TECHNICAL REPORT: SWEEPS 1 AND 2

Susan McVie

Technical Report Number 1
Edinburgh Study of Youth Transitions and Crime

Other titles in this series of technical reports are available to download, free of charge, from our website at www.law.ed.ac.uk/cls/esytc/ :

Number 2: Technical Report Sweeps 3 and 4
Number 3: Sample Safeguarding Exercise
Number 4: System contact and subsequent offending: technical report on analysis

The Edinburgh Study also publishes a series of research digests. These are available to download, free of charge, from our website or can be sent in hard copy on request (subject to availability), priced £10, from:

The Edinburgh Study of Youth Transitions and Crime
Room 2.12, Law School Research Annex
31 Buccleuch Place
Edinburgh
EH8 9JS

Number 1: The Edinburgh Study of Youth Transitions and Crime: Key Findings at Ages 12 and 13
Number 2: Gender and Youth Offending
Number 3: Parenting and Delinquency at Ages 12 to 15
Number 4: Truancy, School Exclusion and Substance Misuse
Number 5: The Links Between Victimization and Offending
Number 6: Patterns of Referral to the Children's Hearings Systems for Drugs or Alcohol Misuse
Number 7: Adolescent Smoking, Drinking and Drug Use
Number 8: Gang Membership and Teenage Offending
Number 9: Family Functioning and Substance Use at Ages 12 to 17
Number 10: Neighbourhood Effects on Youth Delinquency and Drug Use
Number 11: The Effect of Neighbourhoods on Adolescent Property Offending
Number 12: Social Inclusion And Early Desistance From Crime
Number 13: Schools and Delinquency at Ages 13 to 16
Number 14: Criminal Justice Transitions (available to download only)

Published 2007 by Centre for Law and Society
The University of Edinburgh
Old College, Edinburgh, EH8 9YL

The views expressed in this report do not represent those of The Edinburgh Study's funding bodies or of The University of Edinburgh.

CONTENTS

1. INTRODUCTION

1.1 Background to the Edinburgh Study

Since the end of the Second World War, police recorded crime has risen dramatically in both England and Wales and, to a lesser extent, Scotland. Crime surveys have revealed a less dramatic increase in crime in England and Wales (Mirrlees-Black et al, 1996), and little if any in Scotland (MVA, 1998), and suggest that increases in police recorded crime figures are largely due to an increased propensity for the public to report crime. There is evidence to suggest, however, that there has been a real increase in problem behaviour among young people, paralleled by postwar increases in other psychosocial disorders during the teenage years (Smith & Rutter, 1995). In addition, evidence consistently suggests that the rate of offending among males is higher than that among females, although the gap is starting to narrow.

The Edinburgh Study of Youth Transitions and Crime aims to further our understanding of young people's involvement in criminal behaviour, and explore the striking differences in offending rates and anti-social behaviour between males and females. It is a longitudinal study involving an entire year group of children, namely those eligible to start first year of secondary school in the City of Edinburgh in 1998. The cohort comprises approximately 4,300 young people who were aged between 11½ and 12½ years at the start of the study. Annual sweeps of data collection are conducted, with the intention of tracking the cohort through their teenage years and into early adulthood.

While the study focuses entirely on criminal offending among a generation of young people within the City of Edinburgh, the findings are likely to be of wider national and international relevance and importance. National comparisons will be made with other related studies in Scotland and the rest of the UK (such as crime surveys, health and drug studies, etc). The international dimension will be developed through direct comparisons with cohort studies in Denver, Pittsburgh and Rochester, and links with other studies in Chicago, Philadelphia, Dunedin and Stockholm.

1.2 Aims of the Study

The overarching aim of the Edinburgh Study is to further our understanding of criminal behaviour among young people. Within this aim, there are four key objectives which the study will work to achieve:

i. To investigate and identify the factors which impact on young people's offending behaviour and the processes which are involved.

ii. To examine these factors and processes within 3 main contexts:

- individual development through the life course;
- the impact of interactions with formal agencies of social control and law enforcement;

- the effect of the physical and social structure of the individual's neighbourhood.

iii. Within each of the above three contexts, to examine the striking differences between the extent and patterns of criminal offending between males and females.

iv. To contribute towards the development and empirical evaluation of theories which explain people's resistance to, desistance from and persistence in criminal offending behaviour.

1.3 Methods of the Study

To address the complexity of the study aims, a variety of methods of data collection have been adopted. Each of these methods will be discussed in detail in later sections of this report, but a brief description of the main methods is given below.

Given the size of the cohort, the most feasible and cost effective method of data collection is to administer a self-completion questionnaire, on an annual basis, within Edinburgh schools. In order to supplement and, to some extent, validate this information data is also collected annually from official agency records – namely those of the Social Work Department and the Scottish Children's Reporter Administration. More detailed contextual information on the nature and meaning of young people's offending behaviour was achieved at sweep two by semi-structured interviews with a sample of cohort members. And at the neighbourhood level, the relationship between community characteristics, local crime rates and individual offending is being analysed by means of a Geographic Information System (GIS).

A unique feature of the study is the range of agencies and data sources to which access has been successfully negotiated. The most extensive access negotiations involved the Edinburgh schools, including mainstream secondary schools, independent schools and schools for children with special educational needs. As well as providing an efficient mechanism by which to administer the self-completion questionnaires to the cohort each year, information is collected annually from school computer records and, at sweep two, teachers supplemented this information with a short strengths and difficulties questionnaire.

Further methods to be adopted in future sweeps of the study are currently being planned. These include interviews with teaching staff to find out more about the relationship between offending and school experience. Access negotiations are currently underway with Lothian and Borders Police to collect information from the Police Juvenile Liaison Officer during sweep 4 of the study, and later annual trawls of the Scottish Criminal Records Office (SCRO) will be conducted. A survey of family functioning will be carried out in the autumn of 2001, involving interviews with the main parent or carer of each member of the cohort.

1.4 The Advisory Group

An Advisory Group was established to oversee the work of the study in early 1998, the first meeting of which was held on 26 May. The Group is chaired by Professor Sir Michael Rutter of the Institute of Psychiatry in London. It consists of senior representatives from all the agencies involved in the study, including education, police, social work, the children's reporter and central government. Also represented are various academics and practitioners with an interest or involvement in research into crime and young people. The Advisory Group meets formally once a year, but members are kept informed of progress and approached for advice at key stages of the study.

1.5 Consent, Confidentiality and Data Protection

Issues relating to consent, confidentiality and data protection are discussed in various sections of this report. However, the main considerations are explained below.

Given the age of the cohort members, some form of parental consent for their participation was necessary. There was concern that an opt in method would yield a low response rate, significantly skewing the characteristics of the cohort and undermining the validity of any survey results. Therefore, with the agreement of the Advisory Group, an opt out consent method was adopted on the understanding that the Education Department child protection guidelines would be followed and assurances given that participation would in no way be detrimental to the cohort members.

In order to encourage honest reporting, particularly of delinquent behaviour, the project team wished to give participants a complete guarantee of confidentiality. Unfortunately, the child protection guidelines stipulated that any disclosure of child abuse would have to be reported to the school authorities, thus breaching the confidentiality agreement. To get around this, it was agreed that no questions about sex would be included in the questionnaire until the cohort had reached the legal age of consent, thus preventing any direct disclosures of sexual abuse. This meant a complete guarantee of confidentiality could be given for all subjects covered in the questionnaire, while the child protection procedures could still be implemented in the case of an indirect disclosure. During sweeps one and two, two such disclosures were made and dealt with appropriately.

The confidentiality guarantee is strengthened by the Data Protection Act 2000 which allows for personal data to be exempt from subject or any other access where they are held only for preparing statistics or carrying out research. Thus, there is no obligation to pass on information given in response to the questionnaire to the members of the cohort or any other agency (including parents, schools or police). All data are stored securely and information that might identify cohort members can be accessed only by members of the project team.

1.6 Aim and content of the Technical Report

This report outlines the technical aspects of the Edinburgh Study during the first two sweeps of fieldwork. Each section of the report focuses on a specific aspect of the project's planning, design or implementation, as discussed below. This report does not contain details of analysis or findings. The main findings from the first two sweeps of the study are presented in Smith et al (2001). A list of the project outputs produced to date is given in Appendix A. Further technical reports will be produced following future sweeps of the study.

Section two of this report describes the access and consent negotiations which took place in advance of fieldwork and details the level of participation by schools and the number of parents who opted their children out of the study. Section three describes the process of questionnaire design and piloting, and outlines the lessons learned for perfecting both the questionnaire and the administration procedure.

The various practical aspects of school fieldwork are examined in section four, including fieldwork preparation and organisation, questionnaire administration, procedures for assisting those with learning difficulties and tracking absentees, and details the final number of participants in sweeps one and two. Section five describes the various different sources of additional data collected about the cohort, including schools, children's hearing and social work records, and personal interviews. Section six explains the various aspects of management, processing, input and analysis necessary to deal with the vast amount of data collected by the project team.

Finally, section 7 explains the background to the development of a geographic information system, allowing a detailed examination of neighbourhood factors to be included in the analysis of factors relating to offending. The aims and structure of the GIS are described, followed by a review of the process by which the police recorded crime data were geo-coded and 91 pre-defined 'neighbourhoods' within Edinburgh were created. Finally, the use of the GIS to facilitate the case study analysis of two contiguous areas with similar levels of deprivation but markedly different crime rates is explained.

2. SCHOOL ACCESS AND ORGANISATION

2.1 Access to schools

With the expectation that access arrangements were likely to involve a protracted period of negotiation, all of the necessary agencies were asked for their agreement in principle to participate even before funding for the study was sought. This was achieved in early 1997, more than a year before the fieldwork was due to commence.

A unique feature of the study was the proposal to survey every child enrolled in first year at schools across Edinburgh, rather than select a simple random or stratified sample of children. This method was employed to capture as near as possible a whole population of young people, in order to minimise sampling error and increase confidence in the validity of the findings. Access was, therefore, needed to all relevant schools within the City, including mainstream secondary, independent and special schools, the latter two of which tend to be under-represented in other research.

The City of Edinburgh Council Education Department was formally approached regarding access to all the relevant state-run schools, including the special schools. This was followed by a series of presentations to the Director of Education, the Convenor of the Education Committee, Head Teachers and the Parents Consultative Committee. In February 1998, the Education Committee agreed in principle that the Edinburgh schools could participate in the Edinburgh Study, although final agreement had to be sought from individual head teachers.

Edinburgh is unusual in that a disproportionately large number of pupils attend independent schools in comparison with most other cities. It is estimated that between 20-25% of secondary school age children in Edinburgh attend one of the 14 independent schools each year. Although there are associations of schools and Head Teachers in the independent sector, there is no coordinating body for research requests. Therefore, each independent school was contacted individually, with the hope that the Education Committee decision would encourage a positive response.

Letters were issued to the head teachers of every secondary school in Edinburgh, inviting them to take part in the study and requesting a meeting to discuss the details further. Two members of the research team visited each school and met with the head teachers who had responded positively to this approach. A brief presentation was given, based on a summary proposal which was distributed at the meetings (see Appendix B).

The presentation focused on the aspects of the study which would involve the school, namely: the administration of self-completion questionnaires to first year pupils; school record examination; summary questionnaires for guidance teachers; and interviews with some teaching staff. Strict assurances were given that all survey results would be treated confidentially and that published material would not identify any individual child or school.

2.2 School participation

A total of 49 eligible schools in Edinburgh were approached to take part in the study, of which 40 agreed to participate for a full six years. Table 2.1 shows the number of Edinburgh schools approached within each category of school, and the number that subsequently agreed to take part. The number of first year pupils attending eligible schools and those attending the schools which agreed to participate are also shown in Table 2.1.

Table 2.1: School participation in the Edinburgh Study by school type at sweep one

	Mainstream	Independent	Special needs
No. of schools eligible to take part at sweep one	23	14	12
No. of pupils attending eligible schools at sweep one	3803	948	95
No. of schools agreeing to participate at sweep one	23	8	9
No. of pupils attending participating schools at sweep one	3803	594	71
% of eligible pupils included in study in sweep one	100%	63%	75%

Note: These figures do not take account of young people opted out at sweep one, shown in Table 2.3.

Fortunately, all of the mainstream secondary schools in Edinburgh agreed to take part in the study, accounting for the most young people eligible to participate. While the special schools accounted for only around 2% of the eligible population, their inclusion ensured that young people excluded from mainstream schooling, for whatever reason, were represented. Of the three special schools that opted out, one felt its pupils were too severely physically disabled to take part while the others blamed pressures on school resources. Nevertheless, the participating special schools did include young people with a range of emotional, behavioural, learning difficulties and physical disabilities.

Of the independent schools that declined to participate in the study, four had only a small number of eligible children while two would have contributed a significant number of children to the study. The schools that did take part provided around two thirds of eligible children in the independent sector. Those that declined to be involved gave reasons such as being overburdened by research requests and concern about the nature of the survey. The two large independent schools that refused to participate at sweep one were approached again at sweep two, but refused.

During discussions with the independent schools, it emerged that most of them expected to increase their intake substantially in the second and third years of the study. As the number of pupils attending independent schools was relatively small in comparison to the mainstream schools, it was decided to include any new pupils entering the cohort year group up to the third year of data collection. It was also agreed that any pupils who moved away from the Edinburgh area during sweeps two and three would not be tracked, although their numbers and destinations would be monitored. Pupils moving to special or residential schools funded by the local authority but which were situated outside Edinburgh were tracked, however.

A considerable number of new pupils did join the cohort at sweep two, although there was a large number who moved away from the Edinburgh area. Overall, the number of pupils attending participating schools increased by only 0.7% during sweep two, from 4,468 to 4,497. This does conceal a considerable amount of movement within the cohort, however, as shown in Table 2.2. The large number of both new pupils and leavers in mainstream schools resulted in a net gain of only 0.1% although, as expected, the net gain at the independent schools was higher at 4.0%. There was also a fair amount of movement between schools, although this is not shown in Table 2.2, which accounts for the large rise in the special school population.

Table 2.2: School participation in the Edinburgh Study by school type at sweep two

	Mainstream	Independent	Special needs
No. of pupils attending participating schools at sweep one	3803	594	71
No. of leavers at sweep two	87	34	2
No. of new pupils at sweep two	91	58	3
No. of pupils attending participating schools at sweep two	3786	620	91

Note: These figures do not take account of children opted out at sweep two, shown in Table 2.4.

2.3 Parental consent

As stated in section 1.5, the young age of the cohort at the outset of the study required that some form of parental consent be sought in advance of fieldwork. Discussions were held with representatives of the Advisory Group about the necessity of writing to all parents of cohort members regarding parental consent and the implications for the validity of the survey results.

In particular, there was concern that a low response rate would be achieved if parents were required to opt into the study. Evidence suggested that this would be especially so among certain sections of the population, thus

producing a skewed sample rather than a complete cohort which could not claim to be representative of a generation of young people. Finally, with the agreement of the Advisory Group, it was agreed that an opt out consent method could be used, so long as the Education Department's child protection guidelines were stringently followed. The Advisory Group acknowledged that, with the level of agency input into the study, participation would be unlikely to be harmful to the participants.

Prior to sweep one fieldwork, a parents' letter was drafted which laid out in simple terms the objectives and coverage of the study and the implications of participation. This letter also explained that pupils could be opted-out of the study by returning a tear-off slip to the school[1]. Data protection requirements meant the project team could not have access to parental names and addresses, therefore, pre-printed letters were provided to the schools for distribution to the parents of every pupil in the cohort year group.

The sweep one letters were sent out around two weeks before fieldwork, to allow sufficient time for opt-out responses to be returned. As parental consent had been sought in the first year, it was not considered necessary to repeat this for existing cohort members at sweep two. A revised copy of the original opt-out letter was, however, sent to the parents of all new pupils who joined the cohort year group at sweep two.

2.4 Opt out rates

Responses to the parental consent letter were returned directly to Head Teachers, who then informed the project team which pupils were not to be included in the cohort. Table 2.3 shows the sweep one opt-out rate for each of the school types involved in the study. Of the 4,468 young people attending participating schools, 149 were opted out by their parents in advance of fieldwork. A further five pupils attending special schools were opted out by the research team, after it became evident that they were incapable of understanding the questionnaire or communicating their responses. This represents an overall opt out rate of 3.4% of the potential cohort.

Perhaps unsurprisingly, the opt out rate in the special schools was more than four times higher than that of the other schools, although this represents a very small number of young people in real terms. It is impossible to say anything about the pupils who were opted out of the study by their parents, as no information about them could be collected. Nevertheless, the sweep one opt out rate was very low in survey terms and the distribution, particularly in terms of the mainstream and independent schools, does not suggest that the sample was skewed by social class.

[1] A copy of the letter issued to parents prior to sweep one can be found in Appendix C.

Table 2.3: Pupil opt out and participation rates in the Edinburgh Study by school type at sweep one

	Mainstream	Independent	Special needs
No. of pupils in the potential cohort at sweep one	3803	594	71
No. of pupils opted out by parents	120	20	9
No. of pupils opted out due to inability to understand or communicate	0	0	5
% of pupils opted out	3.2%	3.4%	19.7%

As consent letters were issued only to the parents of new pupils in sweep two, the opt out rate did not change dramatically at this sweep. In fact, Table 2.4 shows that the number of opt outs fell slightly, from 154 to 146 in sweep two, producing an overall opt out rate of 3.3%. There were three reasons for this slight reduction: some of the sweep one opt outs left the cohort at sweep two; none of the new pupils in sweep two were opted out by their parents; and a few of the sweep one opt outs joined the study at sweep two[2]. As before, the opt out rates in the mainstream and independent schools did not suggest any significant social class bias.

Table 2.4: Pupil opt out and participation rates in the Edinburgh Study by school type at sweep two

	Mainstream	Independent	Special needs
No. of young people in the potential cohort at sweep two	3786	620	91
No. of young people opted out by parents or school	111	18	9
No. of pupils opted out due to inability to understand or communicate	0	0	8
% of pupils opted out	2.9%	2.9%	18.7%

[2] Six pupils who had been opted out of the study by their parents at sweep one expressed a strong desire to take part at sweep two. These pupils were allowed to participate only with the class teacher's permission and on the assurance that school staff would contact their parents to ask if they wished the questionnaire to be destroyed. Permission was granted in all six cases.

3. QUESTIONNAIRE DEVELOPMENT AND PILOTING

3.1 Questionnaire development

The sweep one questionnaire was very carefully planned, as it was intended to provide baseline data about the cohort's offending behaviour up to the first year of data collection, which could then be built upon to provide a continuous picture of their offending over time. It was also important that certain aspects of the questionnaire were designed to allow comparability with other similar studies. The development of the first questionnaire took place over a period of approximately six months, from March to August 1998. The design and content of the questionnaire was informed by a variety of sources of information and was subject to a rigorous pilot exercise.

Links were established with various leading research teams involved in other on-going longitudinal studies of crime and young people, mainly based in the US and New Zealand. Discussions were also held with academics and researchers involved in studies on crime, drug use and health behaviours ongoing in the UK. Reports, papers, books and questionnaires were collected together and examined to identify the topics which would be most relevant to the questionnaire for this study. Regular research team meetings were held to develop topic lists and then, later, to prioritise them in terms of which were essential to the first year of the study, and which could be developed for use in future years.

Eight broad themes were eventually prioritised as the most important topics to cover in the first year of fieldwork. These were: leisure patterns, neighbourhood, family, friends, delinquent behaviour, experience of victimisation, moral reasoning and identity/individual difference. Each of these broad topics was developed into a draft questionnaire section. Where appropriate, specific questions were based on or extracted from the questionnaires of other research studies. Adapted versions of three widely used psychological scales were incorporated, measuring self-esteem, alienation and impulsivity.

One of the most important considerations in designing the sweep one questionnaire was the reference period. Most self-report studies examine the events of the previous year. However, since the first questionnaire was intended to build up a baseline picture of each cohort member's experience, it was agreed that they would be asked about things that had 'ever' happened, no matter how long ago. Ideally, the cohort should also have been asked about whether the event had occurred within the last year, however, space restrictions within the questionnaire made this impossible.

In planning the sweep two questionnaire, it was agreed that the reference period for this and all subsequent questionnaires would be 'the last year'. This was defined as being from the beginning of the previous school year to the end of the summer holidays at the end of that year. As long as the school year was a relevant period for the majority of young people, this was decided to be the

best reference period. However, this will need to be reconsidered at the end of sweep four when the cohort reaches school leaving age.

The planning which went into the design of the sweep one questionnaire greatly facilitated the development of that for sweep two. However, it was necessary to decide which aspects of the questionnaire would be 'core' questions, i.e. repeated on an annual basis, and which would be repeated at intervals. As examining changes in offending was crucial to the aims of the study, it was essential to repeat the questions on delinquent behaviour (including substance misuse) annually. It was also decided to include some questions on leisure patterns, family and friends every year, although the exact nature of these questions will vary from year to year.

One of the biggest changes to the sweep two questionnaire was the inclusion of a new section on school experience and commitment to school. The neighbourhood section was dropped in sweep two, with a view to repeating it again at sweep three. It was decided that questions on victimisation should be included each year, and these were expanded at sweep two to look at experience of bullying. As evidence from other studies had shown that psychological profiles were unlikely to change markedly from year to year, it was decided to repeat self-esteem at sweep two, and interchange this with alienation and impulsivity at alternate sweeps.

For further details on the exact nature of the questions included at the sweep one and two questionnaires, see the Questionnaire Structure Guide at Appendix D. Copies of the actual questionnaires are available from the Edinburgh Study Project Team.

3.2 Questionnaire piloting

Although large parts of the sweep one questionnaire were derived from existing questionnaires, an extensive piloting exercise was still necessary to ensure that it was age appropriate, well structured, error free and to validate certain scales. Therefore, piloting was carried out in three phases with first year pupils from two secondary schools located outside the City of Edinburgh. This exercise also provided an opportunity to pilot test the parental consent letter on an opt out basis, which resulted in a very low yield of opt outs.

The first pilot phase involved focus group discussions with one group of 8 boys and one group of 8 girls using a semi-structured topic list. These discussions were valuable in shaping the content and structure of draft questionnaire sections and fine-tuning the language of individual questions. They also provided insight into the relative importance placed on certain issues by girls and boys, which helped the research team to think about how gender might impact on the responses to certain questions.

Phase two of the pilot exercise involved pre-testing draft sections of the questionnaire on individual children in order to further refine the wording, length and content. Each child was timed as they completed one draft section,

to estimate how long the overall questionnaire would take to complete. They were then interviewed in depth about any problems they had understanding the questions, either due to difficult words, question phrasing or conceptual problems.

Following phase two, the draft sections were merged into one questionnaire and the content of the instrument was refined further. Difficult decisions had to be made about which questions should be sacrificed to make the questionnaire length manageable for children of the relevant age group. Comments were sought from other researchers, colleagues and the Advisory Group about the nature, content, level and length of the proposed instrument.

The final pilot phase involved a full-scale pilot test of both the draft questionnaire and the proposed administration procedure for the main study. A total of 128 first year children were surveyed over a 3 day period. Details of the questionnaire administration procedure used in the main study are given in Section 4. However, observations during the pilot exercise and subsequent analysis of the pilot data, revealed a number of necessary improvements which had to be made to both the questionnaire and the administration procedure for the main study. The main amendments to the questionnaire were:

- The number of questions included in the instrument was reduced to ensure that everyone could complete the task within a one hour period - the optimum time for which pupil's concentration could be kept on track. This was particularly important for young people with learning or reading difficulties and those with poor concentration.

- The layout of the questionnaire was made less intimidating by using better spacing and interesting fonts. Long lists of items within a question were shortened to no more than 8 and option choices were simplified to make the questionnaire less daunting and minimise the risk of respondent error.

- Practice questions alerted respondents to the different response instructions, particularly about routing, and encouraged them to follow the instructions given at each question. The method of response was restricted to tick boxes, making the final questionnaire much more user friendly.

- In order to assign a unique ID number to each questionnaire, it was necessary to ask all participants to write their names on the questionnaire. To reinforce confidentiality, a 'tear off name slip' was provided at the end of the practice questions and assurances were given that this would be destroyed once an ID number had been assigned.

- Indicators of length on the questionnaire, such as page numbers and sequential numbering, were removed as they proved distracting and demoralising to some respondents.

- Finally, concerns that young people might adopt a set response pattern in the self-report delinquency section highlighted the need for some form of validity check. A positive response to these questions meant completing a

small number of follow-up questions, whereas, a negative response allowed the respondent to get through the questions more quickly. In order to test whether respondents learned to respond negatively to questions in this section, two versions of the final questionnaire were produced, with the self-report delinquency questions in reverse order.

The main lessons learned to improve the administration procedure were:

- Pre-fieldwork discussions with school learning support staff were essential to determine the extent and nature of each young person's particular difficulties, helping to judge the level of support they would need to complete the questionnaire.

- A flexible approach to young people with learning difficulties was necessary. The range of learning difficulties encountered required careful judgements to be made about whether one-to-one or small group support, either in or out of the classroom, was most appropriate in each case.

- A teacher's presence at the beginning of each session helped to settle the class and provided advice about dealing with the class should problems arise. Confidentiality was best maintained by the teacher leaving the room during fieldwork, however, where particularly difficult young people were encountered, teacher presence during questionnaire administration was beneficial.

- Practice questions proved a good way to introduce the questionnaire and highlight the different types of question and response method. Although names were not recorded in the pilot study, it was decided to include 'name' as one of the practice questions on a tear-off section at the bottom of the page in the main study.

- Wide variation emerged in the length of time young people took to complete the questionnaire, making it essential to provide additional tasks on completion of the questionnaire. Word-searches, crosswords, football quizzes and short questionnaires about music, fashion and celebrities all proved to be popular as they introduced a fun element to the session and prevented the early finishers from distracting those still working on the questionnaire.

After phase three of the pilot exercise, final amendments were made to the sweep one questionnaire. Most importantly, two versions were produced as a validity check to address the concern about learned response patterns in the delinquency section of the questionnaire. The final questionnaire was printed in two shades of blue, with version A and B clearly marked on the front cover.[3]

[3] Copies of all questionnaires are available from the project team.

Piloting of the sweep two questionnaire was less extensive than that of sweep one. Again, two schools outside Edinburgh agreed to assist in the pilot exercise using their first year pupils. At the first school, draft sections of the questionnaire which included new questions or were structured in a way that was different to sweep one were tested on individuals, and then discussed in a group setting. Once amendments had been made and the draft sections pulled together into a final draft, a full scale pilot exercise was carried out at the second school, allowing the instrument to be fully tested and timed.

4. SCHOOL FIELDWORK

4.1 Fieldwork organisation

Each participating school nominated a liaison person, typically a member of Senior Management or Guidance within the school, to act as a point of contact for making the fieldwork arrangements. This person was contacted as early as possible to arrange dates and times for fieldwork, giving them plenty of time to make the necessary arrangements. Every effort was made to accommodate the schools' preferred dates and times for fieldwork, requiring a detailed timetable to be devised.

Some school contacts asked for fieldwork to be done over one or two days, to minimise disruption, which proved to be the most convenient method for the research team. However, other schools asked for questionnaire administration to be done during a particular subject (usually social education), which often meant spreading fieldwork over several days, occasionally over a few weeks, and was a less efficient use of research resources.

Class lists were requested in advance of fieldwork, so that preparations could be made by the research team for administering the questionnaire. Before each session, boxes were prepared containing the correct number of questionnaires and other documents. Spare copies of everything were always included to allow for unforeseen problems such as mis-printed questionnaires or extra pupils in the class.

Arrangements also had to be made in advance to randomly allocate half the girls and boys in each school with either version A or version B of the questionnaire. This was generally done by matching classes on the basis of gender balance and allocating one version per class. Where a perfect balance could not be achieved, it was sometimes necessary to issue a small number of version A to a class receiving mainly version B, or vice-versa.

Piloting showed that a minimum of one hour was required to cater for the full range of educational abilities within the sweep one age group. During both sweeps one and two, most schools allocated a double period, ranging from 70 to 90 minutes in length, which allowed more than enough time for all pupils to complete the questionnaire without any pressure – which seemed to leave them feeling quite positive about the experience.

A few schools asigned a single period (usually 35 or 45 minutes) with an option of allowing non-finishers to remain until they had completed the questionnaire. During sweep one, this caused many practical problems and put pressure on the researchers and the respondents to rush through the questionnaire. To minimise missing data, it was necessary to make return visits after these sessions so that the non-finishers could complete their questionnaires. This put an additional burden on both the research team and the schools and proved to be quite a negative experience for the respondents. During sweep two, a minimum of one hour was allocated by the majority of schools to prevent a repetition of this .

4.2 Questionnaire administration

The first sweep of data collection was conducted between September and December 1998 in all the mainstream secondary and all but one of the independent schools. The special schools were surveyed during January 1999, while work to chase persistent absentees from all schools continued into February 1999. One independent school which agreed to participate later than the others was surveyed in March 1999.

A very structured administration procedure was used during sweep one fieldwork, to ensure that every cohort member was exposed as far as possible to the same conditions and given the same instructions. The researchers explained who they were and handed out an introduction sheet in question and answer format to every pupil (see Appendix D). Each point on the sheet was explained by the researcher, with particular emphasis on the confidentiality of the study and the fact that it was not a test. An introduction sheet was not used in sweep two, but a considerable amount of time was again taken up with explaining the purpose of the study and stressing the confidential nature of it.

To reinforce the importance of confidentiality, pupils were asked to separate their desks or, where this was not possible, to space themselves out. It was stressed that these 'exam like' conditions were important to prevent them from discussing the questionnaire or influencing each others answers. In most classes, one or two young people had to be asked to stop talking to each other – this was enforced strongly and quickly and, as a result, there was no evidence of widespread copying or collusion. On rare occasions, young people had to be moved to another seat, although this was typically the result of childish behaviour rather than looking at each others' questionnaires.

After inviting pupils to ask any questions about the study, the questionnaires were handed out and the pupils were directed straight to the practice questions on the first two pages. The respondents were asked to answer the questions and follow the instructions carefully, while the researcher watched the class to identify any who might have difficulty with the questionnaire. Those who had been identified as having learning difficulties by school staff were noted prior to the questionnaire being issued and dealt with in a number of ways, as discussed in section 4.3.

Once everyone had completed the practice questions, the researcher went over each one to stress the importance of the instructions, especially the routing questions which had been shown in piloting to require particular explanation. After making it clear that the researcher was there to answer any questions or provide assistance at any time, the majority of pupils were left to complete the task on their own. The researcher then monitored the progress of the class by monitoring individual progress and giving help when requested or if it was clearly needed.

During sweeps one and two, most of the cohort were capable of completing the questionnaire on their own well within the hour allocated. Where individuals had been identified in advance as requiring some form of

assistance, resources were provided to deal with this. However, at sweep one particularly, there were many instances where young people who had not been identified as needing any help subsequently needed it. As far as possible, the names of these young people were noted and a record kept of their assistance requirements. This information allowed the research team to anticipate possible problems at sweep two and provide a higher level of research support in potentially difficult classes.

On completing the questionnaire, each pupil was asked to check it and then given additional tasks to complete (see page 15). The main purpose of these tasks was to prevent classroom disruption and ensure that the pupils who took longer to finish could do so without feeling harassed. Introducing a fun element to the session also made them more positive about participating in future. The youth culture questionnaire was also useful as a method for piloting various questions that were used in the sweep three questionnaire.

Once the pupils were engaged in another task, the researcher checked through each questionnaire for missing answers, incorrect responses or inconsistencies. Sweep one proved that this was very valuable for identifying errors which could be corrected on the spot. However, where time was short or there were numerous demands on the researcher from children requiring help, it was not always possible to check through every questionnaire. During sweep two, efforts were made to ensure that every questionnaire was checked and pupils were asked not to leave the classroom until this had been done.

4.3 Arrangements for pupils with learning difficulties

In advance of sweep one fieldwork, learning support staff were asked to identify children with recognised learning or other difficulties which might prevent them from completing the questionnaire without assistance. Those with a very low reading age were particularly targeted. This information was vital to the planning of the fieldwork, so that extra researchers could be provided to assist children with reading, writing or comprehension problems.

Where possible, the research team tried to establish in advance which young people had learning or other difficulties and how serious these were. However, as sweep one was carried out immediately following the transfer from primary to secondary school, learning support staff had not always had sufficient time to properly assess this. As a result, information about pupils with learning difficulties was not always accurate, i.e. those identified by the school were not always the least able to complete the questionnaire and others who had not been identified often needed considerable help.

At sweep one, a total of 521 children were identified by the mainstream and independent schools as requiring extra assistance to complete the questionnaire, representing 12.2% of the cohort. Many more than that received some form of help, however, it was not possible during the fieldwork period to record the precise extent or nature of the help given. Information was, however, recorded about those who required significant levels of support.

The number of pupils identified by schools as requiring help at sweep two reduced to 432 (9.9% of the cohort) and, while there were others who required help, there was a general reduction in the number of pupils who struggled with the questionnaire. Again, the information provided by schools was not entirely reliable, but the information collected by the project team proved valuable and allowed better preparations to be made for sweep two fieldwork.

Because of the importance of getting accurate data from all respondents, extra researchers called 'readers' were employed to provide additional support and reassurance to those who needed it. They included trained researchers, ex-teachers and others experienced at dealing with young people. Before the start of fieldwork, the readers were briefed about what would be required of them, what kind of learning difficulties the children were likely to have and what level of support should be given in each case.

Three main methods were adopted for dealing with pupils with learning difficulties. First, those who were identified as having very mild learning difficulties, or if there was only one person in a class identified as having difficulties, the pupils were kept in the main classroom. A more efficient use of resources was achieved by having an additional helper in the class to respond to general queries and, if necessary, focus on one or two individuals. This was also less stigmatising for those with mild learning difficulties.

Those identified as being particularly slow readers or having comprehension difficulties were generally taken out of the classroom and put into small groups, much as they would normally experience through the school's learning support services. This allowed the readers to provide explanation and support in a less distracting environment. A ratio of one reader to two or three children with moderate learning difficulties worked best.

And finally, those with severe learning difficulties or behavioural problems, were interviewed on a one to one basis. This usually involved reading out the entire questionnaire to them although, depending on the individual's level of ability, as little help as possible was given to complete the delinquency section in order to give them privacy in answering these questions. Care was taken to read out the questions as they were written and to provide advice on particular questions only when it was requested so that response differences caused by a difference in the methodology would be minimised.

All young people attending special schools were interviewed one to one at sweep one, as they were considered to be a particularly vulnerable group. While the specific needs of each pupil varied greatly, most needed a high level of support with reading and writing and required general encouragement and reassurance to complete the task. In some cases, young people had physical difficulties which precluded writing, so the reader also acted as a scribe. No time limits were placed upon children at special schools and, in many cases, the questionnaire was completed with either frequent breaks or over two sessions. At sweep two, the same procedure was repeated with almost all pupils at special schools, with the exception of two or three young people with good educational ability but a tendency to be disruptive.

At sweep two, the research team drew up a list with the names of all those identified by the school as needing help at sweep one plus any additional individuals who had had difficulty at sweep one and all new pupils who joining the cohort. This list was faxed to school learning support staff for amendment, and then the amended list faxed back to the research team so that the necessary arrangements could be made. The three methods for dealing with those with learning difficulties were again adopted, although there was more emphasis on keeping classes together in order to make best use of resources and to reduce the stigma of removing certain pupils.

4.4 Arrangements for capturing absentees

Invariably, some pupils were missed during each fieldwork session due to absence or truancy. As far as possible, respondents were pursued by making return visits to schools. However, it proved impossible to gain access through schools to a small number of persistent truants, long-term sick children and temporarily or permanently excluded children. Therefore, arrangements had to be made to access these respondents at home or elsewhere, such as an alternative educational resource or a residential home.

At sweep one, the majority of absentees were picked up during two or three follow-up visits to schools. Steps had to be taken to access only 37 pupils outside school, although some of these were eventually seen at school. During sweep two, the number of return visits to schools was higher and the number of absentees who had to be tracked outside school also increased to 50.

For data protection reasons, the Education Department was reluctant to disclose pupils' addresses to the project team and left this to the discretion of head teachers. In most cases, schools agreed to send letters from the research team to the parents; however, this was not a productive means of capturing persistent absentees. A maximum of two letters was sent, complete with reply slip and stamped addressed return envelope, offering a home visit or an appointment at the University. Of the 16 parents contacted in this way in sweep one, there were two refusals and two that allowed their child to be surveyed while the remainder did not respond at all.

Fortunately, two schools did agree to provide addresses and telephone numbers at sweep one, which brought considerably more success. Of the 11 parents contacted directly, three agreed to take part after the first letter, a further three agreed to take part after a follow-up telephone call and one agreed to take part after a pre-arranged visit. While the remainder had either moved to a different address or, when contacted, refused to take part, they were at least accounted for.

During sweep two, letters were issued to a total of 50 parents. Only two of these could be sent directly to the home address, as the schools involved were not willing to provide addresses and telephone numbers. This time a total of 8 surveys were carried out and 5 parents issued refusals. The remainder did not respond to two letters and could not be followed up.

4.5 Non-response and refusal rates

In addition to those who were opted out of the study, a number of potential cohort members did not take part at each sweep either because the research team were unable to locate them ('non-respondents') or because, on contacting them, they refused to participate or someone issued a refusal on their behalf ('refusers').[4] their parents, or in a few rare cases, the school, refused to participate. Non-respondents and refusers were only classed as missing cohort members for one sweep, and every attempt was made to contact them at the following sweep.

Table 4.1 shows the non-response and refusal rates for sweep one of the study. By most research standards, the study achieved exceptionally low non-response rates in the first year. Only eight pupils could not be contacted, while a further six refused to participate, representing a mere 0.3% of the first year cohort.

Table 4.1: Non-response and refusal rates in the Edinburgh Study by school type at sweep one

	Mainstream	Independent	Special needs
No. of pupils in the potential cohort at sweep one	3803	594	71
No. of non-responders	8	0	0
No. of refusers (parent/school)	2	0	0
No. of refusers (self)	4	0	0
% non-response/refusal at sweep one	0.4%	0%	0%

Table 4.2 reveals that the number of pupils who could not be surveyed during sweep two of the study rose to 1.2%. While this is three times greater than sweep one, it still represents an incredibly low non-response rate and a very small proportion of the cohort as a whole. Again, the non-response rate was higher within the special schools, although the actual number of pupils who could not be accessed was very small.

[4] In the majority of cases, proxy refusals were issued by parents. However, in very rare cases the schools refused on behalf of the young person and family if there were extreme difficulties at home or if the young person had a serious illness.

Table 4.2: Non-response and refusal rates in the Edinburgh Study by school type at sweep two

	Mainstream	Independent	Special needs
No. of young people in the potential cohort at sweep two	3786	620	91
No. of non-responders	34	0	3
No. of refusers (parent/school)	4	1	0
No. of refusers (self)	7	1	2
% non-response/refusal at sweep two	1.2%	0.3%	5.5%

4.6 Final participation rates

Taking into account both the opt outs (including those who could not comprehend or communicate) and the non-respondents (including those who refused to participate), a total of 4,300 young people took part in the first year of the Edinburgh Study. As can be seen from Table 4.3, there was virtually no difference in the mainstream and independent schools in terms of the proportion taking part, which would not suggest that the results were skewed in terms of social class. A fifth of those attending special schools did not participate; however, this represents such a small number it is unlikely to have had a dramatic effect on the overall results.

Table 4.3: Final participation rates in the Edinburgh Study by school type at sweep one

	Mainstream	Independent	Special needs
No. of pupils in the potential cohort at sweep one	3803	594	71
No. of cohort members taking part at sweep one	3669	574	57
% participation at sweep one	96.5%	96.6%	80.3%

Despite a slight rise in the number of non-respondents and refusers, a total of 4,299 young people took part in the study at sweep two. This is largely due to there being a greater number of new pupils than leavers. Again, the mainstream and independent schools were very similar in participation rates while the special schools were less fully represented.

Table 4.2: Non-response and refusal rates in the Edinburgh Study by school type at sweep two

	Mainstream	Independent	Special needs
No. of pupils in the potential cohort at sweep two	3786	620	91
No. of cohort members taking part at sweep two	3630	600	69
% participation at sweep two	95.9%	96.8%	75.8%

5. ADDITIONAL SOURCES OF INFORMATION

5.1 Introduction

The main source of data on the cohort at sweeps one and two was the self-completion questionnaire. However, an important objective of the study was to collect data from other sources which the young people themselves could not provide or which could be used to expand upon or validate their responses (e.g. information on their offending behaviour). The parental consent letters made it clear that access would be sought to school, social work and children's hearing records annually and that personal interviews would be held with some cohort members at sweep two.

This section of the report describes the methods by which each of these additional forms of data were collected, starting with school records. As the age of the cohort necessitated their attendance at school, and data collection was school based, school records were identified as a good source of basic information about the cohort. To supplement this, it was decided to obtain independent ratings of each child's behaviour using a brief teacher's questionnaire about pro-social and problematic behaviour in school. During sweep three, information on pupils' attainment will also be collected.[5]

This section also explains the process of data collection from agency records. To examine the impact of involvement with various agencies of social control on young people's offending behaviour, access to social work and children's hearing records was negotiated. Examination of these records has proved valuable in ascertaining the impact of voluntary and mandatory supervision on those young people who come to the attention of official agencies.

Finally, this section describes the methods used to conduct personal interviews with a sample of cohort members, looking in more detail at the factors which might impact on resistance to, or involvement in, offending behaviour. This qualitative aspect of the survey was planned to supplement the large-scale quantitative data collected during the first two sweeps, with a view to providing a deeper understanding of the nature, social context and meaning of young people's offending behaviour.

Data collection from two further sources is planned for future sweeps. By the end of sweep two, access in principle had been agreed by Lothian and Borders Police to data held on cohort members by the Juvenile Liaison Officers in Edinburgh, subject to the appropriate consent being given. Funding had also been secured to conduct a survey of parents of all cohort members. These aspects of the study, which are planned for future sweeps, will provide even more valuable information about the lives and activities of the cohort.

[5] Comparable data on respondents' educational attainment was not available during sweeps one and two due to the different methods of testing used between schools. Sweep three data on attainment at Standard Grade level will provide largely comparable data.

5.2 School records

There are two main types of school record held by all mainstream, special and most independent schools. The first record type is computerised data held centrally on a system called PHOENIX. This contains management information about each pupil, including their home contact details, date of birth, previous school attended and their attendance record. The second record type is usually referred to as the pupil's personal record (PPR), which is a confidential paper record containing more detailed personal information about each pupil, such as behavioural problems at school, teachers' reports and disciplinary proceedings.

Access to school records was important to validate young people's answers about their levels of truancy, as well as providing other qualitative information about problems at school. Therefore, during the sweep one pilot exercise for the self-completion questionnaire, a brief examination of school records in the two pilot schools outside Edinburgh was conducted. This involved examining the type of information that might be collected for the purposes of the study and the way in which these data were stored.

During negotiations with the head teachers of the participating schools, however, various problems emerged. First, it became clear that there were differences between schools, and indeed within schools, in the way PPR data was held. Thus, any information collected from PPRs was unlikely to be comparable. Second, most Head Teachers were against the research team having access to PPRs due to the sensitive nature of the information often held, which would contravene data protection regulations. Finally, even if limited access had been agreed, school staff would have to have carried out this aspect of the fieldwork, thereby placing an extra burden on school resources. Therefore, it was decided to replace data collection from PPRs with a brief teachers' questionnaire at sweep two (see section 5.3).

Access to pupils' computerised records was easier in practical terms, as this involved a standard system used by the vast majority of the schools in the study, thus ensuring comparability. In addition, the information held by schools was downloaded onto the Education Department computer system at the end of each school year, thus allowing a central point of data collection. The parental consent letter stated that information would be collected from school records, although no details were given. The Education Department was, therefore, concerned about the data protection implications of sharing this information with the project team.

After a long period of negotiation, it was agreed that the project team would restrict the types of data collected at this stage to the following non-controversial variables: primary school attended, entitlement to free school meals, attendance record, whether attending a school in another catchment area and postcode. Despite a desire to have access to parental names and addresses, it was felt that this was not the right stage to attempt to collect this information. However, postcodes were included as these were required for GIS analysis (see section 7). Given significant problems in trying to collect

comparable data on attainment levels at sweeps one and two, this is now being carried out at sweep three of the study.

In order to ensure that both schools and parents were kept informed, letters were issued to head teachers informing them of this phase of the study and, in addition, a newsletter was issued to all parents in June 1999 listing the information that would be collected from the school records. Despite an invitation to contact the research team about this aspect of the study, no comments or complaints were received from parents about these proposals.

School record data are managed for the Education Department by their computer services division, known as CAMSS. Meetings were held to establish exactly what information was held and how it could be most easily recovered. Most of the fields of interest for the study were relatively simple to identify, however, attendance problems were detailed in a number of different fields. Six categories of unauthorised absence were recorded in terms of the number of sessions (or half-days) each pupil had missed throughout the year. These categories were exclusion, truancy, absence with no reasonable excuse, absence with no explanation given, arriving late during registration and arriving late after registration.[6]

To ensure the school record data for sweeps one and two were fully comprehensive for the two academic years, this aspect of record collection took place during the summer months of 1999 and 2000. A member of the research team assisted CAMSS staff to extract the data by logging on to each school's PHOENIX system and using a query option in the program to specify the relevant fields on the particular year group in question. This procedure was used for the vast majority of mainstream and special schools, although there were network problems which meant one or two schools had to be contacted directly for the data.

As no central system exists for the independent schools, each school had to be approached separately. Unfortunately, only three of the schools were able to provide the data required in a computerised form while one other was able to provide it on paper. The remaining independent schools were either unwilling or unable to provide comparable data. Fortunately, those who did provide school record information were the four largest participating independent schools.

Once the school record data had been extracted from PHOENIX, it had to be tagged with the individual's ID number in order that it could be analysed alongside the other cohort data. This involved translating the PHOENIX data into an excel spreadsheet and matching this list alongside a spreadsheet containing the names and ID numbers of all the cohort members. While this was a relatively simple exercise, it required considerable checking of the data to ensure that any information on non-cohort members (i.e. opt outs) was deleted.

[6] Caution is to be given to analysing the 'late during registration' category as not all schools routinely record this.

One of the most important school record fields for analysis was postcode, as this meant that cohort data could be incorporated into the GIS and analysed at area level for the first time. To do this, each individual's postcode was geocoded using a piece of software called 'Postcoder' and then the data was translated into Microsoft Access software. This allowed each individual to be pinpointed to a particular neighbourhood and aggregate statistics could then be generated by area. Details of the work involved in developing this aspect of the GIS are discussed in section seven.

5.3 Teacher Questionnaires

Since access to pupils' PPRs was not feasible, the Education Department agreed that teachers could be asked to provide an independent rating of each person's behaviour using a brief pro-forma. An abbreviated version of the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) was used (see Appendix E). This is the teacher version of a behaviour screening questionnaire used to assess aspects of problem and pro-social behaviour in 4 to 16 year olds. This version of the SDQ has the advantage of being very brief, while generating scores that correlate highly with those obtained in the longer version. While longer instruments would have been more reliable and more detailed, the short one was used to reduce the burden on teaching staff.

The abbreviated SDQ consisted of 10 statements about behaviour which teachers were asked to rate as 'not true', 'somewhat true' and 'certainly true' for each member of the cohort, thus generating a total difficulties score. An 'impact' question was also asked to determine whether the difficulties were causing problems for pupils in key aspects of their lives. To control for any lack of familiarity with new cohort members, teachers were asked to indicate how many months they had known the individual.

This aspect of fieldwork was carried out in sweep two, to give teachers sufficient time to become familiar with most cohort members. Pre-named questionnaires were delivered to schools with instructions for the teachers to complete them. Ideally, one person would have completed the forms in each school, however, this would have placed too much of a burden on that person. Therefore, it was merely specified that whoever completed the questionnaires should know the individuals sufficiently well to report on their behaviour over the last year. In most cases, guidance or pastoral staff completed the forms.

A total of 3999 teacher questionnaires were completed for those respondents that took part at sweep two, representing 96.5% coverage of the cohort during that sweep.[7] Most of those for whom forms were not completed had either left school and moved away from Edinburgh or were so new to another school that teachers felt unable to complete them. Forms were completed for most of those who had moved from one school in Edinburgh to another within the previous year. Plans have been made to re-approach teachers in sweep three

[7] A total of 4060 were completed altogether, however, 61 of these were for respondents who left the cohort at the end of sweep one.

with a view to completing SDQs for those young people in the cohort who have not already been assessed.

5.4 Social Work Department records

The Social Work Department (SWD) is one of the main official agencies which has a responsibility to safeguard and support young people who may be at risk or in trouble. Referrals may be made by a wide variety of agencies or individuals and for any number of reasons relating either to young people or their families. Involvement ranges from one-off duty referrals to extensive intervention by an allocated social worker, either on a voluntary or a statutory basis.

A preliminary trawl of the SWD central computer records in June 1999 suggested that around 400 children aged 12 years had a record held on them which, if accurate, suggested that approximately 10% of the cohort would have had some form of direct contact with the SWD. It could not be ascertained from this initial trawl, however, how many records would consist of a one-off referral and how many would involve more intensive intervention.

Meetings were held with a senior representative of the SWD to negotiate access to the records of the young people in the cohort. As the letter to parents had made it clear that access would be sought to these records, the SWD agreed to match the names and dates of birth of every member of the cohort against their central computer system. A disk was then supplied to the project team with a file containing a list of all 100% matches, and another file listing any other potential matches which were not matched exactly to either date of birth or name spelling. The name of the social work office where the record was held was also provided by the SWD.

Access was granted to examine a sample of files so that a monitoring form could be developed for data collection. The structure and content of files for around 20 members of the cohort were examined in detail at one social work office and a draft monitoring form produced. The form collected data on the number of and reasons for referrals, case allocation, care history and child protection proceedings, offending history, involvement of other agencies, and details of various specific issues relating to the young person and their home circumstances.

To enable comparison with the self-completion data, the monitoring form was split into two sections. The first related to any referrals made from birth to 31st August 1998, which coincided with the start of the sweep one data collection period. Thus, self-reports of things that had 'ever happened' would be broadly comparable with the first section of the monitoring form. Similarly, the second section related to any referrals from 1st September 1998 to 31st August 1999, which was broadly comparable with 'the last year' reference period of sweep two. These periods do not match exactly since questionnaire administration spanned a number of months. However, broad

comparisons do allow a valuable examination of background factors in relation to offending behaviour.

The final draft monitoring form was submitted to the SWD for approval, accepted with minimal changes and the form finalised in July 1999 (see Appendix F). Letters were issued to all social work offices in Edinburgh by the SWD advising them that agreement had been given to participate in the research. This was followed up by letters from the research team to arrange dates for fieldwork, accompanied by a list of the names of cohort members for whom file access was required. Data collection for sweeps one and two of the social work records took place in August and September 1999 and was carried out by a researcher who was also a qualified social worker.

There were some practical problems with social work record examination. Central records did not always match those held in social work centres, as some files, particularly those that had been closed for years, were very difficult to find. Other files had been transferred to another office or were simply missing. In some offices, the researcher was permitted access to the client index system which proved to be more up to date than the central records and allowed some of the missing files to be traced. Not all social work offices were happy to allow access to this system, however.

A total of 468 members of the cohort were identified as potentially having a social work record by the SWD central computer system. Files were located for 363 young people and, of the remainder, 54 could not be located, 29 names turned out not to be cohort members, eight contained information on the child's family only, seven were being held by other agencies (to which access had not been negotiated at the time) and seven had been destroyed.[8] In total, 300 (7.0%) cohort members at sweep one had a social work record, relating to some point up to the age of 12, while 181 (4.2%) respondents at sweep two had a social work record from the previous year.

5.5 Scottish Children's Reporter Administration records

The Scottish Children's Reporter Administration (SCRA) also has a major involvement in children's lives through its responsibility for conducting children's hearings in Scotland. Anyone can make a referral to the hearing system, although the majority are made by schools or police officers. Reasons for referral to the hearing system vary, but the Reporter must frame grounds for a hearing within certain pre-specified categories which include offending, truancy, being beyond the control of a relevant person and lack of parental care. Again, the records consisted of referrals for which no further action was taken by the Reporter as well as cases which proceeded to hearings.

It was not possible to estimate the number of 12 year olds known to the children's hearing system before data collection commenced , since SCRA

[8] Details of those for whom files could not be located, or were held by other agencies, were noted in order that they might be located at sweep three data collection.

records were held on a card index system rather than a computer. However, it was expected to be smaller than the proportion of young people with a social work record. The main reason for this was that social workers have a much wider remit to work with young people and families than the hearing system, and much of the work is done on a voluntary basis which never comes to the attention of the hearing system.

Again SCRA was happy to take part knowing that the letter to parents had informed them that this would be part of the research, and practical arrangements were made with the Reporter Manager for children's hearings in Edinburgh. Despite having to trawl through the card index system, the process of data collection was simplified by all the files being held in one office. Over two days in April 1999, two researchers checked every card in the system for a date of birth within the correct parameters and then matched the names to the list of cohort members. Records were identified for 374 members of the cohort, and a list of all names was provided to the Reporter Manager.

As with the social work piloting procedure, access was granted to examine a sample of children's hearing files so that a monitoring form could be developed for data collection. Again, around 20 random files were examined and detailed notes made of their structure and content. The draft monitoring form produced was designed to collect data on the number of and grounds for referrals, numbers of hearings held, decisions taken at hearings, offending history and details of various specific issues relating to the young person, their home circumstances and their behaviour or performance at school. As with the social work monitoring form, the children's hearing form was split into two sections to coincide with the data collection periods for sweeps one and two.

A copy of the final draft monitoring form was approved by the Reporter Manager and was finalised in July 1999 (see Appendix G). Data collection took place over a three week period in July 1999, which involved trawling through active, pending and closed files. There were few practical problems and 356 of the 374 files were successfully located. Only 18 files could not be found, all of which related to old or one-off referrals, so basic details were extracted from the card index system about these cohort members.[9] A total of 299 (7.0%) cohort members at sweep one had a children's hearing record, relating to some point up to the age of 12, while 150 (3.5%) respondents at sweep two had a children's hearing record from the previous year.

5.6 Personal interviews

The original proposal for the study stated that personal interviews would be conducted with 50 members of the cohort, split equally between boys and girls and including a total of 30 individuals showing evidence of persistent or serious offending. This qualitative aspect of the study was intended to

[9] Although the period of data collection did not fully cover the sweep two period, plans were made to double check all records in sweep three to ensure no data were missed.

supplement the various quantitative data collected about the cohort members with semi-structured interviews exploring a range of issues which might provide a deeper understanding of the reasons why some young people offend and others do not. In addition, they provided an opportunity to question young people more widely about a range of issues affecting them and their lives.

Following completion of the sweep two school fieldwork, a detailed strategy was developed for planning and conducting the personal interviews. Using questionnaire data from sweep one, as sweep two data was not yet available, 10 criteria were identified as correlating highly with variety and frequency of offending.[10] Scales for each of the 10 variables were standardised to allow meaningful comparison, and those individuals falling within the top third of each scale were given a score of one. A new 'risk' variable was created by totaling each individual's score, and those with a score of 7 or more were identified as being at the highest risk of offending.

In order to achieve an intended sample of 50 interviews, it was decided to select 100 individuals in the hope that 50% would respond. All those with a risk score of 7 or more were listed in order of their frequency of offending during year one. First, 20 boys and 20 girls who had reported no or a small number of incidents of offending were selected as the 'low' group. Then, 30 boys and 30 girls with the highest frequency of reported delinquency, including some with involvement in serious offences such as joyriding, housebreaking and theft from vehicles, were identified as the 'high' group.

Letters were sent out to the parents of all 100 prospective interviewees, requesting an interview with the child over the summer holidays and offering a £5 participation fee per interview. As the project team still did not have access to parental names and addresses at this stage, letters were issued via the schools. It was anticipated that interviews would be carried out with 15 high boys, 15 high girls, 10 low boys and 10 low girls. In the event that insufficient responses were received in any category, it was proposed that letters be issued to other prospective interviewees.

A semi-structured interview schedule was developed with 9 main topics for discussion:

- Spare time leisure activities and hanging around their local neighbourhood;
- Involvement in five different types of offending behaviour;
- Experience of four different types of victimisation;
- Opinions and experience of alcohol and drugs use;
- Growing up, popularity and reputation;
- Parental and other controls on behaviour;
- Opinions on the acceptability of various types of crime ;
- Their vision of the future.

[10] The 10 criteria were high impulsivity, high alienation, poor moral reasoning, low perceived seriousness of crimes, low level of parental supervision, high prevalence of friends' offending, high frequency of victimisation, frequent police contact, perception of self as a troublemaker and numerous neighbourhood problems.

A total of 55 responses were received, six of which were negative and 49 positive. Of the 31 boys who responded, 19 were in the high group and 12 in the low group. Fifteen of the high and nine of the low group boys were interviewed[11]. Only 18 girls responded, of which nine were in the high group and nine in the low group, all but two of whom were interviewed[12]. Therefore, a total of 40 interviews eventually took place. With the interviewees permission, the interviews were tape recorded to facilitate transcription and maps and cards were used to make the interviews a bit more interactive and detract attention from the tape recorder.

While the achieved number of interviews fell short of the proposed sample of 50, it was agreed that further interviewees would not be pursued at that stage. The interviews had proved to be very useful, particularly those with the high offending boys and girls, although it was felt that the methodology could be improved upon. Therefore, although this aspect of the study had originally been planned as a one-off exercise, it was agreed that further interviews would be carried out in future sweeps of the study.

[11] Given their importance, it was decided to interview all 19 of the high boys, however, 3 could not be contacted during the interview period and one refused to take part. It was decided to interview 10 of the low boys, although of those chosen one could not be contacted.

[12] One high and one low girl could not be contacted during the interview period.

6. DATA MANAGEMENT, PROCESSING AND ANALYSIS

6.1 Data Management

Data handling and management is an essential part of any study, particularly one which requires to track a cohort of individuals over a long period of time. Managing the Edinburgh Study is further complicated by the fact that the data are not only longitudinal but derived from a number of different sources. Essentially, two separate systems are required – a 'data management system' which allows for the day to day management of fieldwork and a 'data analysis system' which deals with data storage and analysis. The data analysis system is discussed in more detail in section 6.4.

During the first two sweeps of data collection, the data management system consisted of a Microsoft Excel database containing basic details about each member of the cohort. This was the only place where names and personal ID numbers were stored together, therefore, the data were secured with passwords to prevent unauthorised access. The details held on the data management system included first name (plus middle or alternative first names), surname (plus any aliases), date of birth, school code and a personal ID number[13]. Information was also held on whether or not individuals were opted out and whether they needed additional help to complete the questionnaire. Any other relevant information which could facilitate fieldwork was also stored here.

The data management system had two main purposes. First, it provided a readily accessible database from which information and statistics relating to the cohort could be retrieved. Second, it provided comprehensive lists for each school which were used to identify year to year movement within the cohort (by checking against new class lists) and to double check participation during each sweep. These lists were also used for processing the questionnaires returned after fieldwork and were amended with any new information about the cohort. The amended lists were then used to update the data management system at the end of each fieldwork year.

Following sweeps one and two, statistics were produced from the ID lists detailing the number of young people attending each participating school, the number of opt outs, the number of non-respondents and those unable to understand the questionnaire and the total number of questionnaires completed for each school. These statistics are a valuable way of charting the progress of fieldwork and assessing the success of each fieldwork sweep. Monitoring the number of opt outs and non-respondents is particularly important.

[13] As a measure of security, every school was allocated a school code (a unique identifier for the school each person was enrolled at during data collection) and a personal ID number (a permanent unique reference number to identify each individual).

6.2 Questionnaire processing

After each fieldwork session, the questionnaires were processed by the project team before being sent for data entry. This ensured that no-one outside the project team had access to information which could be used to link cohort member names to their unique ID number. The tear off name slip within each questionnaire was removed and the appropriate school code and unique ID number assigned to the front of the questionnaire. A number of other codes were also assigned for management purposes[14] and then the name slips were destroyed.

As each individual's questionnaire was processed, his or her name was ticked off the data management list for each school. These lists were used to maintain an accurate list of respondents who had been absent during each fieldwork session, to ensure that these pupils were pursued as absentees. To double check that every respondent was accounted for (and thus that the absentee list was correct), a check list of ID numbers was produced for each school. Before delivering the questionnaires to data entry, every ID number already assigned to a questionnaire was ticked off the check list and the remaining numbers were matched up with the appropriate name on the absentee list. Where there were discrepancies, these were investigated and the appropriate action taken.

6.3 Data Entry

After a process of competitive tendering, The University of Edinburgh Survey Team were commissioned to conduct the data entry. To reduce costs during sweep one, the project team agreed to code all open-ended questions, except those relating to parents' occupational status which were best done by trained data entry staff. Unfortunately, the process of coding the questionnaires proved to be a much bigger task than the project team had envisaged and took up a disproportionate amount of time. As a result, it was decided that despite the additional cost the open-ended questions should be coded by the data entry team during sweep two.

Data was entered using SIR/FORMS, a database system specifically designed for inputting statistical data. The advantages of using SIR/FORMS were that it was strong on missing values, variable and value labels and had user-friendly, custom-built screens which reflected the questionnaire page. The routing contained in the questionnaire was used to navigate the person doing data entry through the questionnaire screens. And help information and extended code lists were available on a screen-by-screen basis.

[14] During sweep one, codes were assigned for those participants identified by the school as requiring assistance and to show if the questionnaire had not been fully completed (very few). During sweep two, additional codes were assigned to indicate whether the individual had moved school and whether they were new to the cohort or existing.

The enhanced data quality control and detailed help screens contained in the SIR/FORMS system, including extra validation, descriptive text and warning bells, reduced the potential for error and therefore little data cleaning was required after data entry. In addition, updating or deleting of records was done in the form and, therefore, any mistakes could be corrected instantly. Range checks and confirmation of valid values were an integral part of the SIR/FORMS system, while additional consistency checks were run on the final data set as specified by the project team.

Questionnaires were delivered to the survey team on a regular basis throughout the fieldwork periods for sweeps one and two. The final sweep one questionnaires were delivered by the end of March 1999, and the full data set supplied by the beginning of May 1999. During sweep two of fieldwork, the children's hearing and social work monitoring forms were delivered to data entry by December 1999, the final sweep two questionnaires by the end of February 2000 and the teachers' questionnaires by mid April 2000. Both the questionnaire and monitoring form data sets were supplied by end of April 2000, while the teachers' questionnaire data were supplied by end May of 2000.

Data sets were supplied in portable data files which were then translated into SPSS files and final checks were undertaken by the project team. In particular, the total number and gender balance of participants at each school and all data management codes were double checked to ensure that the data provided by the survey team matched up with the information held on the data management system.

6.4 Data analysis

Once the data sets supplied by the survey team had been checked, they were ready for analysis. Given the complexity of the data involved, however, it was necessary to devise a management strategy to deal with data analysis. Following consultation with members of the project team and other contacts, a strategy document was devised which explained the procedures for managing data files, syntax files and output files during analysis, and for storing files and outputs securely.

The strategy document also detailed the variable naming and labeling system which had been adopted for all primary and secondary data. Each variable name was designed to identify the data source from which the variable was derived, the sweep in which the variable was collected, the subject or 'theme' of the variable and a two-digit number to differentiate questions within a theme. As variable length name in SPSS is restricted to 8 characters, the theme names could only be a maximum of 4 alphabetical characters. To support those conducting data analysis, a Data Analysis Reference Guide was prepared providing a detailed description of all the theme names used.[15]

[15] Copies of both the Data Management Strategy document and the Data Analysis Reference Guide are available from the Project Team.

The two factors which complicate the analysis of Edinburgh Study data are the fact that data are longitudinal and are derived from a number of different sources. Over the first two sweeps of data analysis, data on each respondent were collected from two questionnaires, monitoring forms from two social agencies, brief teacher questionnaires, school records and GIS data. On the advice of colleagues conducting similar studies in America, all of the data collected over the first two sweeps was merged into one large data set. Work will be ongoing over the life of the project to decide whether this is the best way to store and analyse data.

Details of specific data analysis conducted during the first two sweeps of the Edinburgh Study are not provided here. They are provided in a separate report to the ESRC entitled *The Edinburgh Study of Youth Transitions and Crime: Key findings at ages 12 and 13.* Details of further project outputs can be found at Appendix I.

7. GEOGRAPHIC INFORMATION SYSTEM

7.1 Introduction

Although the concept of environmental criminology is not new in itself, Geographic Information Systems (GIS) software is a relatively new technique in criminological research. The development of easy to use PC-based packages has facilitated the spread of GIS application and has, for the first time, allowed crime patterns to be visualised in relation to various aspects of social and physical geography. This analysis has shown that crime is socially and geographically skewed in its distribution. Although there is variation between offence types, it tends to be concentrated, both in terms of local crime rates and the number of resident offenders, in areas that are characterised by multiple deprivation and high residential mobility. The operation of local housing markets and environmental variation in opportunities for disorder (e.g. poorly lit streets, clustering of pubs and night-clubs in a city centre) also play important roles in concentrating crime by area.

Nevertheless, the link between deprivation, residential mobility and local crime rate is not always clear cut and can be influenced by 'area effects' that are independent of deprivation and residential mobility, so that some areas that are closely similar in these respects can have widely different crime rates. Work carried out by Sampson et al (1999) in Chicago suggests that these differences can be broadly explained by varying levels of 'collective efficacy' or the ability of residents within a community to monitor and control public disorder. Residents are more likely to intervene or call the police in areas where there is agreement about values, particularly about a common goal of maintaining safe streets, and where social ties are mobilised to that end.

The level of informal social control operating within an area is thought to be an effective deterrent to potential criminals, because of the higher chance of being stigmatised by an organised, cohesive community. However, Sampson has pointed out that it is unlikely that social cohesion on its own is responsible for crime control. A community may be cohesive but not organised towards reducing crime. Formal sanctions (principally being caught by the police) may also be more effective when backed up by the stigma of disapproval by the whole community. Other studies, again in Chicago, show that the structural characteristics of neighbourhoods provide an important context for understanding the long-term development of criminality in *individual*s. The evidence suggests that the stresses of living in an area of multiple deprivation and high crime levels compromise the quality of parenting which in turn influences many outcomes in childhood through to adulthood. These outcomes include health, education and work record, but also the status of the offender.

Clearly, the study of crime and space is vital to the understanding of both variations in local crime rates and the social production of offenders. Very recent work suggests that the two interact, in the sense that individuals who have certain characteristics such as lack of self-control and who also live in deprived or high-crime environments are far more likely to become involved in offending than similarly crime-prone individuals living in better environments.

7.2 Aims of the GIS

One of the main aims of the study was to integrate the study of individual development and life histories with the study of the effects of the physical and social environment in which offending takes place. The GIS combines geo-coded social, physical and economic data about the City of Edinburgh with data about the cohort of young people. This allows patterns of offending across the city to be described and analysed and supports the development of an integrated theory of offending as a product of individual and community level interactions.

There were three main aspects to the development of the GIS. First, it was used to provide a general description of the social and geographical characteristics of the neighbourhoods in which cohort members live. Second, the GIS was used to establish the framework for an analysis of dynamic neighbourhood processes and patterns of crime. This framework consists of a division of Edinburgh into 91 neighbourhoods chosen so as to maximise between-neighbourhood differences on an index of social deprivation (see section 7.5). Finally, to supplement the analysis of offending and neighbourhood, case studies were carried out in two of the newly defined neighbourhoods. The two areas chosen were contiguous, with similar levels of social deprivation, but contrasting crime rates (see section 7.6).

7.3 Structure of the GIS

A GIS package is a relational database with a user-friendly interface that integrates and visualises diverse data sets with a spatial element (e.g. maps, address information, or anything with a postcode or OS grid reference). The end product is a multi-layered computerised map ('view') which can be manipulated and queried, then used to produce presentation materials ('layouts'). Two main GIS software packages are available commercially: ArcView and ArcInfo. In line with the University of Edinburgh computing services, ArcView was selected as the software for use in the Edinburgh Study.

ArcView allows natural or man-made *features* on a map (e.g. areas, roads or events) to be linked to *attributes* or information about them (e.g. social class of residents, area crime rate, postcode of a particular building). Each feature has a location, a representative shape and a symbol that represents one or more of its characteristics. The GIS stores attributes of each map feature in a database and links other descriptive information to those map features. When features and attributes are combined (essentially joining two data tables on a common field), a *theme* is created. A variety of feature data sets were used to develop the Edinburgh Study GIS, including digitised boundary data, Ordnance Survey map data and local data provided by the City of Edinburgh Council. Also, various sources of attribute data were analysed, such as police recorded crime, self-report crime from the cohort and census data.

GIS data sets

Several feature and attribute data sets were obtained from specific agencies (Lothian and Borders Police and City of Edinburgh Council) and from data services offered by sources available through the University's computing services (UKBORDERS,

DIGIMAP, CASWEB). Six main types of data set were used in the development of the GIS: digitised boundary data, ordnance survey map data, city development data, 1991 census data, police recorded crime data and data about individuals within the cohort. Each is described in turn, below.

Digitised boundary data sets comprise feature data about the boundaries of particular administrative units (e.g. postcode units, census output areas, etc), thus attributing a geographical pattern to the data. A wide variety of data sets are available to registered users of UKBORDERS, although the Edinburgh Study has used only data sets comprising output areas (OAs); electoral districts and wards; and postcode areas, districts, sectors and units. In addition, the project team has created its own boundary data set which defines Edinburgh into 91 separate neighbourhoods (see section 7.5).

Ordnance Survey (OS) map data was another source of feature data used. They were downloaded from the University's 'Digimap' service in the form of discrete tiles of information that were then blended together into a larger map using a program known as Map-manager. Several OS data sets were downloaded:

- OSCAR 1250 data – a feature data set which displays the central line of each road in Edinburgh. This will be useful in the analysis of crime concentration (in space or time) in the context of particular bus routes or other defined road boundaries.
- Landline data – another feature data set which shows the outlines of each building in Edinburgh. It is hoped that this can be used to do more detailed analysis of the police recorded crime data, if address information on victims and offenders can be provided.
- Raster 10,000 data – a black and white map showing relief information of Edinburgh at a 1:10,000 scale, including shaded depictions of woodland, building names, roads, places of interest, etc. Unlike OSCAR and LANDLINE data sets, this information is *raster* or image information and is for illustrative purposes only as it cannot be analysed or manipulated in any way.

City development data were provided by the City of Edinburgh Council in the form of ArcView shape files that expressed different themes. They were a combination of both feature data and attribute data. Several data sets were obtained, showing:

- Vacant and derelict land in Edinburgh.
- Retail outlets.
- Public leisure facilities.
- New housing and other development.
- Industrial sites.

The 1991 census data set contains an enormous amount of attribute data on Edinburgh at various levels of aggregation, the most detailed level being the small area statistics (SAS). SAS data relates to the basic census administrative unit, the output area (OA), which each contain about 100-120 people. There are some limitations to using the 1991 census data, as it is now considerably out of date and some data are 'Barnadised' or changed slightly to avoid identification of individuals. Nevertheless, it provides the most detailed description of the population available at a very fine level of geography.

Police recorded crime data were provided by Lothian and Borders Police for Divisions B, C and D (covering the City of Edinburgh). This attribute data set contained 19 separate fields of information relating to approximately 46,000 incidents recorded in 1997 although, after data cleaning and geo-coding (see section 7.4), only around 32,000 (70%) of the incidents could be analysed Due to data protection concerns, access was not granted to address information for either the victim or the accused. This makes it impossible to conduct any detailed analysis on multiple victimisation or patterns of travel in relation to offending.

Attribute information about the members of the cohort were generated from a variety of sources, including self-report questionnaires, official agency records and school records. Home address postcode information on each child can be matched to any of the feature data sets, allowing the characteristics of each individual to be mapped and compared with any other type of attribute data. Of the 4,300 participants, valid postcode information was obtained for about 3,700 (86%).

7.4 Cleaning and geo-coding the police data

GIS requires a spatial element to each data file in order to display it visually. This element can either take the form of OS grid-references or more detailed spatial co-ordinates that define the boundaries of specific areas. The process of appending spatial information to a data set is known as *geo-coding.* The police recorded crime data provided included address information (house numbers, business titles, street names, etc.) but not postcodes and not grid-references. Therefore, it could not be used in ArcView until postcode information had been attached, allowing data to be linked to existing feature data sets and maps of crime patterns to be produced.

ArcView's geo-coding facility is designed, primarily, to work with the American postcode system. Thus, specially designed software had to be used to cross-match address information in the police file with postcode data available from the Post Office using the postcode address file (PAF). Consideration was given to geo-coding each incident locus precisely, so that co-ordinates identified a specific *building* and not a postcode. However, this level of detail would only have been useful if victim or accused address information had been provided. In addition, Address Point maps (very detailed OS maps) which are needed to make sense of this data are not provided by the University's Digimap service and would have been too expensive to purchase. Thus, all successfully geo-coded crime incidents resulted in an appended postcode and OS co-ordinates marking the 'centroid' or centre point of each postcode unit.

A software package called Postcoder cross-matched crime incident addresses with postcodes. Postcoder was somewhat complicated to use, as it is a DOS product, and requires a control file to be created for each query that tells the program the locations and properties of the files to be interrogated together with the details to be appended (i.e. postcode and OS co-ordinates). It then performs the cross-matching task using a CD with all the PAF data on it and produces three output files containing addresses that have successful, doubtful and poor (failed) matches. Geo-coding involved running a query, siphoning off the 'good' (matched) data, trying to find ways of improving the remaining data, and then re-running the query.

Unfortunately, the police address information contained many errors, misspellings, abbreviations and inconsistent notations, which necessitated a lengthy process of '*cleaning'* the data in order to maximise the number of successful matches. There were four main stages in this cleaning process. At the first stage, the raw data provided by the police were put through Postcoder and 43% of incidents were successfully geo-coded, 54% were identified as possible matches and 3% were rejected due to lack of information. Stage two involved making a number of manipulations to the structure of the file to improve the effectiveness of the control file, producing a further 17% successfully geo-coded data. At stage three, a further 4% of addresses were geo-coded by amending unspecific addresses, abbreviations, misspelled words, etc.

At this point, the remaining doubtful and bad files presented various different geo-coding problems, each of which required more or less time and energy to resolve. Therefore, stage four involved a continuous process of making slight amendments and running Postcoder to salvage as much data as possible. By the end of stage four, 70.5% (32,722) of incidents were successfully geo-coded for use in event themes. The remainder of the unmatched data was not good enough to geo-code in any way and, therefore, could not be used in GIS analysis. In addition, around 12% (4,004) of the successfully geo-coded crime data could not be used during analysis of the 91 defined neighbourhoods because they occurred in areas of new build, with newly created postcodes, which were not included on the version of PAF available at the time. Thus, only 62% of the data overall could be used when aggregated to the neighbourhood level.

7.5 Defining local neighbourhoods

There is no widely accepted, or unproblematic, definition of 'neighbourhood'. Some authors in the field of environmental criminology (see Bottoms and Wiles, 1997) have used existing administrative boundaries (e.g. local government units, census districts, electoral wards, etc) in their work. This approach saves time, but doesn't necessarily relate to any sense of 'community' in the real world, which is important to capture in order to say something meaningful about the crime-relevant properties of such communities. For this reason, Sampson et al (1997) created their own functional definition of neighbourhood using a combination of census data and local knowledge of relevant physical boundaries. The resultant 'neighbourhood clusters', for reasons of statistical necessity[16], are large but are created using very detailed information on inhabitants. Therefore, a similar methodology was adopted in the Edinburgh Study, involving four main stages of development.

[16] Sampson was conducting a community survey and needed neighbourhoods to be of a certain size in order to generate sufficient participants to detect between-communities differences.

Selecting variables for identification of neighbourhoods

At stage one, the characteristics to be used to define each neighbourhood were identified. As noted in section 7.1, there are already well-established relationships between crime and measures of social deprivation and residential mobility at the area level. These types of variable had to be controlled for and formed the basis for the definition of neighbourhood. Sampson et al performed a factor analysis on the available census data to pick out the best predictors of area-level (violent) crime rate. However, given the problems with geo-coding the crime data, it was decided that a more reliable approach would be to review the literature and choose variables on the basis of their proven utility across a range of studies.

Using Sampson et al's approach, neighbourhoods were defined as 'geographically contiguous tracts that were internally homogenous on key census indicators', and following Wikstrom (1997), the selected census variables were grouped according to the schema in Table 7.1.

Table 7.1: Selected census variables grouped by area characteristic[17]

	AREA CHARACTERISTICS			
	DEMOGRAPHIC	HOUSEHOLD	HOUSING	SOCIO-ECONOMIC
CENSUS VARIABLES	% migrants % young people (aged 10-24)	% lone parents % overcrowding (>1 person per room)	% local authority housing	% unemployment (male & female)

One final consideration in defining Edinburgh neighbourhoods was the population size of each neighbourhood. In consultation, Robert Sampson suggested that for a city of Edinburgh's size, at least 80 areas would have to be defined in order to detect between-area differences when using multi-level statistics. Given that Edinburgh had a population of around 420,000 in the 1991 census, this would have produced an average population of 5,250 persons per neighbourhood (approximately 45 output areas).

Downloading and manipulation of Census variables

Data from the 1991 Census giving raw counts of the six variables shown in Table 7.1 for every OA in Edinburgh were downloaded from CASWEB, a service provided by Manchester Information and Associated Services (MIMAS). These variables were then manipulated in SPSS to express them as a proportion of the total population or

[17] Three variables (lone parents, overcrowding and local authority housing) are at the household level, while the remainder refer to people. 'Migrants' is an index of residential mobility and refers to the number of persons in a given census unit who, in 1991, had lived in that unit for less than a year.

household for each OA. Finally, every value – for each variable and within each OA - was transformed into a z-score; and a summed z-score was produced for each OA by adding the 6 constituent transformed scores. This final 'z-sum' score presented the composite variable of crime-relevant social stress.

Identification of clusters

The z-sum transformations for each OA were saved in a text file, added to a project file in ArcView and then joined to the OA boundary data set, in order that variations in the OA composite scores could be visualised as a coloured map ('theme'). By presenting the z-sum scores for each OA by means of a colour and removing boundary lines in ArcView, the 'natural' spatial clustering of similar OAs by z-sum were observed. Tentative boundaries for each neighbourhood were drawn according to the clustering of OAs with similar z-sum scores and the knowledge that each neighbourhood had to contain around 45 census units.

At this stage, neighbourhoods were rough aggregates of 40-50 Output Areas that were similar in terms of their crime-relevant social stress scores. 'Drawing' boundaries involved editing the constituent OA boundary data set so that specified OA boundaries were merged together into a larger experimental 'neighbourhoods'. Each neighbourhood was given a name depending on the area of Edinburgh it covered and saved as an ArcView shape file, which allowed each neighbourhood polygon to be viewed as a separate theme.

Final identification of neighbourhoods

This final stage of neighbourhood definition relied mainly on physical boundaries (roads, parks, hills, etc), local knowledge of Edinburgh and 'traditional' area boundaries used on maps. The refinement of each experimental neighbourhood was a lengthy, repetitive process and, whilst it was relatively easy for some areas, those that included large natural or man-made features were more problematic. A decision was taken to include every OA in Edinburgh, even if it had a very small, rural population and/or was very large in area. This inevitably meant an extremely large variation in neighbourhood size, though not in population. Taking all these factors into account 91 defined neighbourhoods were eventually created.

Once the selected boundaries had been finalised, all the OAs in a given neighbourhood were merged into one large polygon. Taking the original data set (containing 3,600 polygons) the 50 OAs forming the first neighbourhood were combined and saved as one polygon (thus the data set now contained a total of 3,550 polygons). This process was repeated with each newly defined neighbourhood until the boundaries of 91 neighbourhoods had been created (see Figure 7.1). This file was saved as a new feature data set, allowing any attribute data (e.g. from police, census or cohort) to be joined to it and visualised at the neighbourhood level.

Figure 7.1: The 91 Edinburgh Study neighbourhoods

The main advantage of dividing Edinburgh into these 91 defined neighbourhoods is the ability to link individual level data about the cohort (geo-coded by means of their home postcode) with data available at the neighbourhood level. Thus, patterns at one level can be analysed by reference to patterns at the other. For example, individual levels of delinquency can be correlated with neighbourhood unemployment rates.

More importantly, information at one level can be interchanged with information at the other. This means that it has been possible to import information held on cohort members into the neighbourhoods data set, so that the cohort has become a source of data about the characteristics of the 91 neighbourhoods. Thus, each area can be characterised by the cohort's own reports about offending behaviour, neighbourhood cohesion and levels of informal social control. In addition, data from the neighbourhoods data set has been incorporated into the cohort data set, allowing individual data to be analysed by any of the social or geographical information held within the GIS.

7.6 Case study analysis

The second main reason for creating 91 pre-defined neighbourhoods using GIS was to facilitate the selection of two areas of Edinburgh in which to conduct case studies. Since the neighbourhoods were based on pre-existing geo-coded boundaries (in the form of output areas) the social geography and patterns of police-recorded crime for each area could easily be examined. This allowed contiguous areas with similar measures of deprivation and residential mobility – as defined by the z-sum score of social stress – but contrasting police recorded crime rates to be identified. This method of area selection is similar to that used by Bottoms, Claytor and Wiles in their study of council housing estates in Sheffield in the 1980s.

Although several pairs of neighbourhoods were identified, the two areas chosen were in very close proximity to each other and, although both scored highly on the index of deprivation, they presented with very different levels of police recorded crime. As a double check, self-reported delinquency rates for cohort members living in the two areas were examined and similar differences emerged, although the numbers involved were very small (n=22 in one area and n=66 in the other).

Three main methods of research were employed in the two case study neighbourhoods. First, a review of documentary evidence was conducted, including police crime data, local community safety forum records, the results of a previous survey conducted in the area, annual reports and evaluations from regeneration initiatives and data from local housing agencies. Second, a period of observation was carried out and records made of the design, layout and physical condition of the two neighbourhoods. Third, semi-structured interviews were carried out with representatives from a range of agencies working within the areas, including police, housing managers, social workers, youth workers, community representatives and regeneration partnership staff.

By examining in detail these two case study areas, the project team has started to identify the mechanisms and processes that may have produced a relatively low level of crime in one neighbourhood and a relatively high level in the other. This aspect of the study will be further supplemented by a survey of social networks and community structures in Edinburgh neighbourhoods based on a survey of residents, to be carried out in 2002. This will allow the relationship between variations in the objective characteristics of residents, their subjective perceptions of neighbourhood and local crime levels to be explored further.

REFERENCES

Bottoms, A.E., Claytor, A and Wiles, P. (1992) Housing markets and residential community crime careers: A case study from Sheffield. In Evans, D.J., Fyfe, N.R. and Herbert, D.T. (eds) *Crime, policing and place: Essays in environmental criminology.* London: Routledge.

Bottoms, A.E. and Wiles, P. (1997) Environmental criminology. In Maguire, M., Morgan, R. and Reiner, R. (eds) *The Oxford handbook of criminology.* 2nd Edition, 305-360. Oxford: Clarendon Press.

Mirrlees-Black, C., Mayhew, P. and Percy, A. (1996) *The 1996 British Crime Survey England and Wales.* Home Office Statistical Bulletin, Issue 19/96.

MVA (1998) *Main findings from the 1996 Scottish Crime Survey.* Edinburgh: Scottish Office Central Research Unit.

Rutter, M. and Smith, D.J. (1995) *Psychosocial disorders in young people.* Chichester: John Wiley & Sons Ltd.

Sampson, F.J., Morenoff, J.D. and Earls, F. (1999) *Beyond social capital: Spatial dynamics of collective efficacy for children.* American Sociological Review 64, 633-660.

Sampson, R.J., Raudenbush, S.W. and Earls, F. (1997) *Neighbourhoods and violent crime: A multilevel study of collective efficacy.* Science 277, 5328.

Smith, D.J., McVie, S., Woodward, R., Shute, J., Flint, J. and McAra, L. (2001) *The Edinburgh study of youth transitions and crime: Key findings at ages 12 and 13.* Report submitted to ESRC.

Wikstrom, P-O.H. (1997) *Communities and Crime*. Paper prepared for publication in the Oxford Handbook of Crime and Punishment.

APPENDIX A - PROJECT OUTPUTS

Conference/seminar presentations

McAra, L., McVie, S., Shute, L. and Smith, D.J. (February 1998) *The Edinburgh Study of Youth Transitions and Crime.* University of Edinburgh, Centre for Law and Society seminar series.

Smith, D.J. (August 1998) *Children, Families and Early Intervention: Preventing Anti-Social Behaviour.* Paper presented at a Children in Scotland conference organised.

Smith, D.J. (March 1999) *Routes of Violence in Children and Young People*. Paper presented at the Annual Conference of the Royal Society of Medicine.

Smith, D.J. (July 1999) *Thresholds for Crime and Punishment for Adolescent Offenders.* Paper presented at a conference organised by the American Psychology and Law Society in conjunction with the European Association of Psychology and Law.

Smith, D.J. (December 1999) *The Edinburgh Study: Early Findings.* The Howard League Lecture.

Smith, D.J. (December 1999) *The Edinburgh Study of Youth Transitions and Crime.* University of Edinburgh, Social Policy Seminar series.

McVie, S. (April 2000) *Policy Implications of the Edinburgh Study*. Paper presented at a colloquium on Youth Justice and Crime organised by the Home Office Research, Development and Statistics Directorate.

Smith, D.J. (June 2000) *Minorities and Social Exclusion.* Paper presented at a conference organised by the University of Athens.

Smith, D.J. (July 2000) *Identifying Potential Offenders with Severe Personality Disorders: Can we do it?* Paper presented at the Annual Conference of the Royal College of Psychiatry.

McAra, L. (July 2000) *Young people's contact with the children's hearing system.* Paper presented at a British Council conference for the Chief Minister of Justice for Thailand and a visiting delegation of Thai Magistrates.

McAra, L. and McVie, S. (September 2000) *Gender, Social Control and Violent Crime* Paper presented at a conference on Challenges of Violence organised by the ESRC Programme on Violence.

Flint, J., McVie, S., Shute, L. and Woodward, R (September 2000) *Youth crime in Edinburgh: Gender and criminality.* Paper presented at the Scottish Criminology Conference.

Forthcoming conference/seminar presentations

S. McVie will give a paper entitled 'Adolescent development and violence: Findings from the Edinburgh study of youth transitions and crime' at the International Association for Research into Juvenile Criminology Conference in June 2001.

D.J. Smith will present findings at the European Society of Criminology Conference in September 2001.

D.J. Smith has been invited to give the annual SACRO McClintock Lecture in October 2001.

Findings reports

Smith, D.J., McVie, S., Woodward, R., Shute, J., Flint, J. and McAra, L. (2001) *The Edinburgh study of youth transitions and crime: Key findings at ages 12 and 13.* Report submitted to ESRC.

Journal articles published

Smith, D.J. (1999) *Less crime without more punishment.* Published in the Edinburgh Law Review, Vol. 3, pp. 294-316.

Journal articles submitted or awaiting submission for publication

Smith, D.J. and McVie, S. (2000) *Theory and methods in the Edinburgh study of youth transitions and crime.* Submitted to the British Journal of Criminology.

Shute, J. (2000) *Psychosocial risk in adolescence: individual difference, problem behaviour and victimisation in a young adolescent cohort.* Submitted to the Journal of Child and Adolescent Psychiatry.

McAra, L., McVie, S. and Woodward, R. (forthcoming) *The vagaries of penal control: Gender and Juvenile Justice.* Currently being prepared for submission to Criminal Justice.

APPENDIX B - SCHOOL PRESENTATION

Summary of presentation given by members of the research team to Head Teachers of all Edinburgh schools prior to commencement of fieldwork for the Edinburgh Study of Youth Transitions and Crime, in August 1998.

AIMS OF THE STUDY

1. To investigate the factors which impact on young people's offending behaviour and the processes which are involved.

2. To examine these processes and factors within three main contexts: individual development through the life course; impact of interactions with formal agencies of social control and law enforcement; and, the effect of the physical and social structure of the individual's neighbourhood.

3. Within each of these contexts, to examine the striking differences between the extent and patterns of criminal offending between males and females.

4. To contribute towards the development and empirical evaluation of theories which explain people's resistance to, desistance from and persistence in criminal offending behaviour.

OVERVIEW OF METHODS

- A study of all children starting secondary school in autumn 1998 in the City of Edinburgh.
- Size of cohort: 3,500 to 4,000.
- A longitudinal study, with annual sweeps, which will follow these children into adulthood.
- Collection of data from agencies having formal contact with members of the cohort.
- Semi-structured interviews with a subsample of 50 young people drawn from the cohort.
- A study of the social geography of Edinburgh using GIS.
- Detailed case studies of two neighbourhoods and their communities.

WHO IS INCLUDED?

- Children in state schools in Edinburgh.
- Children in independent schools in Edinburgh.
- Children resident in Edinburgh attending special schools/not attending school.
- Most of those with birthdays between 1 March 1986 and 28 February 1987.

SOURCES OF INFORMATION ABOUT INDIVIDUAL COHORT MEMBERS

Non-School Sources

- Social work records.
- Police and Scottish Criminal Records Office.
- Childrens Hearing Reporter's records.
- Survey of parents.

School Sources

- Questionnaires normally completed by the young people in a classroom situation.
- School records.
- Teacher questionnaires (guidance teachers).
- Small number of interviews with teaching staff.

SELF-COMPLETION QUESTIONNAIRES

Information to be collected

- victimization
- self-reported offending
- use of cigarettes, alcohol and drugs
- friendship patterns
- leisure-time activities and pocket money
- relationships with parents
- attitudes to school
- expectations and aspirations

Timetable

- First sweep: Sep-Dec 1998
- Second sweep: Sep-Dec 1999
- One double period required for each class
- Separate arrangements for children with reading/writing difficulties

SCHOOL RECORDS

Information to be collected

- Attendance
- Behaviour

Timetable

- First sweep: Jan-Jun 1999
- Second sweep: Jan-Jun 2000
- About two days in each school

GUIDANCE TEACHER QUESTIONNAIRE

Information to be collected

- Behaviour of child in the classroom
- Attention span and academic performance
- Any particular problems
- Sep-Dec 1999

INTERVIEWS WITH TEACHING STAFF

- Brief interviews with guidance teachers to provide more detailed information about the 50 children who are interviewed.
- One interview with Head Teachers in the two case study to provide background information about the area and the school.
- Between Jan and Mar 2000.

INFORMED CONSENT AND CONFIDENTIALITY

- Detailed letter to parents with opportunity to opt out (May/June 98).
- Information sheet given to children at first sweep and opportunity to opt out.
- Rigorous procedures to ensure confidentiality of information provided about individuals (data protection).

CONSULTATION AND DISSEMINATION

- Advisory Group.
- Full consultation about all instruments (e.g. questionnaires) and practical arrangements.
- Low-key publication and dissemination.
- Feedback to individual schools as desired.

APPENDIX C - PARENTAL CONSENT LETTER

Letter issued to the parents of all young people enrolled at participating Edinburgh schools prior to the start of fieldwork in August 1998. A similar letter was issued to the parents of all new pupils joining Edinburgh schools within the cohort year group at sweeps one and two.

August 1998

Dear Parent or Guardian

EDINBURGH STUDY OF YOUNG PEOPLE

I am writing to tell you about a study of young people that we have been carrying out in Edinburgh since August of this year. I am directing the study and a team of researchers is working with me. We hope to involve every young person who started secondary school in Edinburgh this autumn, including those attending schools for children with special educational needs, giving a total of about 4,500. As one of those children is yours, I am writing to tell you what we are doing and why we would like your child to take part.

What is the study about?

The aim of the study is to find out why some young people get involved in breaking the law and why many others do not, so that we can find better ways of preventing young people getting into trouble and of helping those who do. To help us understand why some people never offend, why some stop offending and why others go on for longer, we want to ask young people about their experiences and opinions every year throughout their school life.

Is the study confidential?

The information collected on every child will be treated with the **strictest confidence**. The 1984 Data Protection Act says that information which is collected for research purposes may not be disclosed to any other person or agency (including the police). This means that only the research team will have access to the information and, when the results of the study are published, it will **not** be possible to identify your child or any other person.

What will the study involve?

Each year, every young person will fill in a simple questionnaire at school. The questionnaire will cover topics such as leisure time and sports activities; pocket money and part-time jobs; neighbourhoods and what they are like; activities with friends and family; experience of being bullied or victimised; experience of smoking, drinking and drugs; misbehaviour and breaking the law.

The study will involve collecting some very basic information from school records (like birthday, sex and attendance). We will also be collecting information from the records of the social work department and the children's hearing system to help us understand why some children get into trouble. This only applies to children who have had contact with these agencies.

In the third year of the study, we will also be asking 25 boys and 25 girls whether they would be willing to take part in a short interview. If your child is one of them, we will contact you again to ask your permission to interview them.

What do I have to do?

If you are happy for your child to take part in this study, you need not do anything. Before filling in the questionnaires, your child will be given another opportunity to opt out of taking part in this study.

If you **do not wish** your child to take part in the study, you must fill in the tear-off slip at the bottom of this page and return it to the head teacher. If you return the slip, your child will take no part in the study and no information will be collected about them.

If you would like to find out more about this research project, please contact me on 0131 650 2027 or the Co-Director of the project, Mrs Lesley McAra, on 0131 650 2036. Alternatively, you can write to me at the above address.

Yours faithfully

Professor David J. Smith

I **do not wish** my child to take part in the research project on young people and crime which will be conducted by the University of Edinburgh.

Name of Pupil ……..

Name of parent …….

Signature of parent ……

Date signed ……..

APPENDIX D - QUESTIONNAIRE STRUCTURE GUIDE

Items covered in sweep one and two self-completion questionnaires.

ITEMS COVERED	YEAR 1	YEAR 2
Family/home		
- family structure at home	4	4
- parents occupation	4	8
- home SES measures	4	8
- changes in home structure	8	4
Parental supervision		
- where/who with/time home	4	4
- home late/ out overnight	4	4
- run away from home	8	4
- control/independence	4	4
- argue (what & how resolve)	4	4
- methods of punishment	8	4
- consistency of punishment	8	4
- overall strength of r'ship	8	4
Sibling relationship		
- arguing (frequency)	8	4
- victimisation of/by sibs	8	4
- sex/age of sib fight with most	8	4
- overall strength of r'ship	8	4
Area of residence		
- name of 'area'	4	8
- length in area	4	8
- how much to do in area	4	4
- knowledge of neighbours	4	8
- safety during day & night	4	8
- places avoided day & night	4	8
- perceived problems in area	4	8
- neighbours action ag. Crime	4	8
- police presence in area	4	8
- 'hanging around'	8	4
Health behaviours		
- smoking	4	4
- drinking	4	4
- drug taking	4	4

Self report delinquency		
- fare dodging	4	4
- theft from home	4	4
- theft from school	4	4
- shoplifting	4	4
- theft from a vehicle	4	4
- theft of a vehicle	4	4
- housebreaking	4	4
- theft by force/robbery	4	4
- fighting/assault	4	4
- misbehave in public	4	4
- graffiti	4	4
- vandalism	4	4
- carrying a weapon	4	4
- fire raising	4	4
- cruelty to animals/birds	8	4
- bullying of others	8	4
Friends		
- how many	4	4
- how many close	4	8
- how many hang around with	8	4
- desire for more friends	4	8
- characteristics (gender, age)	4	4
- where live, school attended	4	8
- parents knowledge of	4	4
- boyfriend/girlfriend & age	4	4
- friend's delinquency	4	4
- friend's trouble with police	4	4
- peer influence on behaviour	8	4
- gang membership	8	4
Leisure time		
- evenings spent at home	8	4
- activities at home	4	8
- evenings spent at clubs, etc	8	4
- clubs, etc attended	4	4
- evenings spent with friends	4	4
- activities with friends	4	8
- activities with parents	4	8
- time spent at other places	4	4
- who spend time with	8	4
- disposable income	4	4
Contact with other agencies		
- type of contact with police	4	4

- perceptions of recent contact	4	8
- attitudes to police	8	4
- contact with SWD	8	4
- contact with CHS	8	4
- experience in care	4	4
Experience of victimisation		
- theft	4	4
- theft by force	4	4
- threats	4	4
- assault	4	4
- assault with a weapon	4	4
- bullying	8	4
- harassment/importuning	8	4
School		
- attitudes to school	8	4
- commitment to school clubs	8	4
- relationships with teachers	8	4
- parental involvement	8	4
- parental homework check	4	4
- school contact with parents	8	4
- positive reinforcement	8	4
- truancy	4	4
- behaviour at school	8	4
- other pupils behaviour	8	4
- anxieties at school	8	4
Psychology measures		
- self esteem	4	4
- alienation	4	8
- impulsivity	4	8
Attitudinal questions		
- see self as troublemaker	4	8
- others see as troublemaker	4	8
- how serious are SRD crimes	4	8
- attitudes to lying	4	8
- attitudes to theft	4	8
- attitudes to fighting	4	8
Aspirations		
- expected school leaving time	8	4
- expected career path	8	4

Other		
Date of birth	8	4
Ethnic origin	8	4

APPENDIX E - SWEEP ONE INTRODUCTION GUIDE

Introduction guide issued to all participants prior to questionnaire administration at sweep one.

Who are you?	We are researchers from Edinburgh University who are doing a research project about young people.
What's the study about?	The study is looking at what young people do in their spare time, what they think about various things and what experiences they have had, including crime.
Who is taking part?	Every first year pupil from every secondary school in Edinburgh has been asked to take part.
What does it involve?	Taking part in the study will involve completing a questionnaire every year in your school classroom.
What's in the questionnaire?	The questionnaire is in 8 sections, each of which asks about different things. These include questions about activities you do, where you live, your family and friends, things that people do and things that you might have done. Some questions mention your 'parents' – that includes any adult or adults that you live with who look after you.
Is it a test?	The questionnaire is not a test. There are no right or wrong answers – all that matters is your ideas, opinions and experiences.
Who will see my answers?	The questionnaire is confidential which means that nobody will ever see what you write in the questionnaire – that includes your teachers and your parents. It's also important that your friends don't see your answers either – so you must treat it as if you were having a class test.
Do I have to take part?	Your parents have been sent a letter asking if they mind you taking part. But, if you feel strongly about not taking part you can also choose not to.

APPENDIX F - GOODMAN'S STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ)

Child's name: _____

I have known this child for _____ months (excluding the summer break).

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Has at least one good friend	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Overall, do you think that he/she has difficulties on one or more of the following areas: Emotions, concentration, behaviour or being able to get on with people? (tick <u>one</u> box only)

		Minor difficulties	Definite difficulties	Severe difficulties
No ☐	Yes -	☐	☐	☐

Thank you very much for your help

APPENDIX G - SOCIAL WORK MONITORING FORM

ID No: ☐☐☐☐ DoB: ___/____/____ Date of Data Collection: ___/____/____

Social Work Centre(s): _____ District(s) of Edinburgh: _____

Social Work Ref No(s): _____

Family known to SWD before child's 1st referral: ☐ Yes ☐ No

1. Social Work Referral Details (up to end August 1998)

Child referred to SWD prior to end August 1998? ☐ Yes ☐ No > Section 8

Age at first referral: _____ years _____ months

Total number of referrals at each age:

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Number of referrals made by: *(record main referrer only for each referral)*

Self

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Family

0	1	2	3	4	5	6	7	8	9	10	11	12	13

School/EWO

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Police/JLO

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Reporter

0	1	2	3	4	5	6	7	8	9	10	11	12	13

EDT/Social Work

0	1	2	3	4	5	6	7	8	9	10	11	12	13

GP, HV, other medical service

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Others

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Reason for referral: *(record all that apply)*

Child protection

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Lack of care or development

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Truancy or other school problems

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Child's offending

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Child's behaviour

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Family problems

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Other reasons

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Total number of referrals dealt with by: duty social worker _____

allocated social worker _____

2. Case allocation (up to end August 1998)

Case allocated prior to end Aug 1998?: ☐ Yes ☐ No > Section 3

If yes, age at first allocation: _____ years _____ months

Number of months allocated by age:

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Case still allocated at end of August 1998? ☐ Yes ☐ No

If no, age at end of allocation: _____ years _____ months

Allocation history (tick all that apply):

☐ voluntary

☐ statutory (Child Protection)

☐ statutory (Supervision Requirement)

3. Care History (up to end August 1998)

Child placed in care prior to end Aug 1998?: ☐ Yes ☐ No > Section 4

Age child first looked after: _____ years _____ months

Care Status (tick all that apply): ☐ voluntary ☐ statutory

Number of times: Family member _____
Foster Care _____
YPC or CSU _____
Residential school _____
Secure unit _____

4. Child Protection Proceedings (up to end August 1998)

Child placed on child protection register? ☐ Yes ☐ No > Section 5

No. of times on child protection register: _____

Age child first registered: _____ years _____ months

5. Offending History (up to end August 1998)

Evidence of child offending? ☐ Yes ☐ No > Section 6

Age of 1st offence: _____ years _____ months

Number of times:

graffiti	_____	shoplifting	_____
vandalism	_____	breach of the peace	_____
theft (from home)	_____	assault	_____
theft (from school)	_____	robbery	_____
theft of car/driving offences	_____	fire raising	_____
theft (attempted theft) from car or van	_____	housebreaking	_____
carrying offensive weapon	_____	fare dodging	_____
Other _____	_____	Other _____	_____

6. Other Agencies involved (up to end August 1998)

Children's Reporter involved? ☐ No ☐ Yes (referral /enquiry only) ☐ Yes (hearings)

Other agencies:

☐ educational welfare/psychologist	☐ youth strategy	☐ special education
☐ medical (HV, GP, hospital)	☐ home care	☐ voluntary agencies
☐ medical (psychiatric/behavioural)	☐ children's centre	_____

7. Specific issues raised (up to end August 1998)

Child		*Home circumstances*	
Learning difficulties	☐	Domestic violence	☐
Truancy	☐	Relationship problems/breakdown	☐
Aggression/violence	☐	Financial problems	☐
Sexualised behaviour	☐	Housing problems/harassment	☐
Emotional problems	☐	Custody/access arrangements	☐
Social isolation	☐	Drugs or alcohol	☐
anti-social behaviour	☐	Physical health problems	☐
Health/hygiene problems	☐	Mental health problems	☐
Mental health problems	☐	Offending (convictions only)	☐
Drugs	☐	Learning difficulties	☐
Alcohol	☐		☐
Other _____	☐	Other _____	☐
_____	☐	_____	☐

8. Contact with Social Work Department since September 1998

Referrals to SWD since September 1998? ☐ Yes ☐ No > Section 9

Total number of referrals in last year: _____

Referrals made by in last year: *(tick all that apply)*

Self	☐
Family	☐
School/EWO	☐
Police/JLO	☐
Reporter	☐
EDT/Social Work	☐
GP, HV, other medical service	☐
Others	☐

Reasons for referral in last year: *(tick all that apply)*

Child protection	☐
Lack of care or development	☐
Truancy or other school problems	☐
Child's offending	☐
Child's behaviour	☐
Family problems	☐
Other reasons	☐

Case allocated during last year? ☐ No ☐ Yes - vol ☐ Yes - CP ☐ Yes – SR

Child in care during last year? ☐ No ☐ With family ☐ Foster care
☐ YPC or CSU ☐ Res school ☐ Secure unit

Placed on Child Protection Register during last year? ☐ Yes ☐ No

Evidence of offending during last year? ☐ Yes ☐ No

If yes, nature of offending during last year: *(tick all that apply)*

graffiti	☐	shoplifting	☐
vandalism	☐	breach of the peace	☐
theft (from home)	☐	assault	☐
theft (from school)	☐	robbery	☐
theft of car/driving offences	☐	fire raising	☐
theft (attempted theft) from car or van	☐	housebreaking	☐
carrying offensive weapon	☐	fare dodging	☐
Other _____	☐		
_____	☐		

Involvement of other agencies during the last year? *(tick all that apply)*

☐	Reporter	☐	youth strategy
☐	educational welfare/psychologist	☐	medical (HV, GP, hospital)
☐	special education	☐	medical (psychiatric/behavioural)
☐	home care	☐	voluntary agencies _____
			_____

Specific issues raised in reports during the last year: *(tick all that apply)*

Child		***Home circumstances***	
Learning difficulties	☐	Domestic violence	☐
Truancy	☐	Relationship problems/breakdown	☐
Aggression/violence	☐	Financial problems	☐
Sexualised behaviour	☐	Housing problems/harassment	☐
Emotional problems	☐	Custody/access arrangements	☐
Social isolation	☐	Drugs or alcohol	☐
anti-social behaviour	☐	Physical health problems	☐
Health/hygiene problems	☐	Mental health problems	☐
Mental health problems	☐	Offending (convictions only)	☐
Drugs	☐	Learning difficulties	☐
Alcohol	☐		☐
Other _____	☐	Other _____	☐
_____	☐	_____	☐

9. Current Case Status at date of data collection

☐ open/active ☐ open/inactive ☐ closed

Date of last contact/file closed/last referral: ____/____/____

(If case closed or inactive) Age of last contact/file closed: _____ years _____ months

APPENDIX H - CHILDREN'S HEARING MONITORING FORM

ID No: ☐☐☐☐ DoB: ___/____/____ Date of Data Collection: ___/____/____

Area: ☐ NE ☐ NW ☐ SE ☐ SW Ref no: _____

1. Hearing Referral Details (up to end August 1998)

Child referred prior to end August 1998? ☐ Yes ☐ No > Section 6

Age at first referral: _____years _____months

Total number of pre-hearing referrals by age:

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Total number of post-hearing referrals by age: *(if appropriate)*

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Number of referrals made by: *(record main referrer only for each referral)*

Family

0	1	2	3	4	5	6	7	8	9	10	11	12	13

School/EWO

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Police/JLO

0	1	2	3	4	5	6	7	8	9	10	11	12	13

SWD/other agency

0	1	2	3	4	5	6	7	8	9	10	11	12	13

GP, HV or other medical service

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Others

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Nature of grounds of referral to Reporter by age: *(a to l)*

0	1	2	3	4	5	6	7	8	9	10	11	12	13

2. Hearings (up to end August 1998)

Was a hearing actually held before end August 1998?: ☐ Yes ☐ No > Section 4

Age at first hearing: _____years _____months

Grounds of first hearing: _____

Number of hearings by age:

0	1	2	3	4	5	6	7	8	9	10	11	12	13

3. Hearing Decisions (up to end August 1998)

Placed on supervision prior to end August 1998?: ☐ Yes ☐ No > Section 4

Age first placed on SR: _____years _____months

Number of times put on new SR: 0 1 2 3 4 5 or more

Number of months on supervision by age:

0	1	2	3	4	5	6	7	8	9	10	11	12	13

Number of decisions made (including first placement on SR):

SR (at home)		SR (secure unit)	
SR (placement with family)		POSW (risk to self or others)	
SR (foster care)		POSW (care and protection)	
SR (YPC or CSU)		Advice to sheriff (adoption, PRO)	
SR (residential school)		Other decision	

4. Offending History (up to end August 1998)

Evidence of child offending? ☐ Yes ☐ No > Section 5

Age of first offence: _____years _____months

Number of times:

graffiti	_____	shoplifting	_____
vandalism	_____	breach of the peace	_____
theft (from home)	_____	assault	_____
theft (from school)	_____	robbery	_____
theft of car/driving offences	_____	fire raising	_____
theft (attempted theft) from car or van	_____	housebreaking	_____
carrying offensive weapon	_____	fare dodging	_____

Other _____ _____

Other _____ _____

5. Specific issues raised in reports (up to end August 1998) *(tick all that apply)*

Child		***Home circumstances***	
Aggression/violence	☐	Domestic violence	☐
Sexualised behaviour	☐	Relationship problems/breakdown	☐
Emotional problems	☐	Financial problems	☐
Social isolation	☐	Housing problems/harassment	☐
anti-social behaviour	☐	Custody/access arrangements	☐
Health/hygiene problems	☐	Drugs or alcohol	☐
Mental health problems	☐	Physical health problems	☐
Drugs	☐	Mental health problems	☐
Alcohol	☐	Offending (convictions only)	☐
	☐	Learning difficulties	☐
Other _____	☐	Other _____	☐
_____	☐	_____	☐

School			
Report(s) in the papers/file? Yes	☐	No	☐
Attendance – truancy	☐	Disruptive behaviour in class	☐
Attendance – other	☐	Aggressive behaviour in class	☐
Exclusion (formal or informal)	☐	Poor peer relationships	☐
Educational learning difficulties	☐	Poor staff relationships	☐
Other _____	☐	Other _____	☐

6. Contact with hearing system since September 1998

On supervision at beginning September 1998? ☐ Yes ☐ No

Referrals to reporter and/or hearings held since Sept 1998? ☐ Yes ☐ No > section 7

Total number of referrals in last year: _____

Grounds of referral in last year (a to l): _____

Referrals made by in last year: *(tick all that apply)*

Family	☐	SWD/other agency	☐
School/EWO	☐	GP, HV, other medical service	☐
Police/JLO	☐	Others	☐

Total number of hearings in last year: _____

(If not on SR at start Sept 98) SR made during last year? ☐ Yes ☐ No

Decisions made during last year: *(tick all that apply)*

SR (at home)	☐	SR (secure unit)	☐
SR (placement with family)	☐	POSW (risk to self or others)	☐
SR (foster care)	☐	POSW (care and protection)	☐
SR (YPC or CSU)	☐	Advice to sheriff (adoption, PRO)	☐
SR (residential school)	☐	Other decision	☐
SR terminated	☐		

Evidence of offending during last year? ☐ Yes ☐ No

If yes, nature of offending during last year: *(tick all that apply)*

graffiti	☐	shoplifting	☐
vandalism	☐	breach of the peace	☐
theft (from home)	☐	assault	☐
theft (from school)	☐	robbery	☐
theft of car/driving offences	☐	fire raising	☐
theft (attempted theft) from car or van	☐	housebreaking	☐
carrying offensive weapon	☐	fare dodging	☐
Other _____	☐		
_____	☐		

Specific issues raised in reports since September 1998 *(tick all that apply)*

Child		***Home circumstances***	
Aggression/violence	☐	Domestic violence	☐
Sexualised behaviour	☐	Relationship problems/breakdown	☐
Emotional problems	☐	Financial problems	☐
Social isolation	☐	Housing problems/harassment	☐
anti-social behaviour	☐	Custody/access arrangements	☐
Health/hygiene problems	☐	Drugs or alcohol	☐
Mental health problems	☐	Physical health problems	☐
Drugs	☐	Mental health problems	☐
Alcohol	☐	Offending (convictions only)	☐
	☐	Learning difficulties	☐
Other _____	☐	Other _____	☐
_____	☐	_____	☐

School			
Report(s) in the papers/file? Yes	☐	No	☐
Attendance – truancy	☐	Disruptive behaviour in class	☐
Attendance – other	☐	Aggressive behaviour in class	☐
Exclusion (formal or informal)	☐	Poor peer relationships	☐
Educational learning difficulties	☐	Poor staff relationships	☐
Other _____	☐	Other _____	☐

7. Current Case Status at date of data collection

☐ Active/open file ☐ Active/pending referral

☐ Dormant file ☐ Dormant referral

Date file closed/ last referral/last contact: ____/____/____

(If case dormant) Age file closed/Age at last referral: _____years _____months

This report is part of a series of technical reports presenting methodological, analytical and technical information from the Edinburgh Study of Youth Transitions and Crime. This is a longitudinal study exploring pathways in and out of offending for a cohort of over 4000 young people, since 1998.

The research has been funded by:

The Scottish Executive	
The Nuffield Foundation	
The Economic and Social Research Council	R000237157
	R000239150

This technical report is only available as a PDF version which can be downloaded, free of charge, from our website at www.law.ed.ac.uk/cls/esytc. Further information about the Edinburgh Study of Youth Transitions and Crime can be obtained by contacting us at 2.12, 31 Buccleuch Place Edinburgh EH8 9JS, or by emailing edinburgh.study@ed.ac.uk.

Centre *for* Law *and* Society

ISBN 0-905893-15-8