National Child Development Study and 1970 British Cohort Study 1970

1999-2000 surveys

"STABILITY, CHANGE AND DEVELOPMENT IN THE BRITISH POPULATION"

Technical Report

Prepared for the Economic and Social Research Council
by
Joint Centre For Longitudinal Research

Research Team
Debbie Collins, Kavita Deepchand, Rory Fitzgerald and Jane Perry
(*National Centre for Social Research*)

John Bynner, Neville Butler, Elsa Ferri, Peter Shepherd and Kate Smith
(Centre for Longitudinal Studies, Institute of Education, University of London)

September 2001

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ACKNOWLEDGEMENTS

The authors would like to thank a number of colleagues for their contribution to the setting-up and implementation of this project. At the *National Centre for Social Research* we would like to thank Colin Airey, Steven Finch and Roger Jowell; Mike Hart, Kevin Palmer and Steve Kelly for their invaluable computing expertise, and Elaine Iffland, Theresa Paterson and the rest of the Blue Team at Brentwood, for managing fieldwork and data processing. At CLS: Denise Brown, Kevin Dodwell, Farnaz Faramand and Mahmood Sadigh managed the tracing operation and liaison with cohort members. We also wish to express our thanks to the interviewers who worked on these studies, and on whom so much of the success of the fieldwork depends. Finally our gratitude to the cohort members who once more gave so freely of their time.

1 INTRODUCTION

Britain is widely recognised as a world leader in the production of longitudinal research resources and their use in the analysis of developmental and life course processes. This report provides an account of the design, development and conduct of a new round of data collection for two of Britain's three national longitudinal birth cohort studies, the National Child Development Study (1958 cohort) and the 1970 British Cohort Study (BCS70).

The National Child Development Study (NCDS) started life as the Perinatal Mortality Survey and examined the social and obstetric factors associated with stillbirth and infant mortality among over 17,000 babies born in Britain in the week 3-9 March 1958. Since this first study the whole cohort have been surveyed on five other occasions in order to monitor their health, education, social and economic circumstances. These surveys were carried out in 1965 (age 7), 1969 (age 11), 1974 (age 16), 1981 (age 23) and 1991 (age 33). As part of the 1991 survey, a special study was also undertaken of the children of one third of the cohort members, including assessments of the behaviour and cognitive development of approximately 5,000 children. There have also been surveys of sub-samples of the cohort, the recent occurring in 1996 (age 37) when information was collected on the basic skills of a representative sample of 10 per cent of cohort members.

The 1970 British Cohort Study (BCS70) was designed along similar lines to the NCDS, surveying over 17,000 babies born in Britain in the week 5-11 April 1970. Since the birth survey there have been four other major data collection exercises in order to monitor their health, education, social and economic circumstances. These were carried out in 1975 (age 5), 1980 (age 10), 1986 (age 16) and 1996 (age 26). As in NCDS, subsamples have been studied at various ages: for example at age 21, paralleling the NCDS survey at age 37, a 10 per cent representative sample was assessed for basic skills difficulties. BCS 70 has not managed to maintain the same levels of response and data coverage as NCDS. The sixteen year old survey took place at the time of teacher industrial action ,which led to a generally poor response and questions were raised about whether the study should continue. The twenty-six year postal survey, attracted the participation of 9,000 cohort members, but the survey was cross-sectional and did not collect event histories. This means that the longitudinal record through adulthood was incomplete.

The Centre for Longitudinal Studies (CLS) at the Institute of Education (formerly the Social Statistics Research Unit located at City University) has been responsible for the National Child Development Study since 1985, when the study was transferred from the National Children's Bureau. Likewise, CLS has housed the 1970 British Cohort Study since its relocation from Bristol University in 1991. A Forward Plan for the cohort studies was developed by the Director of CLS, Professor John Bynner, which sought to integrate the timing, design and analysis of future surveys of NCDS and BCS70 – taking account of the sequencing of Britain's third birth cohort study, the 1946 cohort (National Survey of Health and Development), housed at University College London. Such a programme would significantly enhance the research potential of the studies, enabling comparisons to be made between cohorts born at different times, or between different age groups at the same point in time. A new interview survey of both cohorts would also offer the opportunity to restore response levels in BCS 70 to those of NCDS and build a comparable longitudinal record through adulthood.

In recognition of the synergies between the studies and the need to have strong data collection capability, in 1998 the Joint Centre for Longitudinal Research (JCLR) was established comprising the Centre for Longitudinal Studies, the International Centre for Health and Society (ICHS) at University College London, and the *National Centre for Social Research*. The aim of the JCLR is to develop the birth cohort studies, to undertake data collection and to promote their use in the research community. Accordingly JCLR would hold responsibility for carrying out the new surveys.

Endorsement of the principles of the *Cohort Studies Forward Plan* by the Economic and Social Research Council, and the Government departments, which had provided financial support for previous sweeps, resulted in an ESRC decision to fund the new surveys. Initially, funding was restricted to BCS70 because of the need, as noted previously, to update and 'repair' the dataset after 13 years without a comprehensive survey but, subsequently, funding extended to a new survey in NCDS as well. ESRC contributed half the costs, and the rest came from the following Government departments under the co-ordination of the Office for National Statistics (ONS): the Department for Education and Employment (the major funder), the Department of Health, the Department of Social Security, the Home Office, ONS themselves, the Scottish Office and the Basic Skills Agency.

In parallel with the decision to fund the new surveys and support the cohort studies Forward Plan, in January 2000 ESRC established the UK Centre for Longitudinal Studies at the University of Essex with a budget to fund data collection in the cohort studies and a remit to develop a National UK Strategy for Longitudinal Studies. The current surveys were completed under these new arrangements and since January 2000 the funding to enable tracing and associated data base work to enable field work to be extended as long as possible, has come from the University of Essex . ESRC also supplied further supplementary funding in connection with the extension of the fieldwork which actually continued until the end of October 2000. (Full details of the funding are supplied below).

1.1 The new surveys

From their original focus on the circumstances and outcomes of birth, the two cohort studies have broadened in scope to map all aspects of health, education and social development of their subjects as they passed through childhood and adolescence. In later sweeps, the information collected has covered their transitions into adult life, including leaving full-time education, entering the labour market, setting up independent homes, forming partnerships and becoming parents.

The latest rounds of data collection for NCDS and BCS70 took place in 1999/2000 (NCDS cohort members were aged either 41 or 42 years and BCS70 cohort members were aged either 29 or 30 years). This was the first time both cohorts had been surveyed at the same time. The main aim of these most recent surveys was to offer the opportunity for researchers to investigate, within a life course perspective the factors central to the formation and maintenance of adult identity and location in the social and occupational structure. [1] An

[1] Bynner J., Butler N., Ferri E., Shepherd P., Smith K. (2000) *The design and conduct of the 1999-2000 surveys of the National Child Development Study and the 1970 British Cohort Study*. Centre for Longitudinal Studies: Working Paper 1

added benefit in conducting the two surveys together was to facilitate investigation of the impact of social change on the life course processes involved and their outcomes in adult life. The design of the survey was directed at collecting data in each of the following domains:

- lifelong learning;
- relationships, parenting and housing;
- employment and income;
- health and health behaviour; and
- citizenship and values.

Work on the most recent sweeps of BCS70 and NCDS began in January 1998, and was carried out by a team comprising staff from CLS and the *National Centre for Social Research*. The *National Centre* (formerly Social and Community Planning Research) had previous experience of the cohort studies, having been part of the fieldwork consortia for NCDS4 in 1981 and NCDS5 in 1991, and having carried out the fieldwork for the most recent sweep of the 1946 birth cohort in 1998/99.

The CLS team was responsible for:

- designing, and developing the methodology for the surveys;
- tracing and maintaining contact with members of the NCDS and BCS70 cohorts;
- liaison with the data-user community; and
- workshops and documentation.

The *National Centre* was responsible for:

- developmental work on survey instruments for use in the field;
- organisation and conduct of piloting;
- development of the CAPI application;
- briefing (and debriefing) of all interviewers;
- conduct of the main fieldwork, including sending advance letters to cohort members, tracing, contacting and interviewing, and sending thank-you letters; and
- initial post-field data preparation, including coding, data entry, and editing.

Funding

The funds supplied by ESRC were provided to meet CLS costs and the *National Centre* survey costs for the BCS70 and NCDS surveys. The Government funding contributed to the latter. The sources of funding for the whole programme are set out below.

Dates	Government Funding	Amount
December 1999 to December 2000 (no separate dates)	All via ONS: ONS DH DfEE Scottish Executive	 £75,000 £50,000 £100,000 £35,000
January 2000 to March 2000	Via ONS: DETR	 £50,000
December 2000 to March 2000	Basic Skills Agency	£100,000
January 2000 to March 2000	DSS	£50,000
	Total	£460,000
Dates	**ESRC Funding**	**Amount**
19th January 1998 to 31st May 1999	ESRC funded the preparatory work	£560k
1st June 1999 to 31st December 1999	Funds for continuing CLS costs/BCS70 fieldwork costs [£259k (CLS) + £1,322k (NCSR)].	£1,582k
1st October 1999 to 31st December 2000	An additional amount allocated by ESRC to contribute in part to payment of costs for NCDS	£513k
	ESRC's total investment in survey	£2,655k

2 SAMPLE DESIGN

NCDS and BCS70 target samples for each new survey comprise all cohort members who had ever participated, excluding those known to have died, emigrated or refused.

2.1 The study design

Both NCDS and BCS70 include all babies born in Great Britain in a particular week – for NCDS, 3-9 March 1958 and for BCS70 5-11 April 1970. However in later sweeps the studies also included children who were born outside Great Britain, but who were educated within Great Britain. The CLS Tracing Unit is responsible for the maintenance of cohort member's address details and held details on the outcomes of previous attempts to contact cohort members and seek their co-operation with earlier rounds of the study.

2.2 Updating addresses

A requirement for successful surveys of the NCDS and BCS70 cohorts, as with all longitudinal surveys, is an up-to-date address file. Experience with earlier follow-ups shows that, once traced, cohort members are more likely than a general population sample to agree to provide information. For this reason, considerable efforts have been made over the years preceding the survey to maintain ongoing contact with the study subjects. This includes an annual birthday card accompanied by a pre-paid change of address card through which cohort members are asked to notify CLS of changes of address. However, inevitably by the time of the survey a significant minority of cohort members remained untraced.

2.3 Tracing prior to fieldwork

Accordingly, once the decision was made to go ahead with the surveys and the ESRC contract awarded, the tracing operation intensified. The work was based around a small team of eight staff (including 6 temporary staff) based in CLS. The tracing team made use of a number of different sources of information to try to obtain confirmed addresses for cohort members, prior to the 1999/2000 rounds of fieldwork. A confirmed address was one at which the cohort member had confirmed he or she lived.

The data sources used by the CLS tracing team included:

- annual birthday card mailings;
- address and contact address information provided by cohort members in the past;
- other information contained in study records;
- telephone number databases;
- postcode databases;
- Electoral Register databases;
- National Health Service Central Register records of NHS registration, emigrations and deaths;
- Health Authorities address records;
- Driver and Vehicle Licensing Agency address records; and
- Ministry of Defence records.

For budgetary reasons fieldwork could not actually begin until September 1999 , which extended the period for tracing. This may account in part for the success of the tracing operation, which produced more confirmed addresses than in any other previous sweep for either study. The negative side of the extension is that for a highly mobile group such as the 30 year-olds in BCS70 there is continued further movement after the 'first trace' and through the field work period itself. This meant that the tracing operation - albeit at reduced level - had to be continued right through the field work period. Table 2.1 provides details of the status of addresses prior to the start of fieldwork. Over 14,000 members of each cohort had been traced at least initially. Details of the tracing operation during fieldwork are provided in section 4.6.

Table 2.1 Summary of the status of cohort members addresses as a result of tracing prior to the start of main fieldwork

	NCDS *Status of addresses at 27/10/99*[a]	BCS70 *Status of addresses at 27/10/99*[b]
All cohort members	**16,460**	**16,695**
Traced:		
Potential respondents	*12,091*	*13,394*
Confirmed addresses	12,794	12,986
Forces (confirmed)	6	19
Parental addresses	85	378
Temporary addresses	16	11
Others:	*1,387*	*693*
Emigrated, confirmed	281	246
Refusals	815	284
Proxy refusals	44	54
Deaths	247	109
Total traced	***14,288***	***14,087***
Untraced		
Potential respondents[c,d]	*2,059*	*2,515*
Forces confirmed	23	14
Demolished	75	4
Gone away	1,635	1,409
Untraced unconfirmed	326	1,088
Others:		
Emigrated, unconfirmed	113	93
Total untraced	***2,172***	***2,608***

a. NCDS: 96 per cent of addresses were confirmed in 1998/99

b. BCS70: 93 per cent of addresses were confirmed in 1998/99

c. A significant number of these would be traced on the address databases of Health Authorities. First returns to mailings seemed to confirm this (NCDS=853, 70 per cent confirmed addresses; BCS70=855, 62 per cent of confirmed addresses).

d. Additional tracing would rely on media appeals and interviewer tracing.

2.4 Serial Numbering

Each cohort member has a unique CLS 'cohort' identifier . However, for operational reasons the *National Centre* allocated a unique serial number to each cohort member, containing key information required for fieldwork management and data processing systems. In correspondence with cohort members, only the CLS cohort identifier was used. However in communication between the CLS and the *National Centre*, both the cohort identifier and the serial number were always quoted.

The *National Centre's* serial number comprised the following information:

- A number identifying the wave of fieldwork (1 digit, which was 1 for wave 1, 2 for wave 2 and so on). There were six waves of fieldwork.
- A number identifying the cohort study (1 digit, which was 1 for BCS70 and 2 for NCDS).
- A code identifying the area in which the interviewer was working (3 digits)
- A code identifying the cohort member within each area (2 digits).

The *National Centre* serial number was removed from the dataset before it was deposited at the ESRC Data Archive. As part of the strict procedures adopted in the cohort studies for guaranteeing confidentiality, the data set is 'anonymised' before it is deposited in the ESRC Data Archive for general research use, i.e. no personal coded information is included. As the *National Centre's* serial number contains such information, this was removed from each record before the dataset was deposited. However the CLS identifier (which does not contain coded personal information) was included, because without that it would be impossible to link the new survey data to that collected in previous sweeps. No additional personal information, such as the cohort member's address, was attached to the dataset that was deposited at the ESRC Data Archive.

3 DEVELOPMENT WORK

3.1 Introduction

3.1.1 Consultation/Advisors

Close consultation between the CLS team responsible for the cohort studies and their users and beneficiaries has been a hallmark of each stage of the studies' history. This process has been maintained and enhanced as an essential part of the development of new surveys in the studies. A structure has been set in place for consultation over the fullest possible exploitation of new datasets, and the coherent planning of subsequent sweeps.

Development work on the 1999/2000 rounds of NCDS and BCS70, undertaken by the CLS team, started in 1998 and continued up until October 1999. A consultative conference was held at the Institute of Education on the 26th March 1998, to engage the experience and expertise of the research and policy communities in designing the questionnaire content for the new surveys. Seven advisory groups were formed, one for each of the major topic areas to be covered.

NCDS/BCS70 Advisory Groups

Lifelong learning
Employment and income
Family, parenting and housing
Health
Citizenship and values
Child development and education[2]
Methodology

Each group appointed a co-ordinator and was supported by a member of the CLS team, who facilitated liaison among its members. Following the initial meeting, group members exchanged ideas and information via email and/or meetings. Details of group membership, notice of planned meetings, and reports on the activities of each group were posted on a special website.

[2] *The *child development and education* group was formed in the hope of obtaining sufficient additional funding to carry out the first follow-up of the children of a one in three sample of the NCDS cohort (first assessed in 1991), and the first survey of a similar sample of the children of the 1970 cohort. Unfortunately, such funding was not forthcoming in time for this work to be included in the new adult surveys, although it remains a key objective in the Forward Plan for the future of the cohort studies.

Given the extensive coverage of the new surveys, and the wide-ranging interests represented within each group, it was inevitable that the volume of suggested questions far exceeded the available questionnaire space. Consequently, group members were asked to assign priority levels to the proposed questions, on the basis of the criteria contained within the conceptual framework for the surveys. These comprised theoretical importance, continuity with previous sweeps, and relevance to time, context, and age of the cohort members.

Written advice on the content of the surveys was provided to the CLS team by each advisory group between March and June 1998. These reports were collated by the CLS and circulated for information to all members of the network. The advice received was invaluable to the CLS team in developing the new instrumentation. New areas where development was required concerned family life, relationships and parenting. In the development of these new topic areas, CLS staff conducted a number of qualitative interviews (described below).

Copies of the draft questionnaires produced at the next stage were circulated to all advisors before versions for piloting were finalised. (Further details of the consultation process are supplied in Bynner, et al. *op cit*).

3.1.2 Pre-piloting

The reports from the Advisory Groups indicated the need for the development of new questions in a number of areas of questioning, particularly in the areas of family life and relationships, including *parenting behaviour and attitudes.* Following an extensive review of relevant surveys (eg NSHD, BHPS and the Australian Parenting-21 study) it was decided that some exploratory work was needed to identify the most meaningful areas of questioning. It was also considered important to extend questions about parenting to fathers as well as mothers, who are generally questioned about them, and this needed to be tested out. Another new topic for the survey was *relationship with own parents*. There was some evidence from piloting work in NCDS5 that this was a sensitive area of questioning. Accordingly this also pointed to the need for preliminary work to explore and develop some of the ideas and issues involved.

Qualitative interviews

The development of questions in these areas began by drawing up a list of topics to be explored in a semi-structured, qualitative interview. The aims of the interview were to:

- explore the meanings and relevance of the topics;
- assess the sensitivity of the topics; and
- identify recurring themes with a view to constructing appropriate questions and response categories.

In the sphere of parenting, behaviour and attitudes, the following topics were focused on:

- parental involvement in children's learning and education;
- control and autonomy (including discipline, rules and expectations of self-care);
- parent-child relationships (emotional warmth and distance);

- time spent with children; and
- stresses and satisfactions of being a parent.

Questions about relationship with own parents centred on:

- the nature of current relationships (frequency of contact, emotional closeness);
- expectations of future help parents will need and willingness to give any such help; and
- help received from parents

The instrument was initially tested with staff in CLS who were parents acting as respondents. The interviews were taped, and following this initial work revisions were made to the schedule. Three experienced qualitative interviewers were then employed to carry out further interviews, which took place between December 1998 and March 1999. They were briefed by members of the CLS team. After each had carried out a few interviews, an initial debriefing took place and some revisions were made to the schedule. A final debriefing took place at the end of the assignments.

The interviewers were required to find respondents themselves, through local schools or other contacts. Respondents were paid £10 for each completed interview. Where the contact was made through a school, a further £1 per interview was donated to the school fund. Respondents were reported to be happy to answer the questions and all interviews embarked upon were completed.

The interview sample consisted of 14 mothers and eight fathers aged 28-32 or 38-42 (corresponding to the cohort members' ages) and who lived with their children. Interviews lasted, on average, one and a half hours. All interviews were tape-recorded, and notes were made and discussed by the CLS team. The results revealed no difficulty in putting questions about parenting to fathers, or to questioning either age group about their relationship with their own parents. The material was used as the basis for devising new survey questions in these areas, and also produced additional information which could contribute usefully to the design of planned surveys of the children of cohorts members.

3.1.3 Scope of CAPI development work

The use of CAPI was a major innovation for the cohort surveys as in the past all data collection had been via paper-based methods. Whilst consultations on interview coverage, content and question design were continuing with the Advisory Groups, work began on developing the CAPI questionnaires. This phase of the development work, carried out jointly by the *National Centre* and CLS teams, and focused on:

- establishing the length of the main and self-completion questionnaires;
- testing the acceptability and feasibility of collecting detailed event history data;
- conducting the self-completion questionnaire using Computer Assisted Self interviewing;
- testing the procedures for contacting cohort members; and
- testing the interviewer tracing procedures.

3.2 Paper Pilot

The first task was to establish the length of the questionnaire. The surveys' budgets allowed for an average interview length of 90 minutes for the main face-to-face interview, and 20 minutes for the self-completion questionnaire. Before considerable efforts were invested in developing the CAPI instrument it was therefore felt prudent to conduct a 'paper pilot' to assess the length of the main interview. A paper questionnaire was developed containing all potential questions for the new surveys. Four interviewers were briefed by members of both research teams about the purpose of the pilot, details of the questions and definitions to be used. The evaluation form on which they answered questions about their experience in using the questionnaire is shown in Appendix A.

Apart from the need to establish the length of the main and self-completion questionnaires, the pilot was also used to capture feedback on the content of the interview, specifically:

- did the order in which certain topics were covered seem logical to the respondent?
- were there any specific problems with particular questions or sections?
- how easy or difficult did respondents find recalling events over the time period of interest?
- were certain event histories more problematic than others?

Interviewers were asked to carry out four interviews over the course of the weekend 9-11 July 1999. Respondents of a similar age to NCDS and BCS70 cohort members were recruited by interviewers using quota sampling methods, with quotas defined by gender and age, refer to table 3.1. Interviewers were also asked to conduct at least one interview with a respondent who had children aged 16 or under.

Table 3.1 Quota sample matrix for paper pilot

Gender	Age groups	
Men	27-33	37-43
Women	27-33	37-43

In total 12 interviews were achieved. The breakdown was as follows:

Table 3.2 Number of interviews achieved from paper pilot

	Number
Male	5
Female	7
27-33	6
37-43	6
Working	11
Children under 16	8

The paper pilot revealed some useful insights into questionnaire flow and question order, and appropriate changes were made in some cases prior to the start of CAPI development. In particular:

- There were difficulties with some of the extensive event histories. These problems centred around respondents' ability to recall events over the reference period. Such problems were exacerbated by respondents and interviewers being unclear about what the reference period was for some questions, and the need to record all such events that had occurred in this particular time. Furthermore there was a feeling that the method of recall – either forward from the reference period or backward from the date of interview – may impinge on respondent's ability to recall events.
- The terminology used in the parenting section did not apply to male cohort members: a phrase which was the male of equivalent of 'pregnancies' was required.

The paper pilot revealed that the interview was too long (Table 3.3), with the need to cut 20 minutes from the main interview and 5-10 minutes from the self completion interview. The teams agreed the places where this could be done with least damage to the integrity of the whole instrument.

Table 3.3 Length of main and self completion questionnaires: paper pilot

	Time (Mins)
Main Interview	
Shortest	73
Longest	141
Mean	*103*
Median	*101*
Self-completion	
Shortest	25
Longest	85
Mean	*35*
Median	*29*

3.3 CAPI development

The CAPI program in Blaise 3 was developed in-house at the *National Centre* from the questionnaire used for the paper pilot.

At each stage in the development of the CAPI program, which was carried out for each section separately, the teams reviewed the questionnaire and made further amendments. This often involved changes to question wording, filtering and the use of textfills. However in some cases it also necessitated a change in the data structure. As NCDS and BCS70 are longitudinal studies, changes in question wording had to be considered carefully , so as to ensure they had no adverse impact on the longitudinal data record. In the case of NCDS the event histories themselves also needed to be collected in such a way that they dovetailed into those from the

previous sweep(s) to ensure continuity of the record. In practice this meant that, for a given cohort member, the histories generally covered the time since last (face-to-face) interview. For BCS70 the event histories were collected back to when the cohort member was aged 16, as the interim postal survey at age 26 did not attempt to collect them. For NCDS cohort members event histories were collected back to 1991, which was the year in which most of them had last been interviewed. A pragmatic decision was taken not to extend the reference period back further, for those not interviewed in 1991, as it was felt that respondents would not be able to recall with any accuracy the dates particular events took place. However, when asking about qualifications obtained, NCDS cohort members who had not been interviewed in 1991 were asked about any qualifications they had obtained since the age of 16, as this information was felt to be more likely to be recalled.

Once the questionnaire had been programmed it was tested by the teams to ensure it performed as intended. This process was iterative and went on throughout the development stage, intensifying after the pilot when a number of changes and refinements were required to the program. In particular, the questionnaire was tested to ratify that:

- wording and response options were correct, and made sense;
- show card references were correct;
- appropriate instructions to interviewers were included, where required, in the standard format (i.e. in block capitals) or in help screens;
- range and consistency checks were correct, additional checks were identified and programmed; and
- that the questionnaire coped with different scenarios correctly, that is to say that any routing, range or consistency checks were appropriate for all foreseeable circumstances.

The CAPI program was complex with one single program covering the questionnaire for both cohorts. In addition the program contained a self-completion section which each cohort member was asked to complete. Although the questionnaire was very similar for NCDS and BCS70 as noted above, reference periods in event histories differed for each cohort. In addition, extensive use was made of 'text-fills' to customise the questionnaire to each cohort member's circumstances.

3.4 CAPI Pilot

A full CAPI pilot was conducted between the 8th and 19th of September 1999. This was not a full dress rehearsal pilot as there was insufficient time to test the field tracing and liaison between the *National Centre* operations team and the tracing unit at the CLS. However, the pilot did test the advance letter, briefing, contact procedures and administrative aspects of the survey as well as the CAPI questionnaire.

3.4.1 Pilot Sample

Unlike the paper pilot where non-cohort members were sampled the CAPI pilot was conducted amongst members of each cohort group. This was because the questionnaire contained feed forward information (collected in previous surveys) which was used to drive

routing in the program and thus required thorough testing. In addition, this pilot also aimed to test the various administrative aspects of the surveys including advance letters, interviewer briefings, interviewer-respondent contact procedures and field tracing. A decision would be made at a later date as to whether those cohort members interviewed during the pilot would have to be re-contacted and interviewed again (which was dependent upon the extent of changes made to the structure of the CAPI program before the main stage)[3].

In order to take account of regional variations that are inherent in a national birth cohort , sampling for the pilot was based upon a wide range of postal districts from across Great Britain and included a mix of urban and rural areas. This purposive sample was drawn from cohort members for whom a confirmed address was available, as shown in the table below.

Table 3.4 CAPI pilot area containing BCS70 and NCDS cohort members

Area	No. of BCS70 Cohort members	No. of NCDS cohort members
Croydon	33	22
Leicester	21	23
Cambridge (rural)	21	24
Darlington	15	21
Sheffield	15	20
Brighton	17	20
Blackburn	20	13
Motherwell (Scotland)	10	18
Cardiff (Wales)	16	25
Bristol	16	11
Wolverhampton	19	6
Total cohort members	**203**	**203**

Advance letters were sent to each cohort member in these areas explaining that a *National Centre* interviewer would try and interview them shortly. One interviewer from each area was invited to attend a briefing in London which covered the background to the surveys, making contact, field tracing procedures, the main questionnaire, the self-completion questionnaire and pilot administration. Each interviewer was then asked to conduct ten interviews (five BCS70 and five NCDS). The aim was to achieve a minimum total of 100 completed interviews (50 BCS70 and 50 NCDS).

The pilot revealed a number of problems with specific questions and section organisation.

The main problems were:

- Reference periods in event histories needed to be made clearer throughout the program. For example, cohort members needed to be continually reminded that they were being asked to report all types of economic activities they has been engaged in from the date of

[3] An attempt was made to re-interview all cohort members who were included in the pilot at the end of the main stage of fieldwork.

interview, going back to either April 1986 in the case of BCS70 or March 1991 in the case of NCDS.

- Housing History - the question wording did not deal well with periods of travel.
- Pregnancy history - some of the wording was inappropriate and confusing and required revision.
- Life long learning - this section was found to be overly complex and burdensome in cases where cohort members' learning had followed a traditional path (school, college, university etc). This section required streamlining.
- Benefits – the rules relating to the definition of a benefit unit and how to record benefit amounts required refinement.
- Self-employment section - problems with the navigation and question wording required amendment.

Changes were made to the questionnaire to take account of these problems and further questionnaire program testing took place.

The pilot also revealed that the questionnaire length now met the specification of time allowed for this project. On average the main interview was taking 75 minutes and the self-completion 19 minutes.

The pilot also aimed to provide information about the task of tracing cohort members in the field. The number of movers ranged between 1-5 out of 15-20 cases contacted per area. BCS70 members (aged 30) were more likely to have moved than NCDS members (aged 42). Other problems with contact included changes of telephone number, postcode and some cases of inaccurate birth dates and /or gender.

3.5 Final Program

The final program was made up of 11 key modules, which are described below:

1. Household Grid

Grid (collecting relationship of each household member to the cohort member), ethnicity, language spoken at home.

2. Housing

Current address / tenure, periods of homelessness, housing history covering every address lived at since the 'reference date', i.e. since the date when the cohort member last took part in a comprehensive survey - 1986 (BCS70) or (usually) 1991 (NCDS). No specific records were made in the history of periods of homelessness although information was collected about these outside of the grid.

3. Relationships

Marital status, relationship history covering every relationship the cohort member had where they lived with their partner for a month or more. The history recorded all relationships since the 'reference date', i.e. since the date when the cohort member last took part in a comprehensive survey - 1986 (BCS70) or (usually) 1991 (NCDS).

4. Children

Pregnancy history covering each pregnancy since the 'reference date', i.e. since the date when the cohort member last took part in a comprehensive survey - 1986 (BCS70) or (usually) 1991 (NCDS). The history was asked of both male and female cohort members. Where possible the interview sought to identify which partner from module 3 was the mother / father of each pregnancy. This section also included questions on lone parenthood and adopted children.

5. Family, social relationships and support

Family activities, social support networks.

6. Employment

Current economic activity, economic activity history covering each main activity since the 'reference date', i.e. since the date when the cohort member last took part in a comprehensive survey -1986 (BCS70) or (usually) 1991 (NCDS). Questions were also asked about the cohort member's partner's job where relevant. Information was collected to enable 3-digit SOC coding for all jobs and SIC coding for the current job.

7. Family Income

Sources of income including benefits, financial situation.

8. Lifelong Learning

Qualifications history covering all qualifications obtained since the 'reference date', i.e. since the date when the cohort member last took part in a comprehensive survey - 1986 (BCS70) or (usually) 1991. However for those NCDS respondents who had not been interviewed in 1991, the reference period referred back to 1974, when they were 16. Information was also collected on current courses being undertaken, formal learning, contact with IT, literacy and numeracy.

9. Health

Long-standing illness, respiratory problems, mental health, eyesight/hearing problems, accidents, hospital admissions, smoking, drinking, diet, height, weight.

10. Citizenship & Values

Voting behaviour, religion, political activity.

11. Computer Assisted Self Completion

Views on current relationship, skills, school life, contact with police, drug use, crime. Cohort members completed this section themselves using the interviewer's lap-top.

3.5.1 Feed forward data

CAPI offers the opportunity of potentially utilising information previously collected about survey respondents either as a check or to determine routing. However the decision as to whether to make use of such data is based on several factors, principally:

- Are the feed-forward data correct?
- Aare the data reliable - will the respondent give the same answer again?

- Will its use affect the flow of the interview: will the respondent feel as if the interviewer is checking up on them, or knows something about them already – the latter point may undermine reassurances about confidentiality?
- Will its use have an adverse affect on the performance of the program, that is if there are a large number of feed-forward items, and / or they are referenced many times, will this involve greater processing which could make the CAPI program run at a slower speed, thus affecting the flow of the interview?

Weighing up these factors it was decided to limit the amount of feed-forward data to be used to the following three items:

- Date of birth;
- Gender; and
- For NCDS cases only – date of last interview.

Date of birth and gender

Prior to the start of the interview interviewers had to confirm the date of birth and gender of the cohort member as well as the serial number assigned to the cohort member – this information being shown on the 'additional information label' on the front of the ARF (see Appendix B). These checks on the cohort member's date of birth and gender ensured that the interviewer was indeed speaking to the cohort member, and not someone else with the same name.

The cohort member's date of birth and gender were fed forwarded into the household grid, and could not be amended. If the cohort member's gender was incorrect (usually a keying error on the original sample file) the case had to be transmitted back to the office, the gender change confirmed with CLS, and an updated case with the correct gender sent back to the interviewer. If the date of birth was incorrect, but still fell within the reference week (for example, a BCS70 cohort member's date of birth on the ARF is shown as 6/4/1970 but is actually 9/4/1970; the date of birth still falls within the reference week – 5th to 11th April 1970 – so s/he is still eligible for interview) the interviewer would carry out the interview, but make a note on the questionnaire that the date of birth was in fact incorrect. All such notes were looked at back at the office, and a list of 'new' dates of birth were supplied to the CLS at the end of fieldwork so that their sample files could be updated. Those cohort members whose date of birth fell outside the reference week were returned to the *National Centre* office as ineligibles (refer to section 5.2.3) and were investigated by the CLS tracing team.

Date of last interview (NCDS only)

For NCDS cases, the date of last interview was used as a feed-forward data item. It was used to determine the appropriate reference period for collecting information on qualifications. Those not interviewed in 1991 were asked about qualifications they had obtained since 1974 (when they were 16).

4 CONDUCT OF FIELDWORK

4.1 Introduction

A decision was taken early on that there should be one questionnaire covering both NCDS and BCS70. This was possible because over 90 per cent of the questions were asked of both cohorts' members. Questions to be asked of only one of the cohorts were filtered on a variable which indicated whether the cohort member was an NCDS or a BCS70 member. This information was derived from the *National Centre* serial number.

The organisation of fieldwork for the 1999/2000 sweeps of NCDS and BCS70 needed careful preparation. This was partly due to the sheer size of the operation, over 30,000 cases were to be issued to interviewers, and partly due to the dispersion of cases across Great Britain. NCDS and BCS70 are surveys of people born in particular single weeks of their respective starting years (1958 and 1970), and as such are simple random samples of the British population. The size of an interviewer assignment, and the size of an area it was reasonable to expect an interviewer to cover, varied considerably. Accordingly, to make the organisation of fieldwork as efficient as possible, it was decided to divide the issued cases into six 'waves' of fieldwork. With the exception of the final sixth wave, each wave broadly covered all areas of the country and included around 2,500 members of each cohort. The final wave contained a greater proportion of outlying areas (the highlands and islands), as well as movers who could not be contacted in earlier waves. Table 4.1 shows the approximate dates of fieldwork for each wave.

Table 4.1 Approximate dates of fieldwork for each wave

Wave	Date of 1st briefing	Fieldwork period
1	29/10/1999	November/ December 1999
2	29/11/1999	December 1999/ January 2000
3	06/01/2000	January/February 2000
4	31/01/2000	February/ March 2000
5	28/02/2000	March/April 2000
6	03/04/2000	April/May 2000

4.2 Advance letter

Two weeks before the start of each wave of fieldwork a letter was sent to all cohort members allocated to that wave, informing them that an interviewer from the *National Centre* would be in contact to try to arrange a convenient time to conduct the interview. This 'advance' letter came from the CLS, although the mailing was carried out by the *National Centre*. The letter was sent out two weeks in advance of fieldwork commencing so that the details of anyone getting in touch with the CLS to say they had moved or did not want to take part in the study could be passed on to the *National Centre*. No office refusals were issued to interviewers. Where the office was notified of a mover, a decision was made as to whether the case should be issued to

another interviewer working on that wave, or issued in another wave – depending on where the person had moved to, and in which wave(s) the area was being covered.

4.3 Allocation of addresses to interviewers

The total number of interviewers who worked on the current sweeps of these studies was 497. The overwhelming majority, 492, worked on both BCS70 and NCDS. The number of interviewers who worked on more than one wave of BCS70 fieldwork was 457, and for NCDS 451.

Interviewers were able to identify which sample the address was from according to the Address Record Form (ARF) supplied to them: the address label provided details of the sample type – NCDS or BCS70.

4.4 Fieldwork progress

Interviewing commenced immediately upon the completion of each briefing in each wave. Table 4.2 shows the distribution of interviews across the fieldwork period.

Table 4.2 Distribution of interviews across the fieldwork period

Interviews completed by the end of…	BCS70			NCDS		
	No.	%	Cumulative %	No.	%	Cumulative %
November 1999	1087	10	10	1239	11	11
December 1999	1261	11	21	1366	12	23
January 2000	1853	16	37	1929	17	40
February 2000	1820	16	53	1848	16	56
March 2000	1623	14	68	1700	15	71
April 2000	1520	13	81	1568	14	85
May 2000	899	8	89	830	7	92
June 2000	548	5	94	447	4	96
July 2000	379	3	98	302	3	98
August 2000	85	1	98	61	1	99
September 2000	182	2	100	124	1	100
Unknown date[1]	4	0		5	0	
Base: All productive interviews	11,261	100		11,419	100	

1 In nine cases the date of interview was unknown due to the laptop date being in error.

Once contact had been attempted with the cohort member, the final output relating to that address was transmitted to the *National Centre's* Brentwood office by the interviewer via telephone modem. The outcome code for each address was then integrated into a database that was essentially the sample file for the survey. With this information, fieldwork progress reports could be updated on a daily basis.

This information, broken down by sample type, was reported on a weekly basis to the research team at CLS.

Using this information researchers at the *National Centre* were able to monitor fieldwork progress and identify any potential problems with fieldwork, such as the higher than expected mover rate. These data influenced decisions about extending the fieldwork period, to maximise the chance of a cohort member being interviewed in this sweep of the study.

4.5 Interviewer workload

The mean number of productive BCS70 interviews carried out per interviewer was 23 with 100 being the maximum. Similarly the mean number of NCDS productive interviews carried out per interviewer was 23, with 90 being the maximum. Table 4.3 shows how achieved interviews were distributed across the field force.

Table 4.3 Distribution of interviews among the interviewer panel

Interviews with…	*Number of interviewers*	
	BCS70	NCDS
Fewer than 10 cohort members	115 *(23%)*	109 *(22%)*
Between 10 and 19 cohort members	120 *(24%)*	125 *(25%)*
Between 20 and 29 cohort members	111 *(22%)*	110 *(22%)*
Between 30 and 39 cohort members	83 *(17%)*	78 *(16%)*
Between 40 and 49 cohort members	47 *(9%)*	48 *(10%)*
50 or more cohort members	21 *(4%)*	27 *(5%)*

The average duration of each interview is shown in Table 4.4 below.

Table 4.4 Average Duration of BCS70 and NCDS interviews

	BCS70	NCDS
Full main interview, with self-completion	90	85
Full main interview, no self-completion	59	59
Proxy interview	20	15

Data relating to the number of calls required by an interviewer to complete a productive interview were also collected. In around four out of five cases more than one call was required to obtain an interview, BCS70 80 per cent, NCDS 78 per cent. The mean number of calls made by an interviewer to obtain a BCS70 interview was 3.5, and for NCDS the mean was 3.2. In 11 per cent of BCS70 cases the interviewer visited more than one address to obtain an interview with the cohort member, which was twice that for NCDS cases, 5 per cent. Once an interview was completed and returned to the office a 'Thank You' letter was sent to the respondent (Appendix B).

4.6 Tracing procedures

As with any panel study, great emphasis was placed on trying to obtain an interview with as many cohort members as possible. In particular it was important to try to locate cohort members who had moved or whose address was difficult to locate. To that end a set of

procedures were developed for dealing with movers and addresses which the interviewer was unable to locate. These are described below.

4.6.1 Movers

Interviewers were provided with guidance on what to do if they found that the cohort member had moved, or had never lived at the address provided. This guidance was included in the project instructions and was discussed at the one-day briefing. An extract of the guidance provided in the project instructions is provided below:

IF THE COHORT MEMBER HAS MOVED OR YOU HAVE ESTABLISHED BEYOND REASONABLE DOUBT THAT THE COHORT MEMBER NEVER LIVED AT THE ADDRESS. HAVE YOU DONE THE FOLLOWING:

- asked the present occupants for the cohort member's whereabouts?
- asked the neighbours?
- followed up any local friends/relatives you are told might be able to help?
- noted on the ARF if a cohort member previously lived in a council or housing association property?
- followed up any other useful leads?

Interviewers were also provided with copies of a 'mover letter' which could be left with a gatekeeper who knew the cohort member's current address but was not prepared to divulge it to the interviewer. In such cases the letter was to be left with the gatekeeper, who was asked to forward it on to the cohort member. Included with the letter was a postage-paid envelope addressed to the *National Centre*'s Brentwood office. The cohort member was instructed to complete the details on the back of the letter, including his or her new address and information which would help verify that he or she was in fact a cohort member, and return the form to the *National Centre* in the postage-paid envelop provided. Where a new address was obtained, the case was issued to an interviewer working in that particular area of the country. Copies of the tracing letters for both NCDS and BCS70 are reproduced in Appendix B.

All cases of movers that could not be traced by interviewers were passed on to the CLS tracing team, who undertook more extensive tracing using telephone , postcode and other administrative sources (see section 2.3), as well as information gleaned from other family members.

4.6.2 Untraceable addresses

In some cases cohort members could not be traced because the address information provided to interviewers was insufficient to enable the address to be located, or because the address could not be traced; or the building had been demolished, was derelict or for some other reason could not be located. Before returning such cases to the office interviewers were instructed to make enquiries on the ground to see if they could locate the address (if insufficient or incomplete) or to trace the cohort member (if the address was derelict, demolished or if there was some other reason why it could not be located). The guidance supplied to interviewers on attempting to locate addresses is reproduced below:

IF YOU ARE GIVEN AN INCOMPLETE ADDRESS, HAVE YOU:

- checked with the post office to get a full address?
- checked in telephone directories?
- checked for roads or streets with a similar name in the local area?

IF YOU CANNOT FIND THE ADDRESS, HAVE YOU:

- checked the telephone directory?
- looked in local street maps?
- consulted the post office?
- consulted the police?
- asked local shops such as a newsagent or florists?
- checked at the local library?
- asked people who live in the local area?

All cases where the address for the cohort member could not be located or was found to be demolished or derelict or where no contact was made with anyone at the address were passed onto the CLS tracing team(refer to section 4.6.1)

If the CLS tracing team were able to obtain a new 'confirmed' address for the cohort member this was passed on to the *National Centre*, and the case re-issued to the field.

4.7 Re-issuing addresses

As the fieldwork period was extended beyond the original end date of May 2000, a decision was taken to review all cases where an interview had not been obtained because the cohort member had been ill at home throughout the survey period or was away/abroad/in hospital throughout the period. All such cases were re-issued to the field, along with cases where the cohort member had moved and a new address had been confirmed by the CLS tracing team. Finally those cases where the cohort member had broken an appointment, and from the comments recorded on the ARF this appeared to be for circumstantial reasons, were reissued.

4.8 Fieldwork quality control procedures

As with all surveys conducted by the *National Centre*, a programme of back checking interviewers' work was undertaken. Ten per cent of fieldwork was back checked, the majority by telephone but where this was not possible, by post. Where the responses received indicated a significant deviation from the standards set a supervisor was asked to personally revisit the address.

Back checks were managed and carried out by the *National Centre's* Quality Control Unit. Checks included verifying that the interviewer actually carried out the interview with the appropriate person, that they showed their identify card, used show cards and other survey material correctly and applied any special rules and definitions appropriately.

4.9 Recontacting respondents

A proportion of respondents were re-contacted during the fieldwork period to collect some additional information, which due to errors in early versions of the questionnaire, meant that some key questions had not been asked.

Two errors in the questionnaire were identified:

1. An error in the **relationship history** block. This block collected information about every relationship the cohort member had had where they had lived with someone for a month or more since the survey reference period (March 1991 for NCDS cohort members and April 1986 for BCS70 cohort members). Unfortunately an error in the program meant that the rules governing when the history was deemed to be complete were incorrect. As soon as the error was identified the CAPI program was amended, and a new version issued to interviewers. However 702 BCS70 cohort members and 88 NCDS cohort members were found to have incomplete relationship history data.

2. An error in the **housing history** block. This block collected information about where the respondent had been living since the beginning of the survey reference period (March 1991 for NCDS, April 1986 for BCS70). Unfortunately in some cases the housing history was cut short, and did not cover the entire reference period. This occurred because the mechanism by which the program determined whether the housing history was complete allowed interviewers to suppress a check indicating that the history was not in fact complete. As soon as the error was identified the CAPI program was amended: the program no longer allowed interviewers to suppress the warning, but rather continued to ask questions about where the cohort member was living back to the appropriate reference date. However 700 BCS70 cases and 274 NCDS cases were identified as having truncated housing histories.

Those cohort members identified as having been affected by these errors were re-contacted by telephone, and the additional information collected and entered into their CAPI interview. It should be noted that those cohort members for which a correct telephone number was not available were not contacted, along with those whom it was not possible to re-contact . The relationship history re-contacting exercise took place during April 2000, with the housing history re-contacting exercise taking place in August 2000. If a cohort member had already been contacted as part of the relationship history re-contact they were not contacted as part of the housing re-contacting exercise. Table 4.5 below provides details on the success of the re-contact exercises. As can be seen, the re-contacting exercise was successful in reducing the number of cases affected by the errors in the housing and relationship histories. For example, of those cases affected by the housing history error complete data were collected for 87.4 per cent of BCS70 cases and 90.9 per cent of NCDS respondents.

Table 4-5 Success of housing and relationship history re-contact exercises*

	BCS70			NCDS		
	No.	%	% of cases affected	No.	%	% of cases affected
All cases	*11,261*	*100*		*11,419*	*100*	
Housing re-contact						
Cases affected by CAPI problem	700	6.2	100	274	2.4	100
Missing information obtained	612	5.4	87.4	249	2.2	90.9
Missing information not obtained	88	0.8	12.6	25	0.2	9.1
Relationship re-contact						
Cases affected by CAPI problem	704	6.2	100	88	0.8	100
Missing information obtained	631	5.6	89.6	80	0.7	90.9
Missing information not obtained	73	0.6	10.4	8	0.1	9.1

* Note: It is not possible to provide further details on the reasons for missing information not being obtained at the re-contact stage as this information was not recorded on a case by case basis.

5 RESPONSE

5.1 Introduction

Table 5.1 provides a summary of three types of response rates for the surveys:

- The *contact rate* is calculated by dividing the number of cohort members contacted by interviewers by the number of cohort members issued by CLS – described as the *initial sample*. For both BCS70 and NCDS the latter comprised all cohort members included on the address database, excluding those known to have refused (BCS70=1.6%; NCDS=4.8%), emigrated (BCS70=1.2%; NCDS=1.5%) or died (BCS70=0.6%; NCDS=1.5%). In practice, this means that details of over 96 per cent of BCS70 and 92 per cent of NCDS cohort members where issued as part of the initial sample at the end of July 1999. The contact rate for BCS70 was 79.6 per cent and for NCDS it was 84.9 per cent.
- The *co-operation rate* is calculated by dividing the number of cohort members participating in an interview (*achieved interviews*) by the number of cohort members contacted by the interviewers . The co-operation rate for BCS70 was 87.8 per cent and for NCDS was slightly lower than for NCDS, 88.8 per cent.
- The response rate is calculated by dividing the number of achieved interviews by the initial sample of cohort members. The response rate for BCS70 is 69.9 per cent and for NCDS is 75.4 per cent.

Table 5.1 Summary of response rates

	BCS70	NCDS
Contact rate	79.6%	84.9%
Co-operation rate	87.8%	88.8%
Response rate	69.9%	75.4%

The table shows that the response rate for the BCS70 cohort was lower than for the NCDS cohort, 69.9 per cent compared with 75.4 per cent ($p<0.01$). However it should also be noted that the contact rate for the BCS70 cohort was 5.3 percentage points lower than the NCDS contact rate ($p<0.01$). Therefore the difference in response rate between the two cohorts is largely explained by this difference in contact rate. The co-operation rate for the BCS70 cohort was actually only 1.1 percentage points lower than for NCDS ($p<0.01$). Once contact was made the level of cooperation was comparable between the two cohorts.

5.2 Details of response

Table 5.2 provides a more detailed breakdown of response to the recent sweeps of both BCS70 and NCDS.

Table 5.2 BCS70 and NCDS response rates

	BCS70			NCDS		
	No.	Yield (%)	% of those contacted	No.	Yield (%)	% of those contacted
Initial sample	**16,108**	**100**		**15,147**	**100**	
Not issued to interviewers	285	1.8		243	1.6	
Duplicates	14	0.1		13	0.1	
Ineligible	5	0.0		0	0.0	
Died	12	0.0		22	0.1	
Total non-contact with cohort member	*2,969*	*18.4*		*2,016*	*13.3*	
Not traced	36	0.2		18	0.1	
Derelict/demolished	1	0.0		1	0.0	
Other	9	0.1		1	0.0	
No contact after 4+ calls	79	0.5		43	0.3	
Mover, follow-up address not known	2,796	17.4		1,930	12.7	
Mover, follow-up address identified but not in time to be issued to an interviewer	48	0.3		23	0.2	
Total contact made with cohort member	*12,823*	*79.6*	*100*	*12,853*	*84.9*	*100.0*
Total refusals	*1,178*	*7.3*	*9.2*	*1,196*	*7.9*	*9.3*
Office refusal	181	1.1	1.4	112	0.7	0.9
Personal refusal to interviewer	665	4.1	5.2	866	5.7	6.7
Proxy refusal to interviewer	179	1.1	1.4	134	0.9	1.0
Broken appointment, no re-contact	153	0.9	1.2	84	0.6	0.7
Total other reasons for no interview with cohort member	*384*	*2.4*	*3.0*	*237*	*1.6*	*1.8*
Ill/away during fieldwork	315	2.0	2.5	190	1.3	1.5
Inadequate English	1	0.0	0.0	1	0.0	0.0
Other non-interview	68	0.4	0.5	47	0.3	0.4
Total interviews achieved	*11,261*	*69.9*	*87.8*	*11,419*	*75.4*	*88.8*
Full interview + self-completion	11,116	69.0	86.7	11,282	74.5	87.8
Full interview, no self-completion	88	0.5	0.7	94	0.6	0.7
Long partial interview	15	0.1	0.1	7	0.0	0.1
Short partial interview	7	0.0	0.1	6	0.0	0.0
Proxy interview	35	0.2	0.3	30	0.2	0.2

5.2.1 Cases not issued to interviewers

Among the *initial sample* of BCS70 cohort members supplied by CLS (16,108), 285 cohort members, 1.8 per cent of the initial sample, were not issued to interviewers. Similarly among the *initial sample* of NCDS cohort members (15,147) 243 cases, 1.6 per cent of the initial sample, were not issued to interviewers. These cases included:

- Those that had died.
- Emigrants (both confirmed and unconfirmed).
- Permanent refusals (CLS had received a written request from the cohort member not to be contacted again).
- Proxy refusals (CLS had received a written request from someone acting on behalf of the cohort member, such as a parent or carer, asking that the cohort member not be contacted again).
- Those found to have a date of birth outside the survey reference week.

5.2.2 Duplicates

Checks on the sample file were undertaken by both the *National Centre* and the CLS prior to the start of each wave of fieldwork. These checks included checking for duplicate records. A number of duplicate records were identified and the CLS tracing team investigated which of the two cohort identifiers referred to the named cohort member, and which was the duplicate record. The correct case was issued to the interviewer; the incorrect case being traced to identify the 'real' cohort member. However despite considerable efforts, 14 duplicate BCS 70 cases and 13 NCDS cases remained unresolved, and were thus not issued to interviewers but coded as duplicate cases.

5.2.3 Ineligible cases

The sample information contained the cohort member's date of birth and gender, and these data were fed forward into the questionnaire and could not be changed by the interviewer. As part of the interview this information was confirmed with the cohort member, to act as a check that the named person was in fact the cohort member. Among BCS70 cohort members, five respondents were found to have a date of birth which fell outside eligible week of birth, and as such these cases were ineligible for inclusion in the study. They were returned to the office, where further checks were made to verify this was the case.

5.2.4 Non-contact with cohort members

In total 2,969 BCS70 cohort members could not be contacted, representing 18.4 per cent of the initial sample. Among NCDS cases the overall number of cohort members who could not be contacted was lower, 2016, representing 13.3 per cent of the initial sample (refer to table 5.2).

The main reason for non-contact among both BCS 70 and NCDS was because the cohort member had moved from the address listed on the CLS sample file as being their current address, and a forwarding address could not be obtained. This was more of a problem among the BCS70 sample than among the NCDS sample, 17.4 per cent compared with 12.7 per cent.

The higher proportion of movers among BCS70 who could not be traced may partly be due to the age of the cohort members (being younger they may be more likely to move than their older NCDS counterparts) and partly due to the fact that the last face-to-face contact with BCS70 cohort members had been some 14 to 15 years previously. For NCDS the last face-to-face contact had been more recent, some eight to nine years ago.

Two measures were taken to try to reduce the final number of non-contacts. Firstly, where interviewers were able to establish that the cohort member had moved from the address on the front of the ARF, they were asked to try to obtain a follow up address from the present occupants, neighbours, relatives etc. (refer to section 4.6.1). Secondly, where interviewers were unable to obtain a follow up address or the original address was found to be empty, not traceable or insufficient, these cases were returned to the CLS tracing unit who searched for a new confirmed address. Where a new confirmed address was obtained these cases were re-issued to interviewers (refer to section 4.6.1).

The second most common reason for non-contact was where interviewers were unable to make any contact with the occupants, having made a minimum of four calls to the address on different days of the week and at different times of the day. Among BCS70 cases 0.5 per cent of the initial sample could not be contacted for this reason (79 cases), and among NCDS cases the proportion was slightly lower, 0.3 per cent or 43 cases (refer to table 5.2). Again every effort was made to contact cohort members, and where a case was returned with this outcome code it was referred to the CLS tracing team.

5.2.5 Contacted cohort members

In total 12,823 BCS70 cohort members were contacted and asked to participate in the survey, representing 79.6 per cent of the initial sample. The contact rate was higher among NCDS cases, with 12,853 cohort members being contacted, representing 84.9 per cent. The higher contact rate among NCDS cohort member is a reflection of the lower non-contact rate amongst this group.

5.2.6 Refusal to participate in the study

There were four categories of refusal to participate in the survey:

- office refusals;
- personal refusals to interviewers;
- proxy refusals to interviewers; and
- broken appointments, no re-contact.

Overall the refusal rate among BCS70 cohort members was slightly lower than among NCDS cohort members, 7.3 per cent compared with 7.9 per cent of the initial sample (refer to table 5.2).

Office refusals

The proportion of office refusals was higher among BCS70 cohort members than among NCDS cohort members, 1.1 per cent compared with 0.7 per cent of the initial sample (refer to Table 5.2). This may be due, in part, to the fact that this was the first time that BCS70 cohort members had been asked to participate in a face-to-face interview as an adult in the study.

Refusals to the interviewer

Refusals to the interviewer comprised personal refusals and proxy refusals. Personal refusals to the interviewer were the most common type of refusal. Among BCS70 cohort members the refusal rate to was 4.1 per cent of the initial sample, lower than that among NCDS cohort members, 5.7 per cent of the initial sample (refer to table 5.2). This may be a reflection of the fact that BCS70 cohort members were more likely to have contacted the office to refuse to take part in the study than their NCDS counterparts.

Proxy refusals to the interviewer, that is where someone refused on behalf of the cohort member, were less common , accounting for 1.1 per cent of the BCS70 initial sample and 0.9 per cent of the NCDS initial sample (refer to table 5.2).

5.2.7 Other reasons for non-interview

In a further 384 BCS70 cases (2.4 per cent of the BCS70 initial sample or 3 per cent of those contacted) an interview could not be carried out for reasons other than refusal (refer to table 5.2). Of these, the most common reason was that the cohort member was ill or away during the survey fieldwork period, 315 cases or 2 per cent of the initial sample.

Among NCDS cases this was less common, 237 cases (1.6 per cent of the NCDS initial sample or 1.8 per cent of those contacted). Again the most common reason for non-interview was that the cohort member was ill or away during the fieldwork period, 190 cases or 1.3 per cent of the initial sample.

5.3 Overall response

The overall response rate, that is the proportion of the initial sample of cohort members who took part in an interview, can be presented in two ways:

1. Interviews carried out as a proportion of the initial sample. The *response rate* is calculated as the number of cohort members participating in an interview divided by the number of cohort members in the initial sample. The response rate under this measure for BCS70 is 69.9 per cent and for NCDS is 75.4 per cent.

2. Interviews carried out as a proportion of those contacted. The *co-operation rate* is calculated as the number of cohort members participating in a main interview divided by the number of cohort members contacted by the interviewers. The number of BCS70 cohort members contacted was 12,823 and the number of NCDS cohort members contacted was 12,853. The co-operation rate among BCS70 cohort members was 87.8 per cent and among NCDS cohort members it was 88.8 per cent.

Note: Response rates based on numbers participating in previous sweeps are not reported here as they require the merging of the new surveys with the whole longitudinal data base for each survey, and further detailed consistency checking. They will be reported later.

5.4 Type of interview

The overwhelming majority of cohort members who participated in an interview completed a full interview and the self-completion questionnaire, 11,116 BCS70 cases or 98.7 per cent of those interviewed and 11,282 NCDS cases or 98.8 per cent of those interviewed (refer to table 5.2).

In a few cases a main interview was conducted but the self-completion questionnaire refused, 88 BCS70 cohort members and 94 NCDS cohort members did not complete the self-completion questionnaire (refer to table 5.2).

In fewer cases still, the respondent did not complete a full interview.

Finally the questionnaire contained a proxy interview, which could be conducted with a carer in cases where the cohort member was not able to understand the questions being asked, or was too ill to be able to participate in a full interview. Such circumstances were rare, with 35 proxy interviews being conducted on behalf of BCS70 cohort members and 30 for NCDS cohort members (refer to table 5.2).

6 CODING AND EDITING

6.1 Introduction

Interviewers in the field carry out most of the validation of data in CAPI surveys. Interviewer checks in the CAPI program allow interviewers to clarify and query any data discrepancies directly with the respondent. The CAPI program ensures that the correct routing is followed (assuming the planned specification and implementation were correct) through the questionnaire. It also applies range and consistency error checks and both types of checks were used extensively throughout the questionnaires. Where a check was triggered the interviewer often opened and recorded a note explaining the respondent's situation. These notes are recorded alongside the data, and can be inspected in the office.

However, some checks on the data were thought to be too complex to be carried out in the field. More complex checks, based on the responses from multiple questions, are time consuming and may prove detrimental to the successful completion of the interview. As a result, a separate 'in-office' editing and coding process was required. This involves a coder working through each interview in turn, using a modified version of the CAPI program.

Coding and editing of questionnaires was carried out by a team at the *National Centre's* Brentwood offices. The *National Centre* research team were continuously involved in more complex editing decisions, with inputs from the CLS research team.

All edit checks and coding instructions were agreed with the CLS team.

The work involved in turning a productive interview into useable data for analysis purposes is summarised under the following headings:

- Fact sheets;
- Editing of questionnaires; and
- Coding of open and 'other specify' answers.

6.2 Fact sheets

Fact sheets provide a concise summary of a productive interview. They are used by editors to alert them to possible errors or inconsistencies to be dealt with at a later stage. A typical fact sheet will contain a listing of respondent details, key data items, open and "other specify" responses, interviewer comments and results to pre-defined edit checks (i.e. whether they have passed or failed the check).

Figure 6.1 provides a summary of the information contained in the BCS70/NCDS fact sheets, and an example is included in Appendix C.

Examples of how the fact sheets were used on BCS70 and NCDS were:

- coders first recorded all open codes in addition to SOC90 and SIC92 classifications onto the paper Fact Sheets, to be entered on the CAPI program at a later date;
- unlikely combinations of benefits: a family receiving a health benefit but without a resident with a long term illness may indicate a keying error. This would usually be passed to the researcher to look at;
- unusually high levels of earnings or amount of rent paid. This may have been due to a keying error, an incorrect period for which the payment applied being coded (i.e. weekly rather than monthly).

Where errors were identified, in the absence of a pre-defined rule, these cases would be passed to the researchers to resolve, who in turn would return the fact sheet, with instructions to the Brentwood DP team about how to implement editing decisions.

6.3 Editing the questionnaire

In addition to the edit checks that were specified on the Fact Sheets, further checks were programmed into the CAPI edit program. The majority of these were consistency checks where responses in different parts of the questionnaire were unlikely to occur or were not logically possible according to some pre-defined rule. Where the editor was notified of such a problem, he/she was instructed to look for an interviewer note to help with its resolution. If none were forthcoming, editors would follow a rule, set by the research team, or would suppress the check and flag it for further consideration by the researcher teams.

Some additional checking and editing was undertaken by the CLS research team, after receipt of 'clean' data from the *National Centre*. This was carried out collaboratively with the expert advisers who had taken a major role in the consultations about the survey design. Groups were formed to work on particular sections of the data in which they had expertise, and outstanding errors were identified and reported, so that adjustments to the data could be made where necessary. Core derived variables were also produced and the code supplied for general use. This work is fully reported in separate documentation that accompanies the dataset: *NCDS/BCS70 Data Problems and Derived variables*. The general appraisal was that the data set was generally error free and of exceptionally high quality.

6.4 Coding of open and 'other specify' questions

The interview and self-completion questionnaire included a number of open-ended questions where the verbatim answers of cohort members were keyed by interviewers. There were also a rather larger number of questions where precodes were provided for answers, but provision was also made to record additional information where the precode 'other' had been used. Following the start of the surveys, these questions were reviewed in order to determine the priorities for coding, and to identify the appropriate coding frames.

Questions requiring coding were of two types: those where a pre-existing classification scheme was to be used, for example questions relating to type of occupation, industry or health

problem; and those where the code frame was developed after reviewing a sample of answers, for example, open-questions which sought respondents reasons. Final agreement on priorities and code frames was reached in early 2000, after the CLS team had the opportunity to review a sample of responses to open-ended questions and 'other' answers. Where possible, code frames that had been employed for earlier NCDS/BCS70 surveys were adopted, although it was usually necessary to include additional codes. In other instances, it was necessary to develop a code frame from scratch. New frames were developed by researchers from both teams.

A list of the open-ended questions and 'other' answers that were candidates for coding is given below, indicating those which were coded and the source of the coding frame used. The bulk of the coding was undertaken by the *National Centre,* however detailed coding of health conditions, reasons for admission to hospital or day surgery, injuries resulting from accidents or assaults and coding of contraceptive pills was undertaken by the CLS using a temporary team of specially trained coders.

Table 6.1 Coding of open ended questions and 'other' answers

Question	*Information*	*Coded*
HOUSEHOLD GRID		
Grid		
Name	Name of household member	No
Other		
OthLang	Other language	No
OthEth	Other ethnic group	No
HOUSING		
Housing history		
HOMEa	Name of (nearest) town	No
CHILDREN		
Pregnancy history		
Pregb	Name of child	No
Pregi	Problem with child at birth	Yes (ICD)
Family activities		
KidTimeY	Why feels does do not have enough time to spend with child(ren)	Yes*
KidTimpY	Why feels partner does not have enough time to spend with child(ren)	Yes*
OthWorry	Other worries about bringing up children	Yes*
Care		
OthCare	Other place lived away from family	No
Support		
MaPaOth	Other help from parents since left full-time education	Yes*
MWOReas	Other worries as mother gets older	Yes*
PWOReas	Other worries as father gets older	Yes*
EmSupOth	Other person who provides support	Yes*
FAMILY INCOME		
OthBen	Name of other benefit	Yes*
OthInc	Name of other income source	Yes*

Table 6.1 Coding of open ended questions and 'other' answers (continued)

Question	*Information*	Coded
EMPLOYMENT		
OthAct	Other economic activity	Yes*
Current Job:		
CJTitle, CJDo, etc	SOC	Yes (SOC)
CJFirm	SIC	Yes (SIC)
CJOthOrg	Other type of organisation	Yes*
CnetOPrd	Net pay: Other payment period	Yes*
CgroOPrd	Gross pay: Other payment period	Yes*
CJOPerks	Other fringe benefits	Yes*
SEOType	Other type of self-employment	Yes*
YnoJobO	Other reasons for having no job	Yes*
Unemployment:		
UnempOY	Other reason last job ended	Yes*
Labour market history:		
OthAct	Other economic activity	Yes*
Jtitle, Jdo, etc	SOC	Yes
Partner's job		
PothAct	Other economic activity	Yes*
PJTitle, PJDo, etc	SOC	Yes (SOC)
PnetOPrd	Partners net pay: Other period	Yes*
LIFELONG LEARNING		
EDQSUB	Subject of some educational qualifications	No
VOCSUB	Subject of some vocational qualifications	No
CURQSUB	Subject of current course	No
HUSEOTH	Other use of computer at home	Yes*
WUSEOTH	Other use of computer at work	Yes*
HEALTH		
LSICond	Longstanding illnesses	Yes (ICD)
SkinOth	Other skin problem	Yes (ICD)
EatOth	Other eating problem	Yes (ICD)
GyneOth	Other gynaecological problems	Yes (ICD)
OthCancer	Other cancer	Yes (ICD)
BladOth	Other bladder or kidney problem	Yes (ICD)
WhatPill	Name of contraceptive pill	No
MHOth	Other mental health problems	Yes (ICD)
HOWhat	Other health conditions medically supervised	Yes (ICD)
EyeOthr1, EyeOthr2	Other eye problems	Yes (ICD)
EarOth1, EarOth2	Other ear problems	Yes (ICD)
AccInj	Injuries resulting from accident/assault	Yes (ICD)
HospY	Reasons for day surgery/hospitalisation	Yes (ICD/ CSOP)
OthAlcDk	Other alcoholic drink	Yes*
VegOther	Other kind of vegetarian diet	Yes*
DietOthr	Other special diet	Yes*
CITIZENHIP		
OthParty	Other party voted for in 1997 general election	No
YntUnoth	Other reason no longer member of trade union/staff association	Yes*
OthChrst	Other Christian religion	Yes*
OthNChrs	Other non-Christian Religion	Yes*
SELF COMPLETION		
Drug	Other drugs used	Yes*

Notes:
* = Coding frame provided by CLS.
(SOC) = Using Standard Occupational Classification ,1990.
(SIC) = Using Standard Industrial Classification., 1992.
(ICD) = Using the WHO *International Classification of Diseases 9th and 10 revisions*. Providing coding comparable with earlier surveys.
(CSOP) = OPCS *Classification of Surgical Procedures and Operations* (Fourth revision consolidated version 1990)

Coding undertaken by the *National Centre* was recorded on the paper Fact Sheets, with the results being entered through the CAPI Blaise program by the Brentwood DP team.

A complete description of the codes developed at this stage of the project is available in the questionnaire documentation that accompanies this report.

6.5 Data availability

A copy of the data set, along with full documentation has been deposited at the UK Data Archive at the University . Full details of the deposit are supplied in Appendix D.

6.6 Appraisal

The new surveys of cohort members in NCDS and BCS70 were directed at achieving three principle aims:

- within a life course perspective embracing the main domains of adult life, to establish cohort members 'current situation for NCDS at age 42 and for BCS70 at age 30;
- to maximise response in both surveys; and
- to restore BCS70 response and coverage to the same level as that of NCDS.

Within the constraints of time, budget and feasibility, the surveys can be judged a great success. Data collection aims were achieved in producing a high quality data set with the coverage the collaborative design demanded. We now have data spanning the principal domains of adult life - employment, family, housing, education, health and citizenship – for both cohort studies, and complete event histories back to age 16 in the domains of employment status, partnership and family formation and housing. One important factor was the use of CAPI for the first time in either cohort study to collect the data, which enabled continuous checking and editing to be undertaken during the process of fieldwork itself rather than in the office afterwards. Another factor was the quality of advice and expertise we were able to draw on in designing and implementing the data collection instruments. Use of CAPI also produced an exceptionally fast turn around between the completion of field work and data becoming available. This meant that the further work undertaken with collaborators in checking the data and developing core derived variables could also be undertaken relatively quickly.

In relation to response the surveys can also claim success. The rate of almost 90% of interviews achieved among those contacted in both surveys is high by current survey standards. It reflects both the effectiveness of the field work operations and the exceptional commitment of cohort members, who have been participating in these surveys now over a period of 42 years in the case of NCDS and 30 years in the case of BCS70.

Perhaps the most pleasing aspect of the surveys' success relates to the third of the three aims specified above. Poor response rates at age 16 in BCS70 had brought into question the study's viability and for many years there were doubts whether it could or should continue. The number of BCS70 cohort members participating is now restored to much the same level as for NCDS and the coverage in early adult life is also comparable. Through the event histories collected the longitudinal record is also now completed from 16 to 30.

We can conclude that through the combined datasets the large community of researchers, who use the birth cohort studies, have an exceptionally powerful new resource for investigating *Stability, Change and Development in the British Population.*
