgle/which house would you reject given the following pieces of information?

OPTION A: Impoverished Option

- · some amount of information on target and occupants
- some cover around target
- · unknown amount of money to gain
- · alarm might go off
- · guards may be called to the scene

OPTION B: Enriched Option

- · very good information on target and occupants
- very good cover around target
- large amount of money to gain
- good chance of triggering alarm
- good chance of guards being called to the scene

John and Kevin have seen two cars that they want to rob, to go joyriding in. They can't rob the two of them, so have to decide which car to choose on the basis of only a small amount of information. Below is some information about each car, which car do you think they will steal/ which car do you think they will reject?

OPTION A: Impoverished Option

- relatively new car
- · can drive at fairly high speed
- would be quite good for pulling handbrakers and Wheelspins
- · fairly easy to get into
- has a good quality stereo to steal

OPTION B: Enriched Option

- brand new car
- · get very high speeds from it
- · very difficult to get into
- no stereo in it to steal
- would be very good for manoeuvres

Suppose you are going out to commit a handbag snatch. You are walking down a fairly isolated road and you see two women who are on opposite sides of the road. You have to make a decision quickly, so on the basis of the information below, which woman would you choose/which woman would you reject?

OPTION A: Impoverished Option

- middle aged woman
- · fairly well dressed
- · looks fairly confident
- might carry a fair amount of cash
- has handbag on one shoulder

OPTION B: Enriched Option

- elderly woman
- very well dressed
- seems very nervous
- might carry only small amount of money
- has handbag draped across her body

Beliefs about being Apprehended "Please circle the response that most likely describes how you feel about each question"

BELIEFS ABOUT GETTING CAUGHT

1. What did you think your chance of getting caught was for any offence when you last committed a crime?				
	Good Chance	Some Chance	No Chance	Didn't think about getting caught
	What did you think aught?	your chances of	getting caught	t were before one month of being
	Good Chance	Some Chance	No Chance	Didn't think about getting caught
	What did you thinleaught?	c your chances of	getting caugh	t were before six months of being
	Good Chance	Some Chance	No Chance	Didn't think about getting caught
	What did you thinl aught?	c your chances of	getting caught	t were before twelve months of being
	Good Chance	Some Chance	No Chance	Didn't think about getting caught
5. What did you think your chances of getting caught were before eventually of being caught?				
	Good Chance	Some Chance	No Chance	Didn't think about getting caught
6. What sentence did you think you were going to get if you were caught?				
7. What sentence did you actually get?				
8. How worried were you about getting caught and sentenced during your last period of offending?				
		Very orried	Somewhat worried	Not worried

Questions pertaining to demographics and Criminal Experience.

Participant Number:

Number of prior incarcerations.

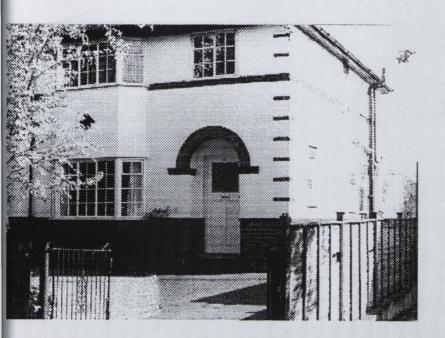
Present Offence:

Age:

4.

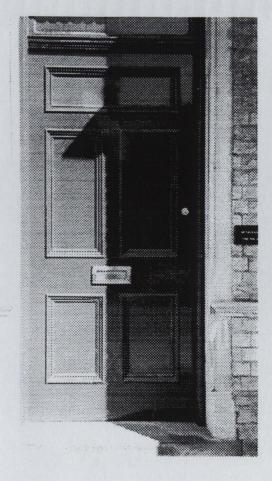
1.	Number of house burglaries (lifetime).		
2.	Number of previous burglary convictions.		
3.	Number of previous convictions (for all crimes).		

Photographs For Target Selection and Memory Recognition Tasks (houses with no features present)



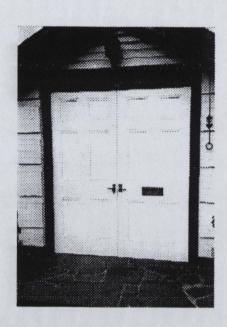


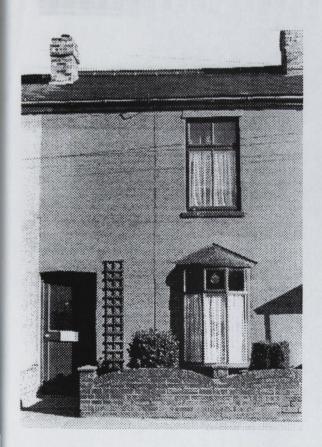


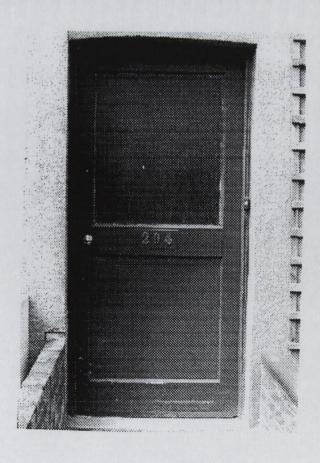


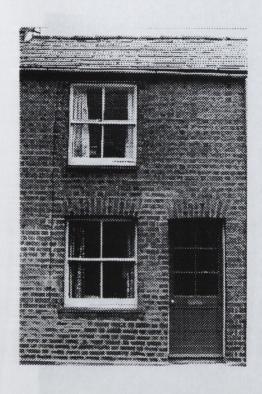
(houses with no features present)

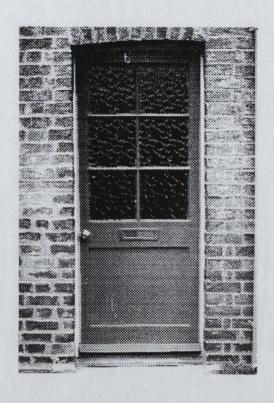






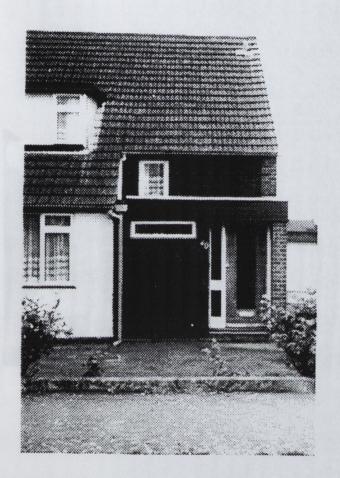


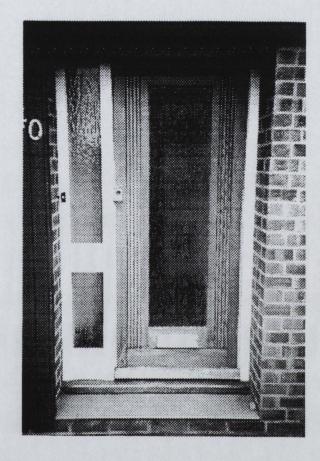




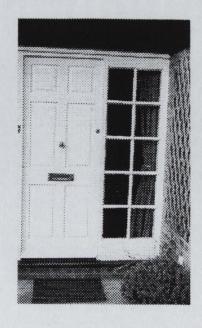


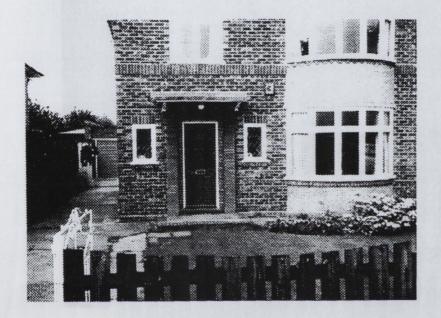






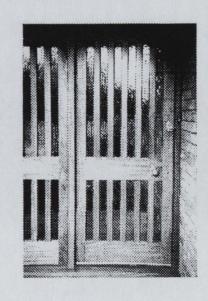




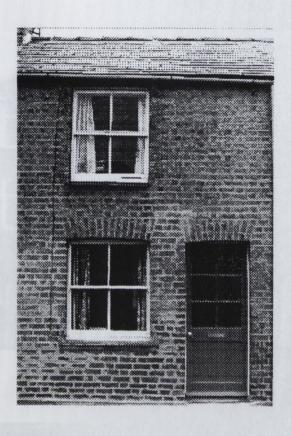






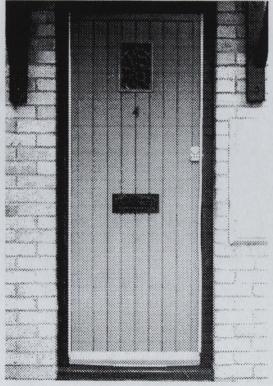


(houses with features present)



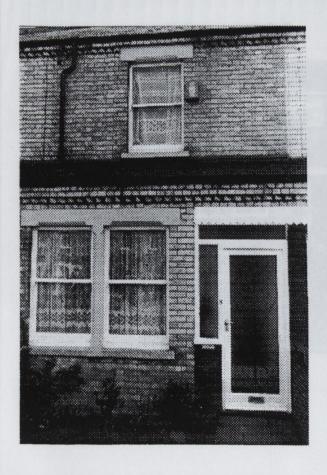








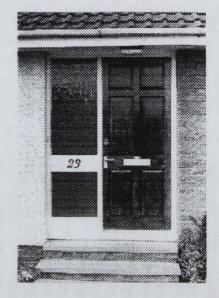






(houses with features present)





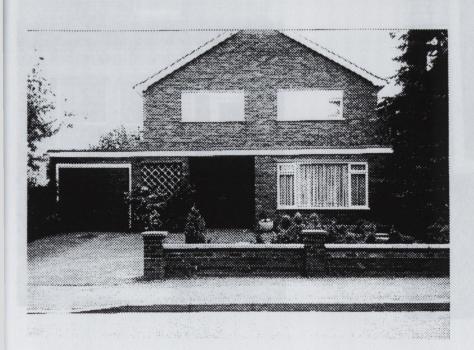


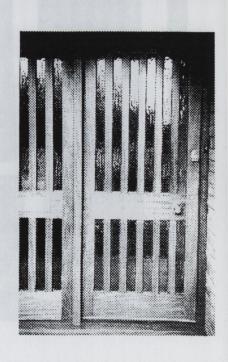


(houses with burglary relevant features removed)

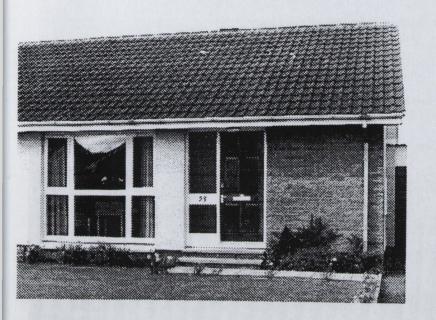




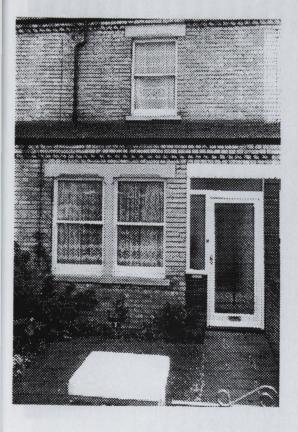




(houses with burglary relevant features <u>removed</u>)





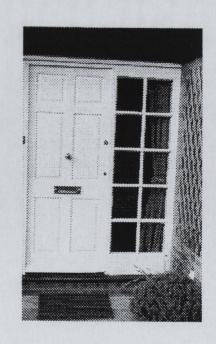




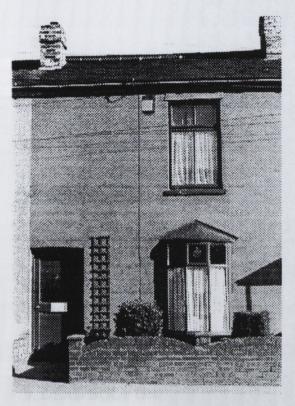




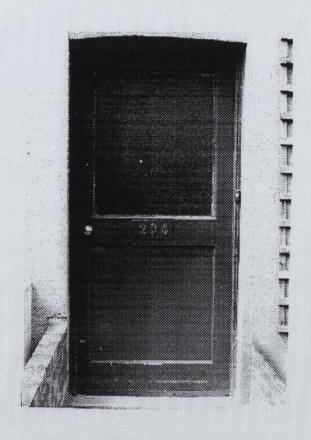




(houses with burglary relevant features added)









Burglary Relevant Features Checklist

"Would each of the following features make a house more attractive, less attractive, or would not matter to a burglar?"

YES NO DOES NOT MATTER

1.	NEIGHBOUR'S	WINDOW

OVERLOOKING BACKYARD

2. CAR IN NEIGHBOUR'S

DRIVEWAY

- 3. METAL WINDOW FRAMES
- 4. TV ON
- 5. CAR IN DRIVEWAY
- 6. LIGHT ON IN FRONT ROOM
- 7. BURGLAR ALARM IN HOUSE
- 8. DOG IN HOUSE
- 9. DEAD BOLT ON DOOR
- 10. LARGE BUSHES IN

FRONT YARD

11. OPEN FIELDS AT BACK OF

HOUSE

- 12. NO DEAD BOLT ON DOOR
- 13. WINDOW OPEN UPSTAIRS
- 14. WELL KEPT HOUSE
- 15. FOUR BEDROOM HOUSE
- 16. POST FILLED LETTER BOX
- 17. FRONT DOOR PAINTED RED
- 18. TILE ROOF
- 19. PEELING PAINT WORK
- 20. CORNER HOUSE

3 Questions Concerning the Nature of Burglary

- 1. IF YOU HAD TO GIVE SOMEBODY A DEFINITION OF BURGLARY, WHAT WOULD YOU TELL THEM IT IS?
- 2. WHAT DO YOU THINK HAPPENS FROM THE MOMENT A BURGLAR CHOOSES TO COMMIT A BURGLARY (How do they go about actually committing the burglary?)
- 3. WHERE AND WHEN DO YOU THINK A BURGLAR MIGHT MAKE THE INITIAL DECISION TO COMMIT A BURGLARY? (do they plan the burglary before they choose a house, or do they decide to burgle a house upon seeing it)

Suppositional Burglary Questions

SUPPOSE YOU ARE GOING TO COMMIT A BURGLARY.....

- 1. How would you break into a house?
- 2. What would you be looking for mainly?
- 3. What do you think you might look for when you are trying to find a house to break into?
- 4. Do you suppose you would drink alcohol or take drugs before you committed a burglary?
- 5. Have you or the people you live with taken any steps to prevent your house being broken into?
- 6. Has your family home ever been broken into? If so, how was it done?
- 7. What do you think are the main reasons for committing burglary?