

AN INTEGRATED APPROACH TO THE DESIGN AND ANALYSIS OF THE 1970 BRITISH COHORT STUDY (BCS70) AND THE NATIONAL CHILD DEVELOPMENT STUDY (NCDS).

Britain has a unique tradition in conducting longitudinal birth cohort studies. Three continuing studies have been embarked upon starting in 1946 (National Survey of Health and Development), 1958 (National Child Development Study) and 1970 (1970 British Cohort Study). Each was launched as a study of ante-natal and post-natal service provision, perinatal mortality and morbidity, and all three studies collected information about almost all births occurring nationwide in a target week in 1946 (NSHD, n=13,687), 1958 (NCDS, n=17,414) and 1970 (BCS70, n=17,198) respectively. Each study has subsequently comprised further sweeps at various ages (Figure 1). The studies present, both individually and in combination, an unprecedented opportunity to investigate the forces and patterns that have shaped and continue to shape the lives of three overlapping generations of people living in this country today. This paper assesses the qualities of the two cohort studies which are now the responsibility of the Social Statistics Research Unit (SSRU) at City University (the 1970 British Cohort Study (BCS70) and the National Child Development Study (NCDS)), and presents the rationale for bringing them together as an integrated programme of design and analysis. It then describes both studies in detail and considers the potential for inter-cohort comparison.

THE 1970 BRITISH COHORT STUDY - DATA COLLECTION.

BCS70 began in 1970 when data were collected about the births and families of 17,198 babies born in England, Scotland, Wales and Northern Ireland in the week 5th-11th of April. At this time, the study was named the British Births Survey (BBS) and it was sponsored by the National Birthday Trust Fund in association with the Royal College of Obstetricians and Gynaecologists. Since 1970 there have been three attempts to gather information from the full cohort (Figure 2). With each successive attempt, the scope of enquiry has broadened from a strictly medical focus at birth, to encompass physical and educational development at the age of five, and physical, educational and social development at the ages of ten and sixteen.

Data have been collected from a number of different sources and by varying types of instrument. In the birth survey, information was collected by means of a questionnaire that was completed by the midwife present at the birth, and supplementary information was obtained from clinical records. The five year and ten year surveys were carried out by the Department of Child Health, Bristol University and the survey at these times was named the Child Health and Education Study (CHES). In 1975 and 1980, parents of the cohort members were interviewed by Health Visitors, and information was gathered from head and class teachers (who completed questionnaires), the school health service (which carried out medical examinations on each child), and the subjects themselves (who undertook tests of ability). In both 1975 and 1980, the cohort was augmented by the addition of immigrants to Britain who were born in the target week in 1970. Subjects from Northern Ireland, who had been included in the birth survey, were dropped from the study in all subsequent sweeps.

The last full survey of the cohort took place in 1986 and was carried out by the International Centre For Child Studies and named "Youthscan". In this sweep, sixteen separate survey instruments were employed, including parental questionnaires, school class and head teacher questionnaires and medical examinations (including measurement of height, weight and head circumference). The cohort members completed questionnaires, kept two four-day diaries (one for nutrition and one for general activity), and undertook some educational assessments.

Figure 2 shows that response rates varied between survey sweeps. The figure of 17,198 achieved at birth was estimated to have included between 96% and 98% of all births in England, Scotland, Wales and Northern Ireland in the survey week. At each sweep, the figure represents the number of subjects who responded to one or more of the survey instruments. The lower response at 16 arose because cohort members were contacted through their schools, and a teachers strike at the same time resulted in many subjects not receiving their questionnaires. A later attempt to recover some of the damage to response rates that this had caused (by sending the survey documents to the cohort member's homes), was not as successful as the school method would have been.

In addition to the four major sweeps, sub-sample surveys were carried out in 1972/1973 and in 1977. In 1972/1973 the British Births Child Survey took as its subjects three sub-samples; all twins in the original cohort, the low-birth-weight and post-mature births, and a random ten per cent of the original cohort. The South-West Region Survey, also carried out at this time, included ninety five per cent of the cohort members who lived in the south west of England or Glamorgan, South Wales. These smaller scale surveys were undertaken so that the large gap in child development terms between birth and five years of age (when the next full sweep was planned) could be bridged. In 1977, an attempt was made to assess the effect of non-response to the five year survey when non-responders were traced and interviewed.

BCS70 - DATA PREPARATION AND AVAILABILITY.

Data sets containing the birth, 22-month, 42-month and five year data are now lodged at the ESRC Data Archive, University of Essex, and are available to the research community for analysis. A data set containing the ten year data is currently being prepared at the Department of Child Health, Bristol University and will be sent to the ESRC Data Archive upon completion. A fully documented SIR database is planned which will contain all BCS70 data. The 16 year data is currently being cleaned and validated in the SSRU.

When complete, a copy of the BCS70 data base will be lodged at the ESRC Data Archive and made available to interested parties. As with NCDS, a User-Support Group within the SSRU will be available to aid researchers who are interested in using the data. Until data are generally available on the Archive, it is possible to obtain data from the SSRU directly. Active use is already being made of selected parts of the data base in the areas of education, leisure, alcohol consumption and smoking, family structure, the use of dental services and asthma and wheezing.

BCS70 - PUBLISHED MATERIAL.

Wide-ranging use has already been made of the data arising from the four full sweeps of BCS70. It is not within the scope of this document to review the literature, but it is useful when considering the background to the project to mention some key works. The birth sweep provided a valuable insight into the patterns at that time of obstetric and neonatal care in the United Kingdom (Chamberlain et al 1973, 1975). The birth and five year findings relating to health were discussed in Butler, Golding and Howlett's (1986) "FROM BIRTH TO FIVE: A Study of the Health and Behaviour of Britain's 5-Year Olds", and general findings from the first two sweeps were also outlined in a book written by Osborn, Butler and Morris (1985). Chamberlain and Simpson (1979) also concentrated on the health data arising from the first two survey sweeps in their book "The Prevalence of Illness in Childhood".

In addition to these general accounts of the findings of BCS70, a number of specific projects have been undertaken in a wide range of fields. In the area of health, investigations have ranged from vision problems (Atkinson and Butler, 1985; Stewart-Brown, 1985) to childhood accidents (Bijur, 1984; Wadsworth et al, 1983a), appendicitis (Barker et al, 1988), breast-feeding (Taylor et al, 1983a, 1984) teenage mothering (Taylor et al, 1983b; Wadsworth et al, 1983b) and much more. Special educational problems and needs have formed the scope of some of the research arising from the BCS70 data. For example, Haslum and Butler (1985) considered the special education needs of ten year olds, and Rodgers (1983) investigated the prevalence of reading retardation. Different forms of social behaviour and their influence on health and development have also been investigated. Rush and Cassano (1983) considered the influence of parental smoking on perinatal mortality; Haslum, Morris and Golding (1984) reported on the diets of Britain's ten year olds; Osborn (1984) considered maternal employment and depression and their influence on child behaviour; and Osborn and Morris (1982) investigated fathers' roles in child care.

The data already collected provide a remarkably rich research resource in a large number of areas. Future data collection by means of regular sweeps, and the adoption of an integrated approach to the design and analysis of this study with the 1958 cohort study (NCDS) will present exciting new possibilities and dimensions which will be considered later in this paper.

BCS70 - THE 21 YEAR SURVEY (BCS70-21)

In February, March and April 1992, the fieldwork for a sample survey of around 1,650 cohort members was undertaken. The work was funded by three agencies; the Leverhulme Foundation, the Adult Literacy and Basic Skills Unit (ALBSU) and the Paul Hamlyn Foundation. The major aims of the survey were to investigate the forces and circumstances which influence young people in their transition from full-time education to employment and to examine the extent of literacy problems in the cohort. In addition, this survey was designed to serve as a feasibility study for a full sweep of the cohort which is planned for 1994/95.

A commercial research agency, MORI, was commissioned to carry out the fieldwork. The survey comprised two short self-completion questionnaires, a face-to-face interview

and an assessment of literacy and numeracy ability. Survey procedures and instruments were piloted in November 1991 on 50 cohort members who were not selected for the main survey.

1,650 cohort members resident in England and Wales were included in the 21 year survey. The sample consisted of 25 sampling points based on 26 post code areas, which were selected using interval sampling with a random starting point. The number of cohort members selected for interview in each sample area reflected the expected regional distribution of cohort members throughout England and Wales. In conjunction with other data sets, returns from a self-completion questionnaire which was sent out with a 21st birthday card in April 1991 provide information that will make it possible to evaluate the representativeness of the sample in terms of the characteristics of all cohort members resident in England and Wales. The birthday card questionnaire asked cohort members to provide their current name, address and telephone numbers, and asked for basic demographic information including marital status, living arrangements, children and employment status.

Figure 4 (Appendix 1) shows the main topics of interest in BCS70-21 and the post code areas included in the survey. The BCS70-21 projects are detailed below.

The BCS70-21 Adult Literacy and Numeracy Project

The Adult Literacy and Basic Skills Unit (ALBSU) have sponsored SSRU to assess the literacy and numeracy competence of BCS70 members. This follows earlier research (ALBSU, 1987) in which cohort members of the National Child Development Study (NCDS) were asked a series of self-report questions on literacy and numeracy difficulties. These questions have been augmented and have been administered again as part of the BCS70-21 survey to 1970 cohort members. The first aim of the research was therefore to compare the two cohorts who are twelve years apart in age in order to discover any differences which might exist between them.

The second aim of the literacy study was to collect objective information about literacy and numeracy competencies, by administering an assessment. The assessment instrument was developed to be administered in an interview situation by market research interviewers, and as such, has broken new methodological ground. It contains a number of different tasks which will enable us to discover the nature of specific literacy and numeracy difficulties. The results of the assessment will then be compared to the self-reported data. This objective assessment material, combined with the self-assessment data should deliver information which will help us to discover the extent and nature of literacy and numeracy deficiencies in the young adult population of this country.

The BCS70-21 Transition from Education to Employment Project

The Transition from Education to Employment project has been funded by the Leverhulme Trust. The general aims of this research are to explore the extent and ways that young people are prepared for entry into the world of work, with the aim of identifying how this transition can be made more efficient both for the employing organisation and the individual.

Specific project objectives include an assessment of the adequacy of preparation for work in secondary school. The importance of other factors affecting career choice and personal success are investigated, and these include levels of ability, educational performance and social background. The project investigates the relevance of training schemes and qualifications for people with a diverse range of abilities and aspirations. It is hoped that the results are used to minimise wastage, both in terms of unexploited human potential and provision of inappropriate training.

THE NATIONAL CHILD DEVELOPMENT STUDY - DATA COLLECTION

The National Child Development Study (NCDS), is a continuing longitudinal study of all those living in Great Britain (England, Scotland and Wales), who were born between the 3rd and 9th of March 1958.

The origins of the study lie in the Perinatal Mortality Study (PMS), which was sponsored by the National Birthday Trust Fund and was designed to look at the obstetric factors associated with stillbirth and death in early infancy among the 17,000 children born in one week (Butler and Bonham, 1963). It was the second such study, the first having been started in 1946, twelve years earlier (National Survey of Health and Development). Later still, twelve years after the start of NCDS, the 1970 cohort study (BCS70) was begun.

There have been four attempts to trace all members of the original cohort and any immigrants to Britain who were also born during the control week. The aims of these subsequent phases of data collection have been to monitor the physical, educational and social development of members of the group. They were carried out by the National Children's Bureau in 1965 (cohort age 7), in 1969 (at age 11), in 1974 (at age 16), and in 1981 (at age 23), and they form the four completed NCDS surveys. At each of the first three of these surveys (ie 1965, 1969 and 1974), immigrants to this country who had been born in the target week were added to the survey group. In 1978 (cohort age 20), additional information was also gathered on performance in public examinations from the educational establishments that the cohort members had attended.

Figure 3 shows the sources from which information on the cohort was obtained. For the birth survey, information was obtained by the midwife from the mother and from medical records. The next three sweeps obtained information from parents (who were interviewed by health visitors), head and class teachers (who completed questionnaires), the school health service (who carried out medical examinations) and the subjects themselves (who completed tests of ability, and from the age of sixteen, had their own interviews and self-completion questionnaires).

NCDS4 (1981) used professional survey research interviewers to interview the subject, and information was gathered from the 1971 and 1981 censuses of population so that variables describing subjects' areas of residence could be incorporated into the data base. On this occasion, no attempt was made to include new immigrants to the country who were born in the target week.

Data collection for the fifth wave of NCDS (NCDS5) was carried out by the Social Statistics Research Unit in the summer/autumn of 1991 when the cohort were 33 years old. This wave obtained information not only from the cohort member themselves, but also from their partners (as appropriate) and, in the case of one third of the cohort members, from their children as well (as appropriate). The survey was conducted via a series of interviews, self-completion questionnaires and child development assessments (including measurements of height and weight) which will gather information on a wide range of social, behavioural and medical topics. The data collected enables inter-generational analyses between the development of the cohort and that of their children.

The assessments which were administered to the children of the cohort members were developed in the United States of America and were subsequently slightly adapted for use in a British context. They had previously been used in 1986, 1988 and 1990 on the children of an American longitudinal study (The National Longitudinal Survey of Youth - NLSY). By using the same tests in this country, we gain the opportunity to undertake comparative analyses on the development of children in Britain and the United States.

NCDS - DATA PREPARATION AND AVAILABILITY

All NCDS data are held by the ESRC Data Archive and are available for secondary analysis by researchers. The Archive also holds a number of NCDS-related files (for example, data collected in the course of a special study of disabled school-leavers at age 18; and the data from the 5% feasibility study, conducted at age 20, which preceded the 1981 follow-up), which are similarly available for secondary analysis. NCDS5 will be similarly available at the ESRC data archive after July 1993.

The NCDS User Support Group at the Social Statistics Research Unit exists to facilitate the use of the data base for the research community. It produces a twice-yearly NCDS newsletter which is circulated to a mailing list of over 350 individuals and advises a large number of NCDS data users (which have grown in number substantially since the creation of the User Support Group). This newsletter may be extended to include BCS70 as well. The Group has also produced a number of working papers which detail particular types of analyses and the data available for particular interests (see Working Paper no.1, Shepherd (1985) for a list of titles). These can be obtained from the SSRU. In addition, the Group has produced two NCDS teaching data sets which are held at the ESRC data archive.

NCDS - PUBLISHED MATERIAL

Working Paper No.2 (NCDS User Support Group - revised 1988) provides a useful list of many of the publications arising from NCDS up until 1988. It is possible here only to refer to some of the more general books. The results of the 1958 birth study were summarised by Butler and Bonham (1963) in their book entitled "Perinatal Mortality" and by Butler and Alberman (1969) in "Perinatal Problems". Findings from the first follow up at seven years were discussed by Pringle, Butler and Davie (1966 - "11,000 Seven Year Olds") and by Davie, Butler and Goldstein (1972), "From Birth To Seven". Fogelman (ed - 1983) collected papers published on NCDS from results of the second (at age 11 years) and third (at age sixteen) sweeps between 1975 and 1980 and put them together in a book entitled "Growing Up in Great Britain". He also wrote about the 16 year study in "Britain's Sixteen Year Olds" (Fogelman (ed), 1976). Over two hundred other publications upon diverse subjects have arisen from NCDS.

PLANS FOR AN INTEGRATED APPROACH TOWARDS BCS70 AND NCDS

Longitudinal analysis

The NCDS and BCS70 data sets are of immense value in tracing factors which influence the present circumstances and characteristics of individuals and groups back to earlier conditions and life experiences. This is because information is collected prospectively, thus minimising problems of memory error and distortion. It is possible to investigate for example, the factors which encourage or inhibit the development of a condition such as asthma in teenagers or heart disease in adults; the kinds of family background and upbringing that accompany educational success and failure; and to trace the origins of advantage and disadvantage in housing, employment and in domestic life. These studies can then extend such analysis to the next generation. By collecting data on the cohort members' own children, the transmission of social and medical conditions across the generations can be investigated. Are the health consequences of environmental circumstances transmitted from parents to their children? Are parenting practices and their outcomes repeated in subsequent generations and if they are not, are any patterns discernible at all?

Inter-cohort analysis

The scientific strength of the longitudinal cohort study resides principally in the "internal analysis" of life history data. Inter-cohort comparison is valuable because it enables us to control the age and cohort effects which any single longitudinal study contains. Cohort effects are products of the time-specific qualities of the external environment in which the cohort members grow and with which they interact. Changes in the medical management of childbirth or in social policy towards child rearing, for example, may result in differences in outcome. Longitudinal studies of single cohorts are fundamentally about aetiology: establishing how current functioning relates to past circumstances and life events for a particular sample of individuals. The existence in Britain of three longitudinal birth cohort studies enables in principle, the control of cohort effects in medical and social outcomes within a specific time period (1946-1970; people born between these dates will of course be subject to general shared cohort

effects as well). We can observe how the prevalence of different medical and social conditions varies across the generations. We can also examine process stability : whether models linking present functioning with past conditions are stable over the time period that the studies span. Some previously published cross-cohort research is considered in the next section.

It can be seen from Appendices 2 and 3 that the scope for inter-cohort comparison is great. There is a high degree of similarity between the types of information collected from BCS70 and NCDS cohort members, enabling both longitudinal analysis and inter-cohort comparison. The broad scope of the subject material will facilitate investigation of causal factors and outcomes in many areas. These areas might include: the aetiology of physical and mental illness and the respective merits of different long term disease management strategies; the changes that may be occurring in patterns of childbirth and family formation; the origins of disadvantage or advantage in housing careers; the effects, if any, of the transformation of labour markets through the eighties on occupational and political socialisation; the analysis of changes in education and consequential outcomes in subsequent employment and income; and peoples experiences of changes in the 1990s to the new European market and the restructuring of Eastern Europe. Clearly the possibilities are wide-ranging and the integration of NCDS and BCS70 will facilitate such enquiries tremendously.

Advantages of an integrated approach to the design and analysis of BCS70 and NCDS

Until now, each of the three British cohort studies has been designed and carried out separately following the research interests of the team conducting it, their advisors and the funding bodies who supported them. It is therefore good fortune rather than design that BCS70 and NCDS have covered similar ground in a comparable way. However, the recent move of BCS70 to SSRU now means that the 1958 and 1970 cohort studies can adopt an integrated framework in their future planning and execution which will maximise the comparability between the two.

The age of cohort members when data is collected is one factor which affects the opportunities for inter-cohort comparison. To date, BCS70 and NCDS have only one age in common, 16 years. In the future we plan to contact BCS70 cohort members at similar ages to NCDS members in NCDS4 and NCDS5. The choice of age-sampling point, once cohorts become adults is fairly arbitrary. However, the time intervals between survey sweeps is important methodologically and has to date been a function of fund-raising ability rather than the deliberate choice of an optimal time-interval. An integrated approach to the studies may enable the adoption of an optimal time-interval between survey sweeps.

Another factor affecting opportunity for inter-cohort comparison is the topic areas covered in each survey. Topic areas depend on a number of factors including the interests of funders and collaborators and thus it may not always be possible to replicate survey topic areas in full. However, survey content can be planned so that specific areas of interest are covered in both cohorts. SSRU plans to include similar topics in the 24/5 year BCS70 sweep to those included in NCDS4.

Survey instruments and questions can also be replicated across surveys. The appropriateness of doing this will vary according to subject area and any changes in society or word/term usage which may have taken place between survey dates. The extent to which a replication (either from one sweep to another or between the different studies) is a genuine replication when some of the measurements differ actually or contextually should also be considered. The temptation here may also be to compound problems by replicating questions which haven't worked well, for the sake of comparison between cohorts. This should obviously be avoided and often questions offering some kind of functional equivalence will be preferable. Finally, data resulting from surveys of both cohorts can now be stored in a compatible format. This will also facilitate inter-cohort analyses.

Literature on inter-cohort comparison

Appendices 2 and 3 show the subject areas covered by both BCS70 and NCDS, and provide some idea of the present opportunities for comparisons between the cohorts. Inter-cohort comparisons have already been made by some researchers although such efforts have been rare. Most have been in the field of health and have involved the comparisons of the prevalence of particular medical conditions between two or more cohorts (see for example Peters et al, 1983; Chilvers et al, 1984; Taylor et al, 1984; Barker et al, 1988). Circumstances surrounding the cohort members' births and their outcomes have also been the subject of inter-cohort comparisons (Peters et al, 1983, 1984, 1985). Calnan, Douglas and Goldstein (1978) have looked at differences in rates of surgical intervention with regards to tonsillectomy and circumcision. Away from the medical arena, Kiernan and Eldridge (1987) examined both inter- and intra-cohort variation in age at marriage of cohort members.

CONCLUSION

The 1970 British Cohort Study is the country's third and, for the foreseeable future, last national longitudinal cohort study, and its members are now entering the adult world at a time of considerable economic, social and political change. The adoption of an integrated framework for the design and analysis of BCS70 and NCDS will provide the medical and social science community with a unique set of data comprising information about the lives of over 30,000 individuals, their parents, partners and children. Such a resource enables the investigation of the forces that have shaped, and continue to shape, the lives of these three overlapping post-war generations. Any one study enables the causal factors of current functioning to be traced back to earlier circumstances and experience. Inter-cohort comparison enables both stability and change in the processes to be examined and assessed against changes in the physical, technological and social environment.

An integrated design strategy enables the collection of similar data for each study and allows the sharing of methodology and new theory and measurement techniques. It is also possible to investigate whether hypotheses supported by one study are supported by the next. The large size and national representativeness of each cohort also enables regional variation to be assessed. In addition, the existence of studies in other countries of comparable age cohorts, such as the US National Longitudinal Study of Youth, extends the scope of comparative analysis by further adding an international dimension.

APPENDIX 1

FIGURE 4

BSC70-21 SURVEY TOPICS

Employment histories since age 16
Education histories since age 16
Qualifications
Training
Unemployment
Reading and writing behaviour
Literacy and numeracy self-appraisal
Literacy and Numeracy assessment
Household composition
Relationships
Children
Housing
Income
Health
Attitudes to employment, education, literacy and numeracy
Self efficacy

APPENDIX 2

BCS70

SUMMARY OF THE INFORMATION COLLECTED BY BBS, CHES AND YOUTHSCAN

BBS: 1970

Parents

Father's occupation
Mother's occupation
Marital status
Child care
Mother's smoking during
pregnancy
Contraception
Antenatal care

Medical

Abnormalities during pregnancy
Length & abnormalities of labour
Analgesia & Anaesthesia
Sex, weight, progress,
management & outcome of infant
Obstetric history

CHES: 1975

Parents

Social and family background
Environmental background
Assessment of the child's
behaviour

Medical

Height and head circumference
High risk factors
Use of health services
Screening and assessment
procedure

Subject

Human figure drawing test
Copying designs test
English picture vocabulary test
Schonell graded reading test
Complete-a-profile test

CHES: 1980

Parents

Medical history
Accidents
Use of health services
Father's occupation
Mother's occupation
Type of accommodation
Parent's level of education
household amenities
Neighbourhood
Hospital admissions
Clinic attendance
The child at school
Child's skills
Child's behaviour: Maudsley
Parental Behaviour Inventory
Mother's health: Cornell Health
Inventory

Medical

Medical examination
Disability and chronic illness
Height and weight
Head circumference
Blood pressure
Pulse
Near and distant vision
Audiometry
Laterality
Co-ordination

School

School composition
Curriculum
Discipline and ethos
Teacher's assessment of child's
ability
Maudsley Behaviour Inventory
Conners Hyperactivity Scale

Subject

Academic success
Smoking
Attitudes to school
food and drink consumed
Caroloc scale (ability to
'control' destiny)
Lawseq Self-Esteem scale
Eysenck Personality Inventory
English Picture Vocabulary Test
Writing, copying and spelling tests
Social judgment scale
British ability scales
Mathematics test
Shortened Edinburgh Reading Test

YOUTHSCAN: 1986

Parents

Health status
Family health
Chronic illness and disability
Medication
Accidents and injuries
Use of health services
Social experience
Father's occupation
Mother's occupation
Parental situation
Family finances
Household amenities
Accommodation type

Number of rooms
Neighbourhood
Alcohol consumption
smoking
Performance at school
Life skills
Behaviour

Medical

Special requirements
Chronic illness and disability
Psychological/psychiatric
problems
Medical examination
Blood pressure
Distant and near vision tests
Motor co-ordination tests
Audiometry
Height and weight
Head circumference

School

Curriculum
Teaching methods
Special education
Teacher's assessment of behaviour
Academic achievement
Academic potential
Absences from school

Subject

Exercise and sporting activities
Hygiene
Diet (including a four day diary)
Diary of all activities over four
days
Leisure activities
Family life
Religion
Leaving home
Money
Smoking
Alcohol
Laterality

Television, video and radio
Friends and social behaviour
Law and order
Sexual behaviour
Self-esteem
Health status
Medical history
Attitudes to health and emotions
Drug use
School
Occupational interests
Reading, spelling and vocabulary
tests
Mathematics tests
Life-skills test (education, training
and employment)

APPENDIX 3

SUMMARY OF THE INFORMATION COLLECTED BY NCDS AND PMS

PMS: 1958

Parents

Social & family background
Obstetric history
Antenatal care
Abnormalities during pregnancy
Length & abnormalities of labour
Analgesia & Anaesthesia
Sex, weight, progress, management & outcome of infant
Mother's smoking during pregnancy

NCDS1: 1965

Parents

Family size
Parental situation
Father's occupation
Father's education
Mother's work
Type of accommodation
Tenure
Number of rooms
Household amenities
Periods 'In Care'
Hospital admissions
Clinic attendance
Medical history
Behaviour
Physical co-ordination
Adjustment to school
Separation from mother
Pre-school experience
Infant Welfare Clinic attendance

Medical

Height and weight
Head circumference
Tests & clinical assessments of motor
co-ordination & laterality
Full clinical examination

School

School size and organisation
School and parents
Teachers assessment of child's
abilities, attainment & behaviour

Subject

Southgate Reading Test
Copying Designs Test
Goodenough Draw-a-man Test
Problem Arithmetic Test

NCDS2: 1969

Parents

Family size
Parental situation
Father's occupation
Father's education
Mother's work
Type of accommodation
Tenure
Number of rooms
Household amenities
Periods 'In Care'
Hospital admissions
Clinic attendance
Medical history
Behaviour
Physical co-ordination
Adjustment to school
Separation from mother
Pre-school experience
Infant Welfare Clinic attendance
Financial situation
Housing satisfaction
Satisfaction with neighbourhood

Medical

Height and weight
Head circumference
Tests & clinical assessment
Full clinical examination
Pubertal development

School

School size and organisation
School and parents
Teachers assessment of child's
abilities, attainment & behaviour

Subject

Reading comprehension test
Mathematics comprehension Test
General Ability Test
Copying-designs Test
Short questionnaire on interest out of school & educational aspiration
Essay describing their life at age 25

NCDS3: 1974

Parents

Family size
Parental situation
Father's occupation
Father's education
Mother's work
Type of accommodation
Tenure
Number of rooms
Household amenities
Periods 'In Care'
Hospital admissions
Clinic attendance
Medical history
Behaviour
Physical co-ordination
Adjustment to school
Separation from mother
Pre-school experience

Infant Welfare Clinic attendance
Financial situation
Child's future education
and employment

Medical

Height and weight
Head circumference
Tests & clinical assessment
Full clinical examination
Pubertal development

School

School size and organisation
School and parents
Teachers assessment of child's
abilities, attainment & behaviour,
future education and development Subject

Reading comprehension test
Mathematics comprehension Test
Questionnaire covering:
School
Education
Further & higher education
Future employment
Relationships with the family
Marriage & family plans
Leisure activities

NCDS4: 1981

School

Exams: Details of entry and performance in public examinations were
obtained from schools in 1978

Subject

Employment & Unemployment
Apprenticeship & training
Education & qualifications since
school
Literacy & numeracy
Periods out of the labour force
Attitudes to school & work
Number, age & sex of all natural

children
Children's health
Marriage & cohabitation
Characteristics of partners
Marriage/family plans
Contraceptive use
Housing
Family income & savings
Health, accidents & hospital
admissions
Height & weight
Leisure & voluntary activities
Economic status of parents
Experience of 'Care' as a child
Malaise Index

AREA DATA: These data provide details of the location and characteristics of the area the subject was living at NCDS4 and NCDS3. They are based on the small area statistics of the 1971 and 1981 Census.

NCDS5: 1991

Medical

Height and weight

Subject

Marriage/Cohabitation
Children
Jobs
Not in a job
Housing
Employment
Previous jobs
Spouse/Partner - education,
job, earnings
Unemployment
Education
Courses
Qualifications
Family
Locke-Wallace
(Quality of Relationship
Self-completion)
Housing
Housing history
Income
Health

Malaise Inventory (Mental Health Self-completion)

Smoking and Drinking

Citizenship

Beliefs, attitudes and values self-completion subjects:

Marriage

Women's roles

Children and the family

Social support/networks

Social and political values: left-right; Traditional-modern;

environmentalism; racism; sexism; political trust-cynicism; orientation towards work;

value of work;

job control.

Skills

Partner

Marriage/Cohabitation

Children

Jobs

Not in a job

Housing

Children

Family life

History of pregnancy and birth

Health history Separations from mother

Ever "in care" of local authority, etc

Pre-school experience

Schooling history

Experience of day care

Mothers rating of each child:

Motor and Social Development

Behaviour Problems Index

Temperament/"How My Child

Usually Acts"

CHILD TESTS (children 4 years and older):

Peabody Picture Vocabulary Test -

Revised (PPVT-R)

McCarthy Scale of Children's

Abilities: Verbal Memory Subscale

Peabody Individual Achievement Test

(PIAT): Math Subscale

Peabody Individual

Achievement Tests

(PIAT): Reading

Recognition Subscale

Peabody Individual

Achievement tests

(PIAT): Reading
Comprehension Subscale
Weschler Intelligence Scale for
Children - Revised: Digit Span
Subscale
Perceived Competence Scale for Children/Self-Perception Profile
("What I am Like")

Interviewer Evaluation of Testing
Conditions/Temperament
Interviewer Observation of Home
Environment/Home

SOURCES OF FUNDING FOR BCS70

British Births Survey, 1970	Royal College of Obstetricians & Gynaecologists Marks and Spencer Glaxo Pergamon Press Department of Health and Social Security
Child Health and Education Study 1975	Medical Research Council Economic and Social Research Council National Birthday Trust Action Research for the Crippled Child Leverhulme Trust Other charitable trusts
Child Health and Education Study 1980	Rowntree Memorial Trust Department of Education and Science Department of Health and Social Security Manpower Services Commission National Institute of Child Health and Development

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