

obstacles and opportunities on the route to adulthood

Evidence from rural and urban Britain

By John Bynner, Heather Joshi and Maria Tsatsas

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With a foreword by

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The Smith Institute

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Foreword

Yvette Cooper MP

Minister for Public Health

The Labour movement has always fought against the unfair inequalities that pass from one generation to the next. Where some people enjoy opportunities, others face insurmountable obstacles through no fault of their own.

Tomes of official evidence and academic research chart these injustices: working class children do worse at school than middle class children; the death rate from coronary heart disease is three times higher among unskilled men than among professionals; and the sons and daughters of high earners are far more likely to become top earners themselves than the children of parents on low incomes.

But the evidence that lies behind this analysis has its limitations. Often it relies on snapshots at any one point in time rather than tracking inequalities and their causes over time. Or, where research is longitudinal and tracks people over time, it can be increasingly out of date. A Labour government keen to extend opportunities and give everyone a fair chance in life needs the most complete and current information about where the greatest obstacles to equality still lie.

That's where the Smith Institute research comes in. Commissioned by the Smith Institute, academics John Bynner and Heather Joshi have produced the most up-to-date analysis of the obstacles to social justice in modern Britain. Their extensive research is based on two massive surveys of 16,000 people born in single weeks in 1958 and 1970, and tracked throughout their lives.

The 1958 generation are now in their forties, with children, and even grandchildren, of their own. The data on their lives has been analysed in many surveys, but the Bynner-Joshi research is the most extensive analysis so far of how those obstacles and opportunities also affect those born in 1970. This is the generation of children whose milk was snatched by Margaret Thatcher in the seventies, who reached voting age in the late eighties boom, and are just now hitting their thirties.

One of the most striking revelations to emerge from the research is the extent to which child poverty still haunts people throughout their lives. The findings found that the children of parents on low incomes performed worse at school and were more likely to leave education with few or no qualifications. By the time the 1970-born generation reached aged 26, the sons and daughters of manual workers born in 1970 were already 10% worse off than the children of professional workers.

These findings show why the government was right to set a target of abolishing child poverty within 20 years. As the research clearly shows, child poverty doesn't just hurt children when they are young. It scars them throughout their rest of their lives. It also shows that meeting that target in 20 years, and providing sustainable ways to keep children out of poverty in the future, means raising the income and opportunities for their parents – who are themselves likely to be the children in poverty today.

The research outlined in this Report provides important guides as to how to tackle child poverty today and prevent it in the future as well. First, the findings show that income matters. They found that boys born in 1970 who had received free school meals as children were twice as likely to be unemployed as 26 year old adults. If a family did not own their own home, the children were one and a half times more likely to leave school early than children whose families owned their own homes.

Poverty had an independent impact on outcomes even once other factors were taken into account. So children whose parents had the same occupational level and the same educational background still did significantly worse on average if they had financial problems than if they did not.

That's why government policies to raise the income of families with children are so important to tackling wider inequalities. Measures already in the pipeline, such as the rise in child benefit, the working families tax credit, and the new Children's Tax Credit, will lift 1.2 million children out of poverty. And as Chancellor Gordon Brown has made clear, this is just the start.

But income is only part of the story. The Smith Institute research also shows that opportunities now matter even

more. Educational achievement is now the single most important factor in determining later success. Those who do well at school early on tend to finish with good qualifications. And those who get good qualifications do much better in the labour market later on.

Bynner and Joshi found that men with no qualifications were a massive 12 times more likely to be out of work by age 26 than those with degrees. Women's chances of being in full-time employment – rather than part time work or staying home with children – were eight times as high for graduates than for those with no qualifications.

The trouble is that those who do well in education tend to be the sons and daughters of parents who were well qualified before them. The 1970-born child of educated professional parents achieved qualifications on average two and a half levels higher than the child of an unskilled worker who left school at 16 (e.g. gaining a degree compared to GCSEs, or A'levels compared to no qualifications).

Surprisingly, Bynner and Joshi found that the opportunities gap between those from different social backgrounds was no different for those born in 1970 than it was for children born in 1958. Although those born in 1970 had better educated parents than the 1958 generation and so started from a better position, the gap between those from professional and unskilled backgrounds has remained the same.

Furthermore, the Bynner-Joshi findings show that the detrimental effects of inequality of opportunity are, in some areas, actually growing stronger and more debilitating. This is particularly born out in their findings on teenage pregnancy. The research found that the relative risk of becoming a teenage mother from unskilled families compared to professional families almost doubled between the 1958 and 1970 generations. Daughters of unskilled men born in 1970 were an astonishing nine times more likely to become a teenage mother than girls whose fathers were more highly qualified.

Childhood disadvantage expresses itself early on in a child's life. By the time Bynner and Joshi took their first survey of those born in 1970 at age 10, the impact of childhood disadvantage had already become well established. This shows why meeting the child poverty target will

require a two-pronged approach:

- raising the income of families through employment, education, childcare and the tax and benefit system;
- raising opportunities for children growing up on low income - through raising educational standards and programmes such as Sure Start.

The Bynner-Joshi research shows the importance of government policies which concentrate on raising educational achievement for children on low incomes through programmes such as Education Action Zones and the numeracy and literacy hour. It also demonstrates the potential of Sure Start to make a real difference to long term inequalities, and highlights the urgent need for partnerships across the country to sign up to the Sure Start approach.

Over the course of the next three years, Sure Start will extend to cover 20% of children under 4 growing up in poverty. Local partnerships – with clear objectives to tackle post-natal depression, improve children's health and development, raise their language development, and support parents – are going up across the country. And Sure Start Plus is tackling the problem of teenage pregnancies as well.

The Bynner-Joshi research provides powerful evidence for why we need to build on the Sure Start approach to extend and improve all opportunities for children growing up on low income.

Ending child poverty and breaking the cycle of disadvantage that spans generations is a goal that has eluded previous Labour governments and social reformers alike. While we may all be better off today as incomes and living standards have risen right across the board, the opportunity gap has hardly changed. No one, not least those in government, can underestimate the magnitude of the task. But I believe it is achievable.

I am grateful to the Smith Institute and to Professors Bynner and Joshi for their work in illuminating the challenges we face in government and providing us with valuable information upon which to shape solutions. The findings that follow will make essential reading to all those involved in policy-making and concerned about social justice. We ignore these fascinating findings at our peril.

Summary

The project was directed at:

- Identifying obstacles in childhood to successful entry to the labour market in adult life, using data from the 1958 and 1970 birth cohort studies.
- The effect of labour market change on the impact of these obstacles between 1974 and 1986 when the respondents were first able to leave school.

The main differences between the cohorts were:

- More educated parents for children born in 1970.
- Reduction in numbers brought up in rented housing and fathers in manual jobs.
- In the 1970 cohort the rise in qualification levels and staying on rates.
- A lower pay-off in terms of occupational attainment: people born in 1958 gained up to 40% at 33 (on our index of the average pay for the occupational group) for having a degree compared to leaving school at 16 with no qualifications. For those born in 1970 such a gain was down to around 12% (at age 26).

The analysis of obstacles showed that:

- Doing well in primary school tests helped predict later educational results, but also had some independent effect on labour market success.
- Childhood poverty is another intermediate factor in poor achievements, working mainly as a handicap to good education.
- Staying on at school was generally higher for 1986 than 1974, particularly for girls born in 1970. It was still strongly related to the family class at birth, though the gap between unskilled and professional fathers had been greater for the 1958 cohort.
- Children whose fathers and mothers had not stayed on at school were more likely to leave school at 16 than those with more educated parents. Within social class, chances of staying on were reduced 5-6 fold in the cohort born in 1958 and 3-4 fold for people born in 1970 to parents without formal post-compulsory schooling.
- Class impact on qualifications was just as great for the 1970 cohort as for the 1958. The average gap between

the daughter of an educated professional father and the daughters of an unskilled man who left school at the minimum age represents about three rungs of a six-rung educational ladder. For sons the gap in each cohort is about two and a half grades.

- The educational disadvantages of manual class origin work mainly through poor performance at primary school, and family poverty, but class of origin has some independent effect on qualifications.
- The chances of a young woman becoming a teenage mother were heavily affected by her class background. Allowing also for parents' education, daughters of fathers in unskilled manual work in 1958 were 5 times more likely to become a teenage mother than the daughters of fathers in professional occupations; for 1970, the contrast is 9-fold. Teenage mothers also lacked qualifications.
- Class of origin exercises an impact largely through achievement at school and higher education, but still maintains some independent effect on adult occupational attainment.
- In the 1958 cohort the sons and daughters of professional fathers have a 20% advantage in occupational achievement at 33 over those with fathers in unskilled occupations. There was also a 10% advantage in favour of men.
- In the 1970 cohort at 26 the gender disadvantage in occupation had disappeared and social class advantage was only half that recorded by the previous cohort (at 33).
- Men's success in the labour market was strongly related to obtaining qualifications. In BCS70 men with no qualifications were 12 times as likely as graduates to be out of work at 26. For NCDS at 33 the odds were 4 times as great.
- Women's chances of being in full-time employment are 8 times higher for graduates than the unqualified in BCS70 at 26, and 3 times for NCDS at 33.
- Mental health of young adults also showed some links to family background and childhood circumstances, again largely working through success and failure in

the education system. In both cohorts those with no qualifications were about 3 times more likely to be classed as depression-prone than graduates.

- Being brought up in a rural area did not make a great deal of difference, either way, to the chances of overcoming inauspicious backgrounds. More urban than rural families had a poor, or at least low social class background, to start with.
- Half the NCDS cohort members known to be in a rural area at 16 had left by age 33, as had one third of the 1970 cohort by age 26.
- The special problems of disadvantaged youth in remote rural areas - such as transport- are not well covered in our data, but their impact has not been detectable with the present material.

The education system provides the most important channel for selecting children for success or failure on the adult labour market. Although many children from disadvantaged backgrounds gain advantage through the classroom, children from more advantaged families gain even more. Class of origin and childhood poverty make educational attainment more difficult, even for children with similar test scores. There is also a small legacy of class of origin and child poverty in labour market success, independent of their impact on education. This research records the persistence, over the 1970s and 1980s, of underachievement by children in underprivileged families, on a significant though not startling scale. It therefore adds to the evidence that children currently in the most disadvantaged circumstances may repay remedial interventions.

Preface

This project is part of the Smith Institute's programme of work on social exclusion and inequality. The idea for it arose in discussion with Yvette Cooper MP, about the use of longitudinal data collected in the 1958 and 1970 birth cohort studies, to map obstacles and opportunities in life in Britain, including social exclusion in rural areas.

Such an exercise in "equality mapping" across two cohorts is particularly appropriate now, in view of the high place social exclusion has been given in the current policy agenda and the large range of Government initiatives developed through the Social Exclusion Unit to tackle it. Our evidence comes from a period prior to that of the "New Deal", "Worst Estates" and "Teenage Pregnancy" policy agendas. What has been constant over the period since 1986, when the 1970 cohort (if not the 58 cohort) were leaving school, has been the lack of labour market opportunities for young people and the increasing complexity of their transitions to adult life.

But there are also changes, suggesting that, if anything, some of our findings about the obstacles young people

face may be conservative. New forms of poverty are becoming evident, of which in the "information society", lack of access to information technology and the Internet is perhaps the most obvious example. Women's position has improved relative to men at the top of the qualifications scale while remaining much the same in terms of gender-based disadvantage and discrimination at the bottom end. Less visible has been the steady decline in employment prospects in many rural areas and the infrastructure problems limiting opportunities for many young people growing up in them.

Insights gained from our analysis draw out the challenges faced by government policy in trying to eradicate social exclusion.

Acknowledgement

The research reported here could not have been carried out without the support of The Smith Institute, set up in memory of John Smith. We are most grateful to the Institute. The typing and graphics work was done by Dina Maher and Isabel Sinha.

1: Exclusion and Achievement

Obstacles and Opportunities

Current policy initiatives on social exclusion are a recognition of the polarising effects of technological change and particularly the potential exclusion of an increasing number of young people from employment and a reasonable standard of living¹. The consequence may be early parenthood, a difficult family life, lack of social and political participation, criminality, physical and mental illness, including long-standing conditions and sometimes ultimately suicide. The defining features of social exclusion, which underline its importance in policy terms, emphasise: the relativity of disadvantage; the role of agency on the part of the state and the excluded themselves; and the dynamics of disadvantage that accumulates across all the domains of life over the life course². To chart precisely how the exclusion process occurs therefore requires longitudinal research, that is to say studying people's lives over an extended period of time. We need to disentangle the circumstances and experiences at different stages of life that operate as obstacles to or enhance developmental processes in education, in the labour market and in adult life more generally. The counter to the obstacles is to provide and strengthen opportunities for young people to gain access to the resources on which these key functions of citizenship depend.

In Britain we are privileged in having access to longitudinal data that are ideally suited for this research purpose. The British birth cohort studies have collected data from large samples of up to 16,000 people born in single weeks in 1958 and 1970, who have been followed up into adulthood. In the case of the 1958 birth cohort study (known as the National Child Development Study

- NCDS), surveys of the whole cohort were conducted at birth, 7, 11, 16, 23 and 33. In the case of the 1970 birth cohort study (known as the 1970 British Cohort Study - BCS70), data were collected at birth, 5, 10, 16 and most recently, 26. For the full cohorts, data are available in the case of NCDS, on the 11,400 adults participating at age 33, and in BCS70, the 9,000 adults participating at age 26.³

In the early stages of the studies, data were collected from parents about their children, and the children were tested and medically examined. At the age of 16, cohort members in both studies supplied information about their lives directly by filling in a questionnaire. Through adulthood, at ages 23 and 33, the NCDS cohort members took part in a comprehensive interview covering the main areas of their lives. In BCS70, at age 26 a postal questionnaire was used which mirrored as much as possible the coverage of the NCDS interview survey. Further sweeps began in late 1999, revisiting the members of both these cohorts.

Much of the earlier research on obstacles and opportunities based on longitudinal data has used the National Child Development Study.⁴ This is one of the first studies to analyse life experiences against the same markers in both the 1958 and the 1970 cohort studies. The comparison enables us to evaluate both the continuities in the social exclusion process from one cohort to the next and discontinuities in them that can be attributed to social change.

1 Recent reports from the Social Exclusion Unit of particular relevance include *Bringing Britain Together: A National Strategy for Neighbourhood Renewal* (1998). *Teenage Pregnancy* (1999); *Bridging the Gap: New Opportunities for 16-18 year-Olds Not in Education Employment or Training* (1999).

2 See Atkinson's paper in Atkinson A.B. and Hills, J. (1998) *Exclusion, Employment and Opportunity* London School of Economics, CASE paper 4. Social exclusion indicators are mapped in Howarth, C., Kenway, P., Palmer, G. and Street, C. (1998) *Monitoring Poverty and Social Exclusion*. York: Joseph Rowntree Foundation.

3 Reports of the most recent surveys are given in Bynner, J., Ferri, E., Shepherd, P. (1997) *Twenty-something in the 1990s: Getting By; Getting on; Getting Nowhere*. Aldershot: Ashgate Press. Ferri, E. (ed.) *Life at 33: The Fifth follow-up of the National Child Development Study*. London: National Children's Bureau.

4 Many examples can be found in the papers presented at a Treasury sponsored two-day seminar on poverty and inequality - CASE (Centre for the Analysis of Social Exclusion) (1998) *Persistent Poverty and Lifetime Inequality: the Evidence*. CASE report 5, London School of Economics/Occasional Paper 10, HM Treasury. Influential analyses of particular relevance to this report include: Gregg, P. and Machin, S. (1997) 'Blighted lives: Disadvantaged Children and Adult Employment', *Centre Piece*, 2, 14-17, London School of Economics, Centre for Economic Performance; Hobcraft, J. (1999) *Intergenerational and Life Course Transmission of Social Exclusion: Influences of Childhood Poverty, Family Disruption and Contact with the Police*, London School of Economics, CASE paper 9; Kiernan, K. (1995) *Transition to Parenthood: Young Mothers, Young Fathers - Associated Factors and Later Life Experiences*. WSP/113, London School of Economics.

Analysis Strategy

Variables and models

Rich information has been collected on the circumstances surrounding cohort members' cognitive and personal development at different stages of their lives. This can be set against educational, occupational, health and social outcomes in their teens and early adulthood. We can use the data to identify the conditions and experiences early in life that help or hinder development later on. At birth we know that family background circumstances are important. Geographical location, such as being born in a rural as opposed to an urban area, may also bring distinctive sets of obstacles and opportunities to the life course.

The range of childhood influences on children's development, alongside those from the family includes experience of State services, especially the education system. At primary school, acquisition of the basic skills of literacy and numeracy lays the foundations of subsequent educational progress.⁵ Through secondary school leading up to age 16, the sorting process takes place - part school and part individually determined - that determines which young people are going to continue in education beyond the minimum age and who are going to leave to enter the labour market.⁶ In the case of the 1958 birth cohort, this invariably led to a job, including apprenticeship. In the case of the 1970 cohort, there was a wider range of possibilities, including the Government's Youth Training Scheme (YTS). Finally the period of transition from education is the way to adult statuses in employment, the family and health. For each intermediate stage there are developmental outcomes in terms of educational achievement and personal development, including educational qualifications obtained at and post-16.⁷

Figure 1 sets out schematically the explanatory and outcome variables used in this analysis to chart the

processes involved. They start with explanatory variables, parents' social class and education. At primary school age, family circumstances are assessed in terms of rented housing, free school meals for the children and whether there is evidence of financial difficulties. Reading and mathematics scores at the end of this period are also included. For the social exclusion outcomes, we first examine those that mediate the effects of education on later outcomes. The secondary stage of education is marked by the decision to leave at 16 or stay on. Highest qualification achieved by the time of the surveys follows. These outcome variables are, of course, also implicated as explanatory variables in the later social exclusion outcomes. These include becoming a teenage parent. Finally we target as social exclusion outcomes in adulthood, participation in or absence from the labour market, income level for the kind of occupation held, and depression. Our analysis involved using the statistical technique called logistic regression to model the relationships across time connecting earlier circumstances and experiences to the later social exclusion outcomes. We determine the effect of these early influences on later outcomes taking account of the effect of all other influences by means of "odds ratios". These enable us to assess for each of the social exclusion outcomes the chances of people subjected to a particular influence (compared with those in a reference category) ending up socially excluded.

Cohort comparisons

Our variables were measured in near identical form in both cohorts, so we were able to make direct comparisons of them across cohorts. The advantage of this is that by modeling life course processes in two cohorts, starting in 1958 and 1970 respectively, we are able to gauge the effects of the massive social and technological changes that took place over this period.⁸ The parents of children born in 1958 had mostly themselves been born and brought up before and

5 A series of analyses carried out for the Basic Skills Agency have used NCDS and BCS70 data to unravel the relationships involved: Bynner, J. and Steedman, J. *Difficulties with Basic Skills*. London: Basic Skills Agency; Bynner, J. and Parsons, S. (1997a) *Does Numeracy Matter?* London: Basic Skills Agency; Bynner, J. and Parsons, S. (1997b) *It Doesn't Get any Better: the Impact of Poor Basic Skills on the Lives of 37 year-olds*. Parsons, S. and Bynner, J. (1998) *Influences on Adult Basic Skills*. London: Basic Skills Agency

6 The ESRC "16-19 Initiative, a programme of research covering the same birth cohort as BCS70, examined the range of these choices and the influences that shaped them: Banks, M., Bates, I., Breakwell, G., Bynner, J., Emler, N., Jamieson, L. and Roberts, K. (1992) *Careers and Identities*. Buckingham: Open University Press.

7 Bynner, J. and Fogelmann, K. (1993) *Making the Grade: Education and Training Experiences*. In Ferri, E. (ed) *Life at 33* London: ESRC, City University, National Children's Bureau.

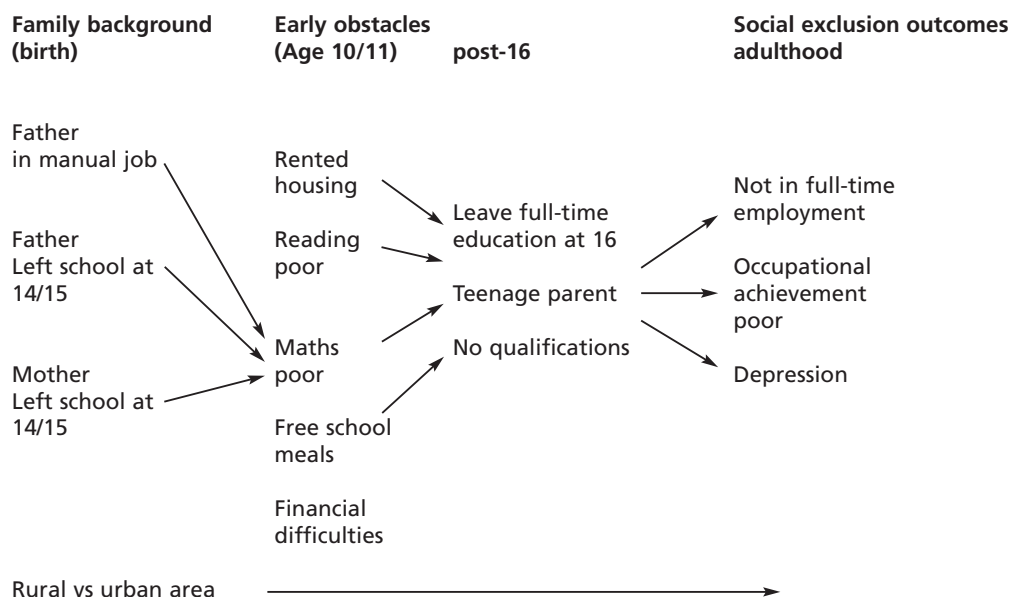
8 A set of papers comparing the context and processes of youth transition in Canada and England reports the many different facets of these changes: Ashton, D. and Lowe, G. (1991) *Making their Way*. Milton Keynes: Open University Press.

during World War II. The parents of the second cohort had been born and brought up mostly after the war. Most of the first set of parents had left school at 14 or 15; fewer of the second set of parents had left at the minimum age, which was itself 15 for all of them. On the whole the children born in 1970 found themselves in more affluent homes with better educated parents. When it came to entering the labour market it was the 1958 cohort which appeared at an advantage. In the crucial transition from school to work at 16, most of the two thirds of NCDS cohort members who left then obtained employment relatively easily. Their problems came later when the labour market contracted in the 1980s and they were in their twenties. At 16 the 1970 cohort faced a labour market in which in many parts of the country, youth employment had almost disappeared. Its replacement by training schemes, with no guarantee of a job at the end, added to their difficulties, not least because of the dim view of schemes taken by many employers. Although 50% were still leaving school at 16, a substantial proportion entered training schemes rather than jobs, and of those, a sizable minority never

experienced much more than casual work interspersed with unemployment. Young women in this situation frequently dropped out of the labour market early to have children.

The picture of declining opportunities in a world of ever-increasing competition for jobs is countered to a certain extent by another change of major significance - the rising prospects of women. Fuelled by the equal opportunities policies of the 70s and the advance of feminism and the women's movement, girls started to overtake boys in education, to stay on longer and to enter the labour market at higher levels than in the past. The consequence was rising expectations and the beginning of a 'gender quake' which carried in its wake postponement of marriage and parenthood and major career commitment. As noted by some commentators however the advantages tended to be experienced most by women at the top of the social and educational scale leaving those at the bottom as disadvantaged as ever. It is among this latter group that the signs of social exclusion such as teenage pregnancy were most evident.⁹

Figure 1 Obstacles to achievement: The routes to social exclusion



Rural dimension

A particular strength of the birth cohort studies is that they are nationally representative covering every area of the country. So through linkage of the data to census small area statistics, patterns of geographical and community variation can also be encompassed by the analysis. They provide therefore the means of investigating problems of exclusion of young people in rural communities, comparing them with those growing up in the city. We were able to attach an electoral ward identifier linked to the 1981 Census to the data set at age 23 and 16 in NCDS and at 16 in BCS70, and consulted the ward's "Acorn" classification of area type. Approximate equivalents were derived for NCDS at age 33 and BCS70 at age 26, using the Office of National Statistics classification of electoral wards. We used these classifications to select a cut-off point for a ward's population density to allocate place of residence at 16 (and 26 and 33) to a rural category (unless it was in a metropolitan area). We did not attempt to classify location at birth or in childhood. For the childhood

sweeps of each cohort study administrative areas (LA, LEA, HA) are identified, and for BCS70 at age 10 there is an interviewer assessment of the area as being rural, mainly rural, etc., but these were not sufficiently comparable between cohorts to be usable for our purposes.

Structure of Report

In the analysis reported here, we first describe the characteristics of the cohorts in terms of the variables discussed above, noting particularly changes between the 1958 and 1970 cohorts and differences between urban and rural areas. We then move on to model the social exclusion processes as shown in Figure 1. We also assess the evidence for social change as reflected in "cohort effects" and for differences in the social exclusion process between rural and urban areas. The final chapter draws some general conclusions about the bases of social exclusion and considers some of the questions they raise for policy.

⁹ Helen Wilkinson's idea of a "gender quake" (No Turning Back: Generations and the genderquake, London:Demos, 1994) is countered by Catherine Hakim's exploration of polarisation among women (Key Issues in Women's Work. London: Athlone, 1996.) Facts about the economics of women's changing position are examined in Joshi, H. and Hinde, A (1993) 'Employment after Childbearing: Cohort Study Evidence on Contrasts within and across Generations', European Sociological Review, 9, 203- 22; Joshi, H., Davies, H and Land, H. (1996) The Tale of Mrs Typical. London: Family Policy Studies Centre. Joshi, H. and Paci, P. (1998) Unequal Pay for Women and Men. Cambridge Mass.: MIT Press.

2: Life Stage and Location

Introduction

This chapter sets the scene for the analysis, providing descriptive information about the sample. Frequencies are given for all the variables specified and compared for each cohort by gender, and by rural/urban location. More detail is supplied in the Appendices.

The total sample available for analysis was defined by the number of complete records up to 33 (1958 cohort) and up to 26 (1970 cohort) on adults for which there were data on the outcome variables of interest. The 1958 sample contained 5587 men and 5681 women and the 1970 sample, 4102 men and 4834 women. This represents a net loss due to attrition reducing the samples to about 70% of their original size. But apart from a slight shift towards the more educated the biases this has introduced are relatively small: the sample remains broadly representative of the original birth cohort.¹⁰ Missing data for many of the variables reduces the sample sizes further for particular analyses - more so for the 1970 cohort. But overall there are adequate numbers for the purposes of this analysis. And we also face a loss of cases across the years through attrition. We maintain the sample size by including cases with missing data and flagging up where information is missing. This also gives us a clue about possible biases due to non-response to particular questions. For example, whether respondents who did not answer the question tended to be working class rather than middle class or male rather than female.

We start by examining the frequency distributions for the social exclusion outcome variables for men and women in each cohort, then consider those post-16 outcomes such as qualifications that reflect the transition to adulthood, and then move to the background explanatory variables reflecting influences early on in the cohort members' lives. Finally we examine differences in the characteristics of teenagers living in rural and urban areas.

Adult Outcome Variables

Table A2.1 compares the frequencies of the categories used for each of the social exclusion outcome variables: employment status, early parenthood and Malaise. For men employment status was defined by whether the cohort member was unemployed at the time of the interview. For women, because of the mixing of household and employment roles, the status used in the analysis was full-time employment (compared with any other employment status). In BCS70 the status was assessed at age 26 and in NCDS at age 33.

Reflecting changing mores with respect to early parenthood (20 or younger), the gap between men and women was large for NCDS and much smaller for BCS70: six times as many NCDS women compared with men were early parents; there was barely any difference for BCS70. Notably, although the percentage of men unemployed was identical for the two cohorts, the percentage of women in employment differed strikingly between them. Compared with the NCDS cohort, approaching twice the percentage of the BCS70 cohort were employed (64% compared with 36%). This contrast is in part due to the fact that three quarters of the women in NCDS had become mothers by age 33, whereas only a little over one quarter of the BCS70 women had become mothers by 26. For Malaise, BCS70 women were far more likely to record depression than were men, or either sex in NCDS.

The variables shown in Table 2.1 were categorical, i.e. they described at most two categories in which the cohort members' status could be located. Two of the other variables, Occupational Achievement and Qualifications, were measured as continuous, i.e. they contained a range of values on a continuous scale. As noted previously, we assess the level to which the cohort members had progressed in the labour market by an index based on the last occupation recorded at or by age 33 for the 1958 cohort, or 26 for the 1970 cohort. Those

¹⁰ Other losses and potential sources of bias include ethnic minorities; attrition was also higher among men than women. Full details are supplied in appendices in Ferri (1997) and Bynner, Ferri and Shepherd, 1997 op cit.

Table 2.1 Adult outcome variables: categorical - percentages

Outcome status	NCDS		BCS70	
	Males	Females	Males	Females
Early Parent (20 or younger)	2	13	6	8
Unemployed and Sick (men only)*	8	-	8	-
Full Time Employed (women only)*	-	36	-	64
Depression (Malaise score of more than 7)*	7	8	6	17
N (100%)	5587	5681	4102	4834

* Age 33, NCDS; age 26, BCS70.

Table 2.2 Adult outcome variables: continuous: Means (Standard Deviation in percentages)

Outcome variable	NCDS		BCS70	
	Males	Females	Males	Females
Qualifications	2.5 (1.5)	2.2 (1.4)	2.5 (1.6)	2.5 (1.5)
Occupational Score	1.5 (0.2)	1.4 (0.2)	1.6 (0.1)	1.6 (0.1)
N	5587	5681	4102	4834

Table 2.3 Post-16 outcomes - percentages

Outcome status	NCDS		BCS70	
	Males	Females	Males	Females
Left Education (before/at 16)	62	55	49	42
No Qualifications	14	15	7	5
N(100%)	5587	5681	4102	4834

out of work on these occasions are classified by the most recent job held. We adopt the commonly used grouping of occupations into the Registrar General's 6 social classes, as used also for the fathers. But we place these occupations on a scale of likely earning power inferred from the logarithm of the average net hourly earning power of cohort members of each sex, who happened to be employed in each RG occupation band at each terminal date. Highest qualification was measured on a six-point scale ranging from 0 (no qualifications) to 5 (degree level or above). Table 2.2 shows the mean values and standard deviations for these two variables compared across the sexes for each cohort. The standard deviation shows the spread of the scores around the mean; the higher the standard deviation the more variability in the values is revealed.

For qualifications there was a surprising similarity between the mean values for the two cohorts - at least for males (though rounding hides a small increase). For females the mean score rose between the two cohorts reflecting their improving educational achievements across the twelve years separating the cohorts. The occupational scores are not strictly comparable because of the different ages of the two cohorts at the time of interview and the different times at which the surveys in which the data were collected took place. They suggest a closing of the gender gap between the 26 year olds and the 33 year olds and a halving of the variability within the samples of the second cohort.

Post-16 Outcome Variables

The next variables to consider are those which carry the effects of educational school experience and achievement into adult statuses, called for convenience post-16 outcome variables. Table 2.3 shows the percentages of cohort members who had left full-time education at the minimum age of 16 and of those who had left without any qualifications (this category corresponds to the bottom value from the qualifications variable considered in the previous section). A large shift is apparent both in the proportions staying on beyond

the minimum age of 16 and in the proportions leaving without qualifications. Over 12% fewer of the BCS70 cohort members, compared with NCDS, left at 16 and half the proportion left without qualifications. Men were still leaving early in larger numbers than women (49% compared with 42%) and the great majority of both sexes were gaining at least an NVQ1 qualification. Of the BCS70 cohort members only 7% of men and 5% of women were without any qualification.

Explanatory Variables

The explanatory variables comprised first potential influences stemming from the family at birth (family social class as defined by father's occupation¹¹; parents' own education). These were followed by variables reflecting family circumstances during the cohort members' period at primary school (rented accommodation, free school meals, financial difficulties) and their own educational performance as revealed by reading and mathematics tests (Table 2.4). As we might expect, compared with NCDS, fewer of the BCS70 cohort members' parents were in manual occupations (just over half for BCS70 compared with nearly three quarters for NCDS) and fewer had left school at the minimum age.

During the cohort members' primary schooling a smaller proportion of the BCS70 cohort members' families lived in rented accommodation and there was less evidence of financial difficulties. However, with respect to one of the key indicators of family poverty - free school meals - there was no evidence of a cohort shift: the families of 8% of the respondents in both cohorts had received this form of financial support.

Reading and maths scores at age 11 (NCDS) and at age 10 (BCS70) were standardised in terms of quintile ranges (fifths of the total distribution of scores for each cohort). Table 2.4 shows that although there were no gender differences for NCDS, for BCS70, slightly more males were in the bottom 40% for reading and slightly more females were in the bottom 40% for maths.

11 (I= Professionals, II= Managerial/Techn., IIINM= Skilled non manual, IIIM= Skilled manual, IV= Partly skilled, V= Unskilled)

Table 2.4 Explanatory variables - percentages

Variable	NCDS		BCS70	
	Males	Females	Males	Females
Birth				
Social class of father (manual)	71	72	55	56
Father left school before/at 15	79	78	62	62
Mother left school before/at 15	74	74	61	64
Primary school				
Reading scores (low - bottom 40%)	38	38	42	39
Maths scores (low - bottom 40%)	37	37	38	43
Rented accommodation	50	52	33	34
Receipt of free school meals	8	9	8	8
Financial hardship	10	11	5	5
N(100%)	5060	5146	3596	4309

Table 2.5 Location in rural and urban areas - percentages

Type of area	NCDS		BCS70	
	Age 16	Age 33	Age 16	Age26
All rural areas (a)	14	16	19	15
• Sparsely populated (b)	4	4	4	3
• Less sparse (c)	11	12	15	12
Urban and metropolitan (d)	86	85	81	85
N (100%)	954	11208	6424	9007

Note: a) Living in a non-metropolitan ward with fewer than 250 persons per square kilometre according to the 1981 census (for both NCDS and BCS70).

b) Living in wards with fewer than 43 persons per square kilometre, corresponding approximately to the "remote" area in the ONS classification of areas¹²

c) a-b

d) Includes cases where rural residence could not be established and those for whom all information was missing at 16 but collected later.

Table 2.6 Explanatory variables by location at 16 - percentages

Type of area	NCDS						BCS70					
	Males			Females			Males			Females		
	S	D	U	S	D	U	S	D	U	S	D	U
Birth												
Social class of father (manual)	56	63	71	63	65	73	39	45	56	42	47	57
Father left school before/at 15	71	73	80	74	75	79	55	55	63	55	56	61
Mother left school before/at 15	65	66	75	68	69	75	48	50	63	50	52	64
Primary school												
Reading scores (low - bottom 40%)	50	35	37	38	31	38	30	33	42	29	33	37
Maths scores (low - bottom 40%)	44	32	36	28	29	3	26	31	37	32	35	42
Rented accommodation	41	49	49	48	45	51	25	24	35	29	27	33
Receipt of free school meals	10	8	7	10	8	8	3	3	9	11	2	8
Financial hardship	11	6	9	7	6	11	8	2	5	10	3	5
N(100%)	5060			5146			3596			4309		

Note: S= Sparse; D=Dense; U=Urban/metropolitan. See Table 2.5 for definitions

Area of Residence at 16 and over

Information about cohort members' place of Residence was collected at 16. Using electoral wards based on the 1981 and 1991 census, cohort members' addresses were grouped into three broad categories: rural sparse (fewer than 43 people per square kilometre); rural dense (fewer than 250 people per square kilometre) and urban/metropolitan (250 or more people per square kilometre). As table 2.5 shows on the basis of this classification, the great majority of cohort members (over four fifths) in both cohorts had been resident in urban or metropolitan areas at 16 and 33 (NCDS) and at 16 and 26 (BCS70). Slightly less than one in twenty were living in sparsely populated rural areas and one in six in less sparsely populated rural areas.

The maps in Figures 2.1 and 2.2 show the geographical distribution of the whole population defined in this way at the time of the 1981 and 1991 censuses. The 1981 map relates to our NCDS classification at age 16 and the 1991 map to the BCS70 classification at age 26.

There were no significant differences by location for any of the outcome variables. However, as Table 2.6 shows, differences were quite pronounced for family factors at birth. Urban areas had the greater representation of manual classes consistently across cohorts and between the sexes (although differences were larger for BCS70 and for females). The same picture, though less marked, was apparent for father's and mother's age of leaving school. Parents in rural areas had stayed on in education more (See Appendix, Table A2.2 for the full rural-urban breakdown of all the variables).

For the primary school variables there were more differences. Both boys and girls of the BCS70 cohort were less likely to have succeeded in reading tests at ages 10/11 and maths (not in bottom 40%), if they lived in an urban rather than either sort of rural area. There was not much difference for girls in NCDS, but the reverse phenomenon was observed for boys in NCDS (that is boys in sparse areas were less likely to score better in reading and maths tests). Moreover, boys in the earlier cohort and both sexes from the later cohort had an

12 (Wallace and Denham, 1995).

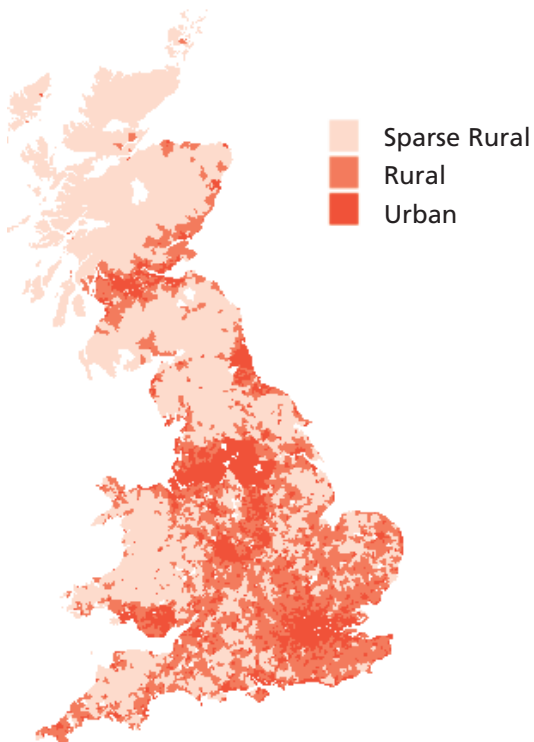


Figure 2.1 Rural-urban distribution of the population, 1981

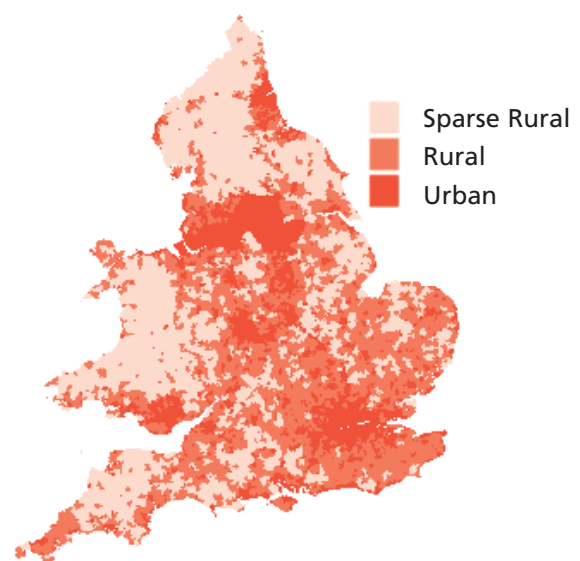


Figure 2.2 Rural-urban distribution of the population, 1991

Table 2.7 Educational attainments by location at 16 - percentages

Type of area	NCDS						BCS70					
	Males			Females			Males			Females		
	S	D	U	S	D	U	S	D	U	S	D	U
Left school at minimum age	68	58	63	48	48	56	42	39	47	27	33	41
No qualifications	22	14	12	19	10	15	3	4	6	4	3	4
Higher qualifications (456)	27	30	29	28	29	25	34	37	27	29	33	24
N(100%)	155	502	3950	186	499	4224	132	420	2259	137	550	2858

Note: S= Sparse; D=Dense; U=Urban/metropolitan

Table 2.8 Mobility between rural and urban areas - percentages

Residence status	NCDS	BCS70
Rural at 16 and 26	7	10
Rural 16 & Urban at 26	9	5
Urban at 16 & Rural at 26	7	9
Urban at 16 and 26	77	75
N(100%)	11,268	8936

Table 2.9 Post-16 transition outcomes by mobility between rural and urban areas - Mobility Status

Mobility status		Males		Females	
		Left school early	No qualifications	Left school early	No qualifications
NCDS					
Age 16	Age 33	%	%	%	%
Rural	Rural	67	21	55	16
Rural	Urban	51	10	43	9
Urban	Rural	50	9	45	9
Urban	Urban	64	13	58	16
BCS70					
Age 16	Age 26	%	%	%	%
Rural	Rural	45	4	37	4
Rural	Urban	33	3	28	1
Urban	Rural	41	7	33	2
Urban	Urban	47	5	41	5

increased likelihood of experiencing some kind of poverty if they were living in urban areas rather than residing in less populated regions. For example they were more like to have lived in rented accommodation. Although for the other indicators of financial hardship there were no consistent differences between the areas. Finally, as Table 2.7 shows, young people in the BCS70 cohort more frequently left school early if they lived in an urban area, especially females, and so did females in NCDS. NCDS members of both sexes living in sparsely populated areas were less likely to have academic qualifications; for BCS70 males there was no difference; but for females the difference was in the opposite direction. BCS70 females were substantially more likely to have qualifications if they lived in either kind of rural area.

Mobility in Early Adulthood

To what extent was mobility between the different types of area changing between cohorts? Table 2.8 shows that around three quarters of the both samples (NCDS and BCS70) were living in metropolitan/urban city areas at both ages, whereas approximately one in 10 participants had lived in rural (sparse or dense) areas at both ages. The percentages of people living in urban areas at 16, who had moved to rural areas by ages 26 or 33 were 7% (NCDS) and 9% (BCS70), whereas the percentages moving from rural to urban were 9% (NCDS) and 5% (BCS70). In NCDS more than half of those in rural areas had moved out by age 33 (9% compared with 16%) and in BCS70, one-third by age 26 (5% compared with 15%).

There was no relationship between the adult employment status and mobility. On the other hand, early motherhood was most common for NCDS women moving into or living in urban areas throughout. And depression was also more common among NCDS men and BCS70 women in urban areas at both ages. Depression was also relatively more prevalent for NCDS women moving into or living in urban areas throughout (See Appendix, Table A2.3 for the full details).

Table 2.9 shows that respondents who had remained in

the same area at both ages (either rural or metropolitan/urban) were more likely to have left school by 16 than the groups who had moved. The difference was more pronounced for men than for women in both cohorts. Those who had moved out of rural areas especially in BCS70 were particularly likely to stay on in school.

For the explanatory variables, present at the time of the cohort members' birth, cohort members with fathers in manual occupations were more common among those living in urban areas in both surveys. The two categories of "movers" (into or out of rural areas) included more fathers leaving school beyond the minimum age in both cohorts. With respect to the age the cohort member's mother left school, it was found that in both cohorts and for both sexes, there were significantly more mothers leaving school early among those staying in the urban areas than in the other categories.

Moving to childhood variables, "movers" of both sexes tended to score higher in maths and lower in reading tests than the "stayers" in both cohorts. With respect to family circumstances, rented accommodation tended to be less common among the movers. There was no clear tendency of this kind for the receipt of free school meals and for hardship in childhood. In both cohorts and for both sexes, these signs of poverty were evenly spread.

Finally, although there were no differences related to moving or staying in BCS70 in qualifications achieved, in NCDS male participants were more likely to be without qualifications if their residence was in a rural area at both 16 and 33. In contrast for female participants in NCDS lack of qualifications was weakly associated with living in urban areas or rural areas at both times.

Summary

The comparison of cohorts and the sexes presented in this chapter points to slight shift towards staying on and gaining qualifications in the younger cohort. The effects are seen in the postponement of parenthood. There are sign of greater affluence with less rented accommodation. Women appeared to be benefiting most

economically from these changes, especially through the delay in having children. Though BCS70 women also showed the highest levels of depression. Some exclusion outcomes remained constant across cohorts, especially unemployment at the time the surveys took place and child poverty as reflected in the receipt of free school meals.

The rural – urban comparison showed the expected net shift to urban areas. There was also more of a gender split, with men in the rural areas tending to leave school early without qualifications while women were staying on and gaining them. This may reflect the occupational

structure in rural areas, which favours men leaving to do agricultural work, for example, while women seek white-collar jobs demanding qualifications. Finally the families who had moved from one type of area to another showed more signs of affluence and achievement than the others.

3: Obstacles to Successful Youth Transitions

Introduction

In the previous chapter we examined differences in the distributions of our explanatory and outcome variables between men and women and between our two cohorts. In this chapter we take the analysis further, modeling the relationships between each of our outcome variables and the explanatory variables in terms of the model set out in chapter 1 (Figure 1). The analysis methods enable us to examine the relationship of each outcome variable with each explanatory variable, holding constant the effects of all other explanatory variables. This tells us to what extent each explanatory variable adds something uniquely to the explanation of the outcome.

As described in chapter 1, the techniques of logistic regression and multiple regression were used for this analysis. The former provides statistical estimates in terms of odds ratios. These give the chances of respondents in a particular category of an explanatory variable showing the outcome status compared with the cohort members in a reference category of the variable. For example, chances of unemployment outcomes occurring for respondents in the parents' social class categories - 'intermediate', 'skilled non manual', 'skilled manual', 'semi-skilled' and 'unskilled' - can be compared with the chances of this outcome for respondents in the reference category, 'professional'. We also include a missing data category where there was no information about the respondent in relation to the particular explanatory variable. In some cases the missing data category is interpretable. For example, missing data on father's occupation may indicate (but does not necessarily) that the cohort member's mother was a single parent. In most cases missing data can be treated as unexplained effects on the outcome.

In interpreting the odds ratios we focus particularly on those that depart significantly from 1. 1 implies that the category of interest and the reference category are indistinguishable. Odds more than 1 imply increased

chances of manifesting the outcome; odds less than 1 signify reduced chances. Odds ratios can be further manipulated to indicate the added value or disadvantage of particular experiences over others. We can work out for example how much the probability of leaving school at the minimum age is increased in social class 5 over social class 4.

Logistic regression is used for outcome variables that are dichotomous, i.e. they express the presence or absence of an attribute, 'unemployed'/'not unemployed', 'depressed'/'not depressed'. For two of the outcome variables, highest qualification level and occupational achievement, there were more than two values which could be treated as a continuous set of scores. Highest qualification achieved was scored on a six-point scale ranging from zero (no qualifications) to five (degree level qualifications). Occupational achievement was measured in terms of the average (mean) log wage for the occupational category (in the Registrar General's social class scale) in which the cohort member was located. The use of the logarithm means that the index can be interpreted as picking up equivalent proportional differentials. The occupation used in the score was that current at the time of the 33 or 26 year survey, or the most recent one before that. For the analysis of the relationships of these two variables to other variables, we use the technique of multiple regression. Multiple regression gives information about the extent to which all the explanatory variables taken together can predict the outcome score as expressed in the multiple correlation coefficient (R). R^2 gives the proportion of the 'variance' (variation) in the outcome variable that can be predicted or 'explained' by the combination of explanatory variables. The individual regression coefficients for the variables (the equivalent of the odds ratios in logistic regression) are estimates of the proportional increase in the outcome variable that is predicted by an increase of one unit in the explanatory variable, taking account of the effects of all other explanatory variables.

To show the ways in which the variables impact on young people's lives at different ages, each analysis was carried out in a number of stages:

Model 1: prediction of the outcome from the initial conditions at birth (expressed by father's social class and parents' education);

Model 2: prediction of the outcome with the inclusion of additional variables measured later (not living in an owner-occupied home, free school meals, financial difficulties and the child's reading and maths scores at the end of Primary school).

Model 3: (for adult outcomes only) prediction of the outcome with the age of leaving full-time education added.

Model 4: as for model 3 but also including highest qualification obtained at any time up to age 33/26.

The analyses were directed at explaining first leaving school early, then qualifications achieved, then becoming a parent by the age of twenty (reported in this chapter). The final adult outcomes to be explained were employment status (unemployed/sick - men; full-time employment - women), occupational attainment and depression (as measured by the malaise score). Each of the analyses was carried out for men and women separately for each of the two cohorts.

The full results of all the logistic regression and multiple regression analyses, are given in Appendix 3.

Staying on at School

An important way of improving prospects in the adult labour market may be, paradoxically to avoid trying to join the labour force too early. The decision to leave education at the minimum age is therefore a critical one on the route to social exclusion.

Girls were less likely than boys to leave school at 16, whatever the class of the family of origin. The model 1

analysis showed that cohort members who did leave school at 16 were most likely to have come from disadvantaged parental backgrounds (see Appendix Table A3.1). If either parent had themselves left school before the minimum age, the odds of the cohort member doing so were approximately doubled over those whose parents had been educated beyond the minimum age. These effects were slightly stronger for the NCDS cohort, reaching 16 in 1974, than for BCS70, in 1986. The absence of data on a father, which mainly, but not entirely, signifies being born to a lone mother, was also significantly associated with early school leaving, raising the odds ratio for both boys and girls in NCDS by about 2.3, and in BCS70 by around 1.4.

After allowing for parental education, the social class of the father (where this was known) showed marked differentials. Figure 3.1 shows a steady decline in the chances of leaving early as the family moved up the social class scale. Where fathers were unskilled, the odds of sons leaving early were 16 fold, compared to those of the sons of professional fathers. For women in NCDS, and men in BCS70, the equivalent ratio was something over 7; for women in BCS70 it was under 6. This pattern was consistent across all social class categories. There is thus both a gender and a cohort difference in the class effect on school-leaving: girls' staying on at school is less affected by father's class than boys'; the later cohort is less affected by father's social class than the earlier one. But in all cases, class of origin is an important and significant predictor of staying on at school.

How far does the influence of parental background work through the variables we have measured in middle childhood? The second model (2) of school-leaving includes, besides parental education and occupation, test scores in reading and maths, and three indicators of the family's material circumstances. These variables added to the overall explanation of the variation in the data, and reduce somewhat the strength of the parental background effects, but as figure 3.2 shows for social class, these still retained their statistical significance.

Figure 3.1 Leaving school at 16 by father's social class, controlling for parents' school leaving

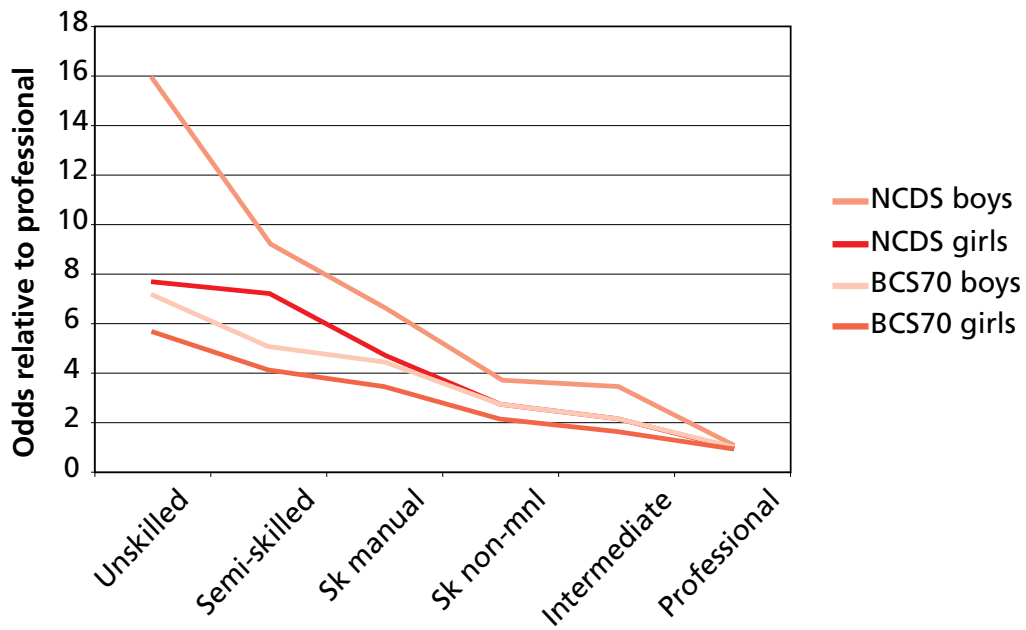
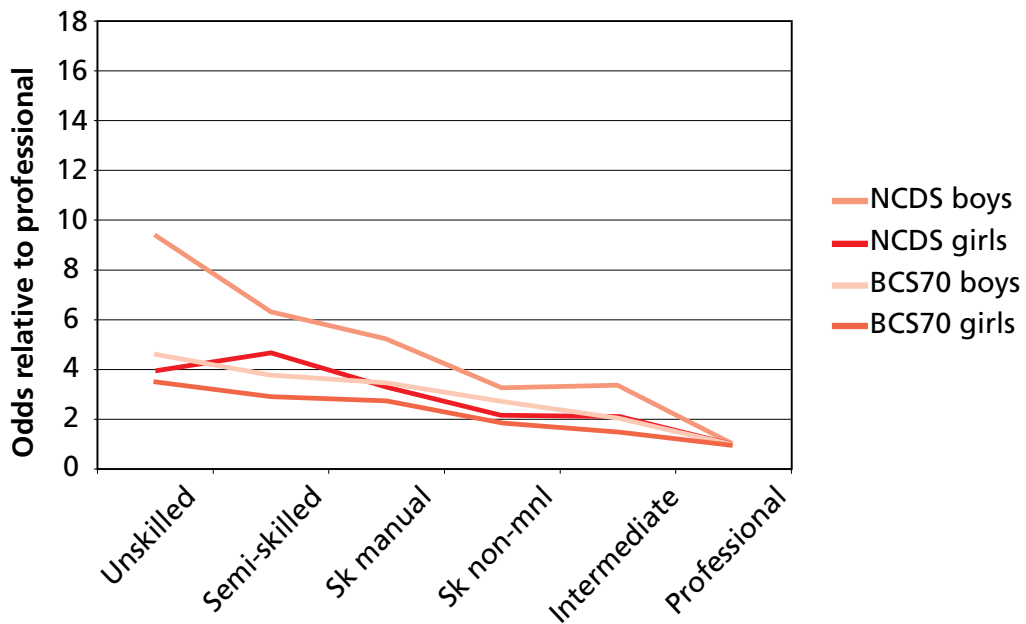


Figure 3.2 Leaving school at 16 by father's social class, controlling for parents' education, school tests and childhood poverty



Having test scores in the top fifth, on either maths or reading, reduces the odds of early school-leaving, mostly to around one fifth to one third of those of children in the bottom fifth of the test results. In other words, children in NCDS with low scores in either reading or maths were about 5 times more likely to leave school early than those with top scores. In the BCS70 cohort, the ratio was about 3 for boys and girls in reading, and for boys in maths, but little more than 2 for girls in maths.

If the family did not own their home, the children, in both cohorts, were about one and a half times more likely to leave school early than children whose families owned their own home. The other two indicators of poverty showed smaller effects, in the same direction, but mostly not statistically significant, i.e. the odds ratio was not significantly different from 1.

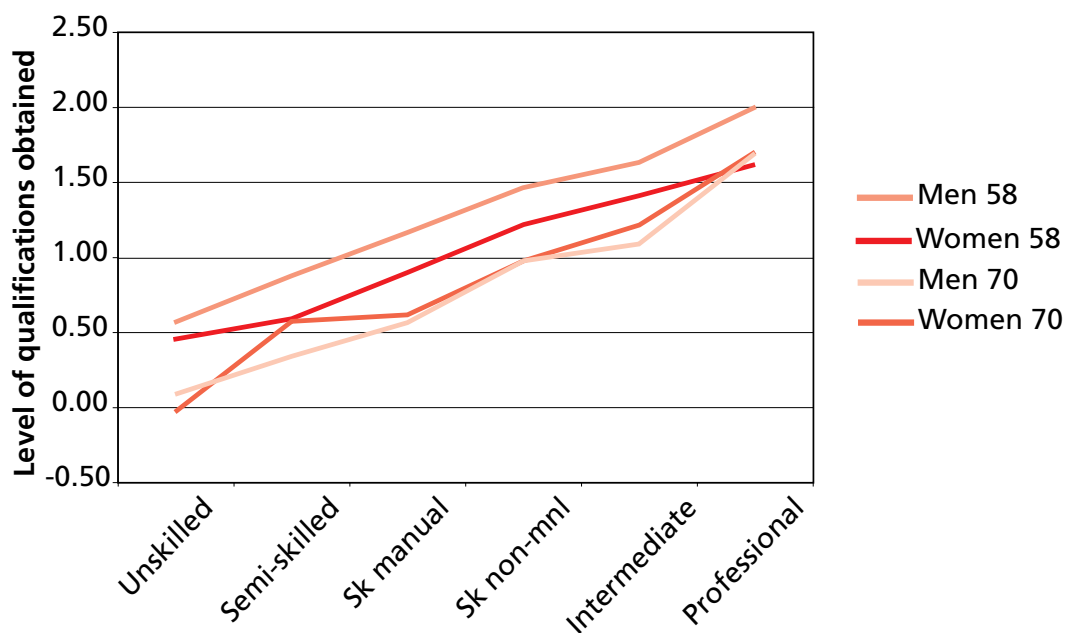
Qualifications

The next stage of advance into adult life is the acquisition of academic qualifications, usually facilitated by staying on in education beyond 16. Qualifications were measured on a linear scale ranging from a score of 0 with

no qualifications to one of 5 for a degree and multiple regression was used to analyse the relationships with other variables (see Appendix Table A3.2). In model 1, using only parental background variables at the time the cohort member was born, the results are fairly uniform across samples. Each parent leaving education at the minimum age was associated with a reduction of about 0.6 of a grade in their children's qualification level (0.8 in the case of mothers of boys born in 1970). The increased level of parental education, particularly mothers, in the BCS70 cohort helps to raise the average qualification of their children.

As figure 3.3 shows, once parental education is controlled, the effect of parental class is very similar across gender and cohort. The children of skilled manual fathers achieved roughly 1 grade less than did the children of professional fathers when both parents had stayed on at school. The benefit of being the child of educated professional parents, compared with being born to uneducated parents, where the father is in an unskilled job, is about 2 grades for both cohorts. As far as qualifications go, the later cohort had benefited

Figure 3.3 Qualifications by father's social class, controlling for parents' school leaving age



from better starting positions, rather than a better opportunity from a given starting point.

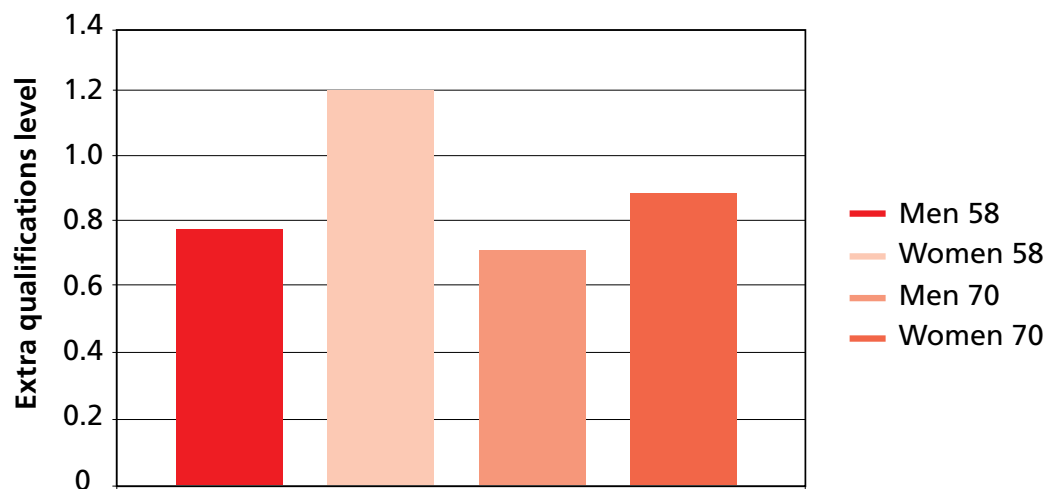
The inclusion of information on test scores attained at the end of primary school, and economic circumstance during childhood (Model 2), adds considerably to variance explained - more than doubling the adjusted R square for NCDS, and raising it by more than a half in the case of BCS70. Being in the top fifth of either reading or maths scores raised qualifications by about one grade. Being in a rented home was associated with lower grades for boys averaging around 0.2 reduction, in both cohorts. For girls the reduction was larger approaching 0.4 in both cohorts. For receipt of free school meals - which is a good indication of low income since the meals were means tested and well taken up - there was a similar, but more marked pattern. Boys in both cohorts who had received free school meals had average qualification grades about one third of a grade below those who were not receiving free school meals. Girls again appeared more susceptible to this poverty indicator - attaining half a qualification grade less if they had received free school meals. Our third indicator - signs of financial hardship -

was also negatively associated with qualifications, and at least in NCDS, the penalty appeared worse for girls.¹³

Taken together, as figure 3.4 shows, a girl born in 1958, living in a rented home, receiving free school meals, and whose family experienced financial distress during childhood would be predicted to attain 1.2 less steps on the qualification ladder than an otherwise similar girl with no poverty indicators. The figure for men in NCDS would be 0.8, for men in BCS70, 0.7, and for women in BCS70, 0.9. These figures control for parental background, whose estimated effects were still significant, though as we might expect, somewhat smaller than in model 1, which made no allowance for childhood poverty and school performance.

Thus even allowing for differences in scores and poverty, the sons of skilled manual fathers born in 1970, for example, averaged 0.6 of a grade less than the sons of professional fathers. This estimate was 0.4 for such boys born in 1958, and 0.3 and 0.5 for girls born in 1958 and 1970 respectively. Hence the analysis confirms that the disadvantages attached to class of origin are partly,

Figure 3.4 Qualifications by childhood poverty, controlling for parental background and childhood test scores



¹³ Comparison between cohorts cannot be conclusive, since in this case the measures are not comparable. NCDS lacks data on income in childhood which BCS70 has, but BCS70 in turn lacks the subjective assessment used in NCDS.

though not all, accounted for by failure to do well at primary school and the family's prosperity at that time. Although the later cohort, and the less advantaged children in it, benefited from improved opportunities to stay on at school, there was no reduction across cohorts in the differentials in qualifications associated with parental social class. In other words, the effects of social class, at least, on qualifications achieved were as pervasive in the more recent cohort as they were in the earlier one.

Early motherhood

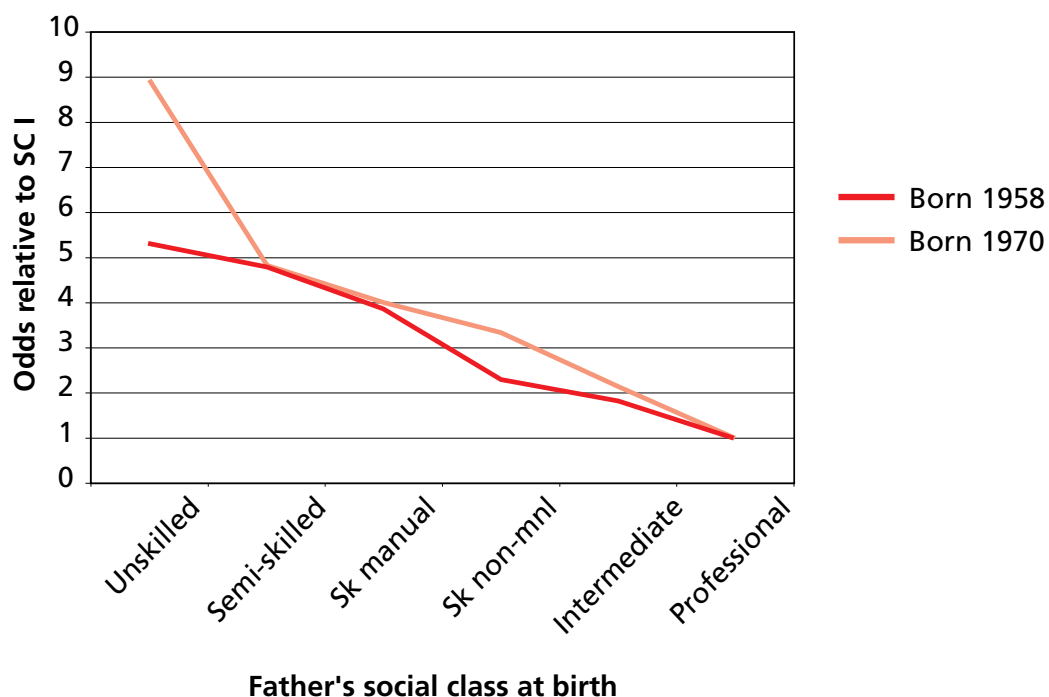
Avoiding teenage motherhood is one of the first hurdles on the pathway from school into adulthood for young women. Becoming a mother before age 20 is generally considered an adverse outcome, limiting a woman's access to further education and the labour market and consequently restricting opportunities from then on. It is the antecedents of teenage motherhood which are the subject of our next set of regressions (see Appendix, Table A3.3). The analyses estimate the proportional impact of successive sets of predictors on the odds of becoming a mother before age 20, which occurred to

13% of the girls born in 1958 and 8% of those born in 1970.

Taking only factors established at birth as predictors (model 1), both cohorts showed a higher chance of teenage motherhood if either parent was poorly educated, and the lower the father's social class. Figure 3.5 shows that daughters of skilled manual fathers, for example, were around 4 times as likely to have had a teenage birth than daughters of professional fathers in both cohorts. There was a massive cohort effect for girls born to unskilled fathers with the later cohort showing much more experience of teenage motherhood in this group. The odds on becoming a teenage mother when the father was an unskilled manual worker compared with a professional father was 5-fold in NCDS and as much as 9-fold in BCS70. For all other parental backgrounds the picture was consistent in both cohorts: each step up the social class ladder reduced the likelihood of teenage pregnancy to much the same extent.

Do class of origin differentials diminish with respect to teenage pregnancy, with the inclusion of the intervening

Figure 3.5 Chances of becoming a teenage mother by father's social class, controlling for parents' school leaving age (women only)



events in middle childhood and at the end of statutory schooling? The answer is yes. The class background influences become statistically insignificant once information on school leaving and qualifications is introduced (model 4). The intermediate model 2 reveals, as would perhaps be expected, that girls who did better on tests at age 11/10 were more likely to avoid early motherhood, and girls from less prosperous homes were more likely to have a child early. Model 3 adds information about leaving school, showing that teenage motherhood was rare among those who stayed on at school beyond 16, particularly beyond 18. While early school leaving may promote teenage motherhood, teenage motherhood may equally have precipitated the early school leaving, so this model, with its possibility of reverse causation needs to be treated with caution. The caution about reverse causality, which we return to in the final chapter, also applies to the final model (4), in which qualifications are introduced: acquiring qualifications may similarly have been impeded by early motherhood. Whichever the direction of influence, the estimates show the chances of being a teenage mother are highest for women with no qualifications.

Parallel analyses of men becoming parents before age 20 were also carried out, although they are not the main focus of attention. Early parenthood is less likely to disrupt the careers of young men, compared to women, which means it is less of a possible setback. It is also less likely to be reported at all, where the father is not

living with his child. The estimated odds ratios for early fatherhood are less well-determined, but they show similar patterns associated with class background and poor educational attainment as for early motherhood.

Conclusions

The analyses reported here give powerful evidence of the pervasive effects of family background influences on the critical steps towards adulthood in the middle and late teens. Early leaving, poor qualifications and teenage parenthood all remain strongly associated with family background characteristics at birth, including those to do with parents' social class and education. Though much of the effect of these influences is mediated by performance through primary school in the case of early leaving and highest qualification, some of the effects persist independently. Only for teenage parenthood are the influences of family characteristics present at birth largely washed out by later experience especially leaving school at the earliest possible age.

The effects of family background appear to be stronger for girls than for boys, and are stronger in the 1958 cohort compared with the 1970 cohort. However, for certain outcomes these relationships are reversed. Teenage motherhood, for example, was much more likely among girls born to unskilled fathers in the 1970 cohort than in the 1958 cohort; though in both cohorts the relationship between class and teenage motherhood was strong.

4: Labour market and psychological outcomes in adulthood

Introduction

The previous chapter examined possible influences on outcomes reflecting the transition to adulthood - school leaving, qualifications and teenage parenthood. In this chapter we take the analysis further, modeling the influences on adult statuses at the time the surveys were conducted (age 26 in BCS70 and age 33 in NCDS). We examine two labour market outcomes and one psychological outcome. These are: occupational status (out of a job for men; in full-time employment for women), occupational attainment (average log wage for the level of occupation reached) and depression (a cut-off score of more than 7 on the Malaise inventory).

As before the analysis is reported via the evaluation of four models: (1) family background characteristics present at birth; (2) addition of family poverty indicators and reading and maths test scores at the end of primary school; (3) addition of school leaving; (4) inclusion of highest qualification.

Occupational Status

Men's Unemployment

We analysed the chances of young men being in or out of employment in adulthood, taking the position at the age 33 interview of NCDS (in 1991) and the postal questionnaire of BCS70 at age 26 (1996). Eight per cent of the men were out of work at each date. Being unemployed or out of work (or sick) is contrasted with being in a job for men (see Appendix Table A3.4). Women's engagement with the adult labour market is considered in the next section (see Appendix Table A3.5).

Model 1, relating circumstances at and before birth to male unemployment, shows some association of being out of work with inauspicious origins, but the association was not well determined, especially in the 1970 cohort (see Figure 4.1). By contrast in model 2, having received free school meals was associated with a significant doubling of the odds of being out of a job,

somewhat more so for the more recent cohort. Doing well at maths (rather than reading) as a child had some predictive power, particularly for NCDS.

Staying on at school raised the chances of being in employment, at 33 or 26, particularly for the NCDS men who stayed beyond 18. And qualifications provided protection against the risk of unemployment, particularly for the 1970 cohort at 26. Men with a degree had a quarter of the chances of an unqualified man of being out of work at 33 (NCDS). For BCS70, men with a degree had only one tenth of the chances of being unemployed compared with their unqualified contemporaries at age 26. In other words, in BCS70 unqualified men were 12 times as likely as graduates to be out of work (and in NCDS nearly 4 times).

Women in full time employment

Women were not included in the preceding analysis of being in or out of employment, because domestic activities often mean that women are not reported as unemployed, even though they might be available for paid work. Women's employment statuses differ from men's, not only because of more periods spent looking after a family, but also because their employment is much more often part-time than men's, and this is seldom very remunerative. We chose a very simple indicator of a woman's progress in the female labour market: whether or not she had a full-time job at age 33 or 26. This simplifies away admitted distinctions between housewives, unemployed, sick, students and working part time, but serves the purpose of helping to identify what increases or reduces the chances of women being in full-time employment.

At age 33, 36% of the women in NCDS were fully employed (the remainder were roughly equally divided between those at home with their families, and those employed part-time). In BCS70 at 26, 64% of the women were in full-time jobs. The disparity reflects the fact that

Figure 4.1 Chances of being unemployed or sick at 33/26 by class of origin, controlling for parents' school leaving age - men only

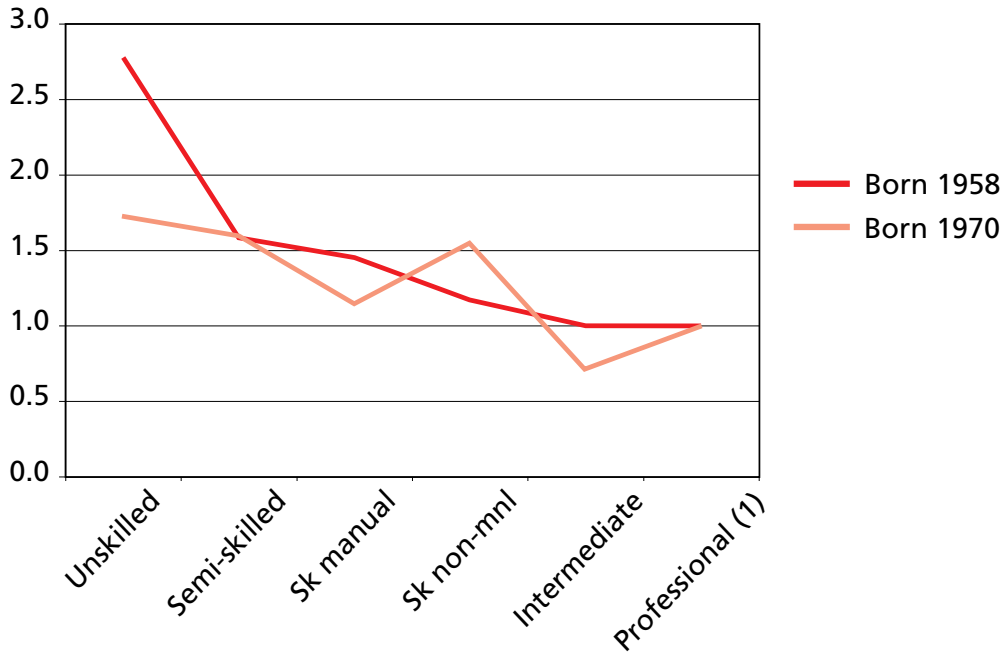
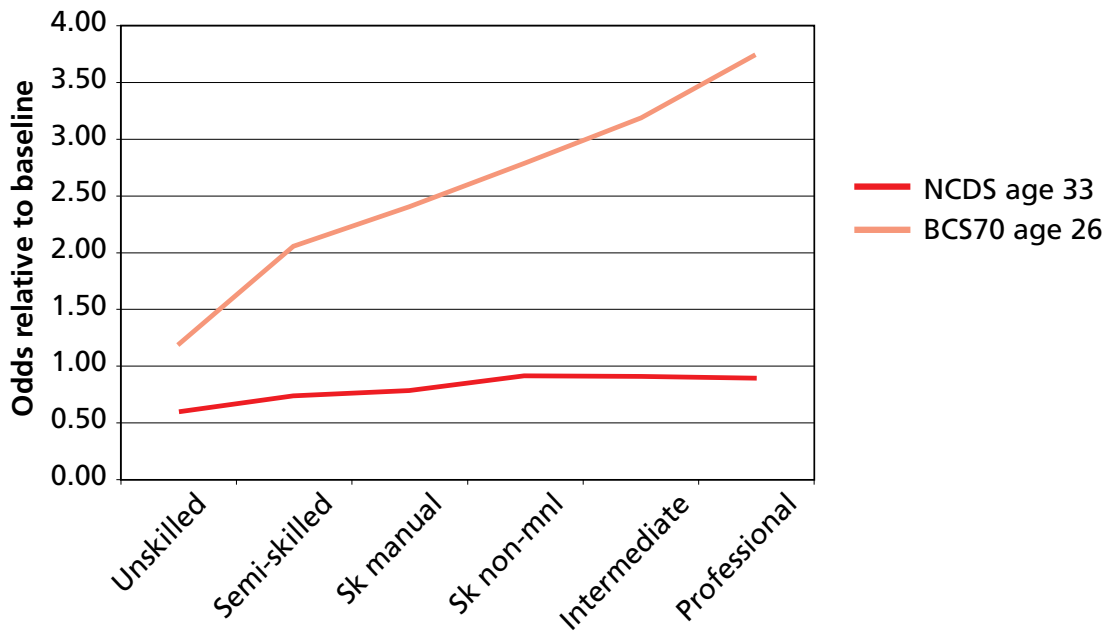


Figure 4.2 Full-time employment for women by father's social class, controlling for parents' school leaving age



only about a quarter of the 26 year-olds had already become mothers, in contrast to three-quarters of the 33 year-olds. Most of the 26 year-olds in full-time work had deferred motherhood, whereas there were relatively few NCDS women who had deferred motherhood by age 33.

Model 1 found a stronger link for the women born in 1970 than in 1958 between parental social class and full-time employment at 33. These are sustained only for the BCS70 cohort when parents' education is taken into account (see Figure 4.2). This could possibly reflect a social class differential in the age of entry to motherhood, which might be more or less played out by age 33, and could therefore be due to slacken as the 1970 cohort grows older.

Model 2 shows that childhood poverty was unimportant for women's full-time employment in NCDS at age 33, but two of the indicators (renting and free school meals) were associated with less full-time employment in BCS70 at 26. Both higher test scores (and staying on at school) were significant predictors of women's full-time employment in both cohorts, particularly NCDS. In model 4, which included qualifications, these variables captured most of the explanatory power. The gradient by occupation was much steeper for the 26 year-olds in 1996 than for the 33 year-olds. Graduate women in BCS70 had 8 times the chances of those with no qualification of being in full-time employment. This compared to an odds ratio of 3 in NCDS. The difference could reflect the increasing importance of qualifications for women in maintaining full-time employment, but it may also reflect the social differentials in both cohorts in the timing of motherhood, which requires investigation beyond the scope of the present report.

Occupational Achievement

As explained earlier, the index of occupational attainment enters the regression analysis as a logarithm, which expresses the impact of the predictor variables in proportional terms, and is designed to facilitate

comparison of cohorts by abstracting from the different monetary value of wages in 1991 and 1996. It does not, however, abstract from the fact that differences in occupational attainment are likely to widen out in the late twenties, and hence the impacts on attainments at 33 are not entirely comparable with those at 26 (see Appendix Table A3.6a and A3.6b.)

In model 1 the highest occupational attainment is for respondents in the reference category (staying on in education) and is very similar for both cohorts and both sexes though some advantage is apparent for males, especially in NCDS. Parents who had left school early were associated with lower scores of around 7 percentage points for both men and women in the NCDS cohort, and around 3-4 percentage points (per parent) in the BCS70 cohort. Allowing for this, as Figures 4.3 and 4.4 show, having a father in manual occupation also lowered the index significantly. For cohort members with fathers in unskilled occupations, occupational attainments were lower than for the children of professional fathers by the following factors: 16 per cent for men in NCDS, 13 per cent for women in NCDS, 10% for men in BCS70 and 7 per cent for women in BCS70¹⁴. For fathers in skilled manual work, these terms were 6%, 6%, 5%, 4%.

This pattern of smaller 'class penalties' for women than men and for 1970-born rather than 1958-born applies at most other levels of father's occupation. These may be real developments, but they may be exaggerated by the different life-cycle stages at which the data were collected, and other measurement problems, such as the many low paid women's jobs being hidden by bracketing together in social class 3M. However, although we are uncertain about the degree of change across cohorts in the intergenerational transition of occupational advantage, it is clear from model 1 that class of origin remains a predictor of success and failure on the adult labour market, even if the association may be getting weaker.

¹⁴ The coefficients approximate percentage differentials for values less than about .12, larger coefficients have to be transformed.

Figure 4.3 Occupational attainment at 33 by father's social class, cohort born in 1958, controlling for parents' school leaving age

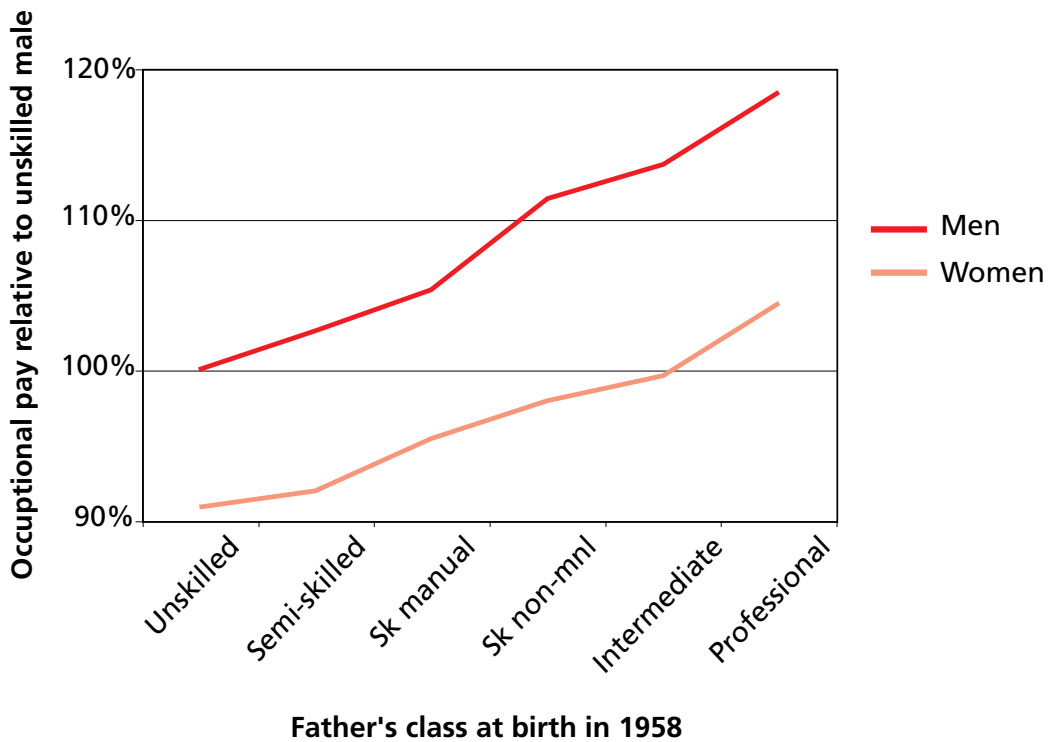
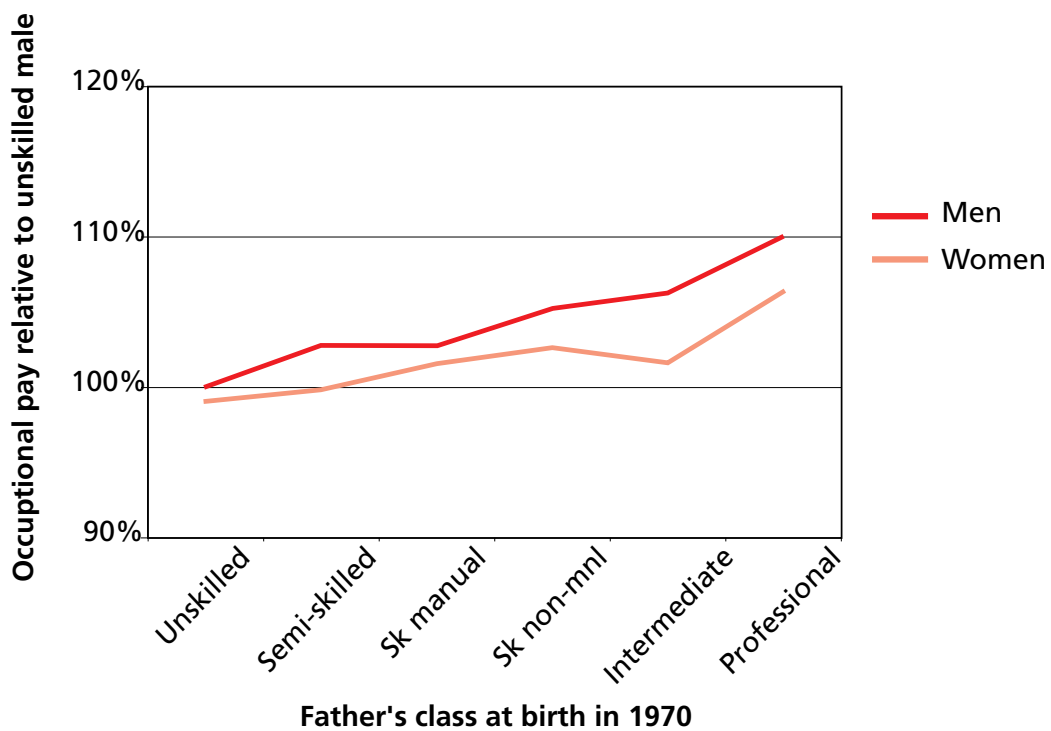


Figure 4.4 Occupational attainment at 26 by father's social class, cohort born in 1970, controlling for parents' school leaving age



Information on how the cohort member fared in childhood (Model 2) adds significantly to the explanation of occupational change, reducing, but not eliminating entirely, the legacy of parental background. Having good scores in maths was particularly helpful to children born in 1958. Allowing for the other factors, boys who had received free school meals were 4% worse off on the occupational index at 33; the girls born in 1970 in BCS70 were 2% worse off (other estimates were not significantly different from zero).

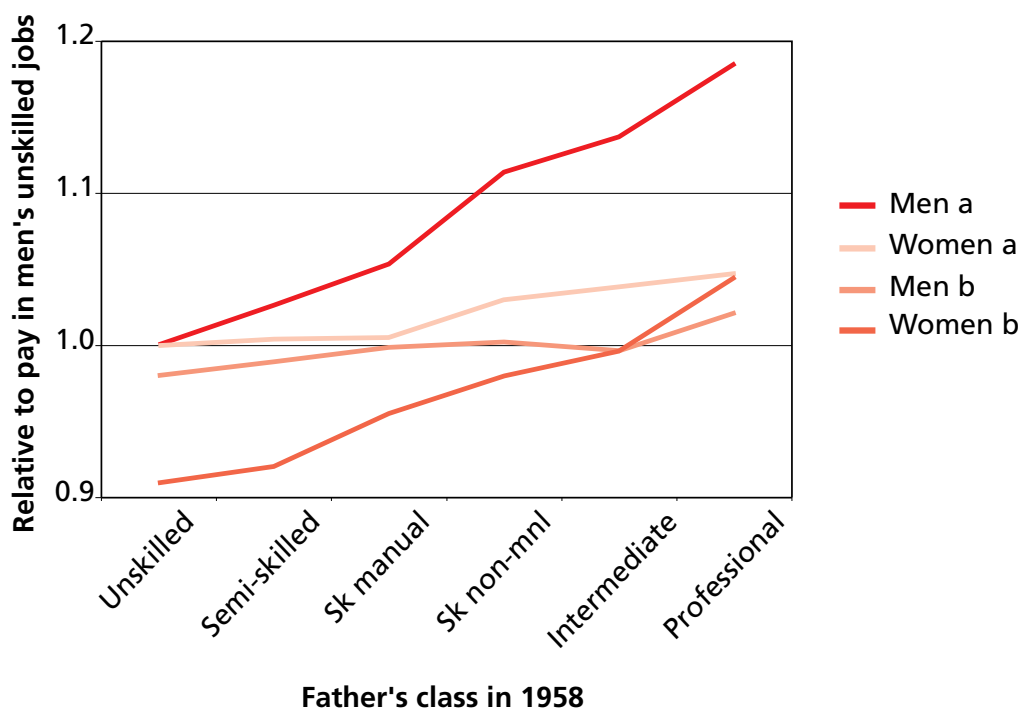
Staying on at school (model 3) added to the predictive power for NCDS only, and for both cohorts helped to reduce the otherwise unexplained connection between adult occupational attainment and fathers social class.

As Figures 4.5 and 4.6 show, the full model (4), including qualifications, is, again, and for both cohorts, a better explanation of adult occupational attainment, with most

of the explanatory power captured by qualifications. As we have seen, these were related themselves to earlier advantages. There were also some significant additional, but smaller, influences remaining from parental background (especially in NCDS and for males in BCS70). Likewise a few of the test score categories at 10/11, and one or other indicator of childhood poverty remained as significant predictors. The attenuation of class-of origin effects between model 1 and model 4 is illustrated in Figures 4.5 and 4.6.

The pay-off in terms of our index of average pay in the occupation attained of those with graduate qualifications was 30% for men and 38% for women in NCDS. At 26, these estimates were 16% and 17%. We cannot say (because of the age difference¹⁵) whether returns to education had fallen off, but we can say that the spread of qualifications in the later cohort had helped to raise their average earning power.

**Figure 4.5 Occupational attainment by father's social class, NCDS, controlling for
a) parental education only, and
b) childhood factors and own educational attainment**



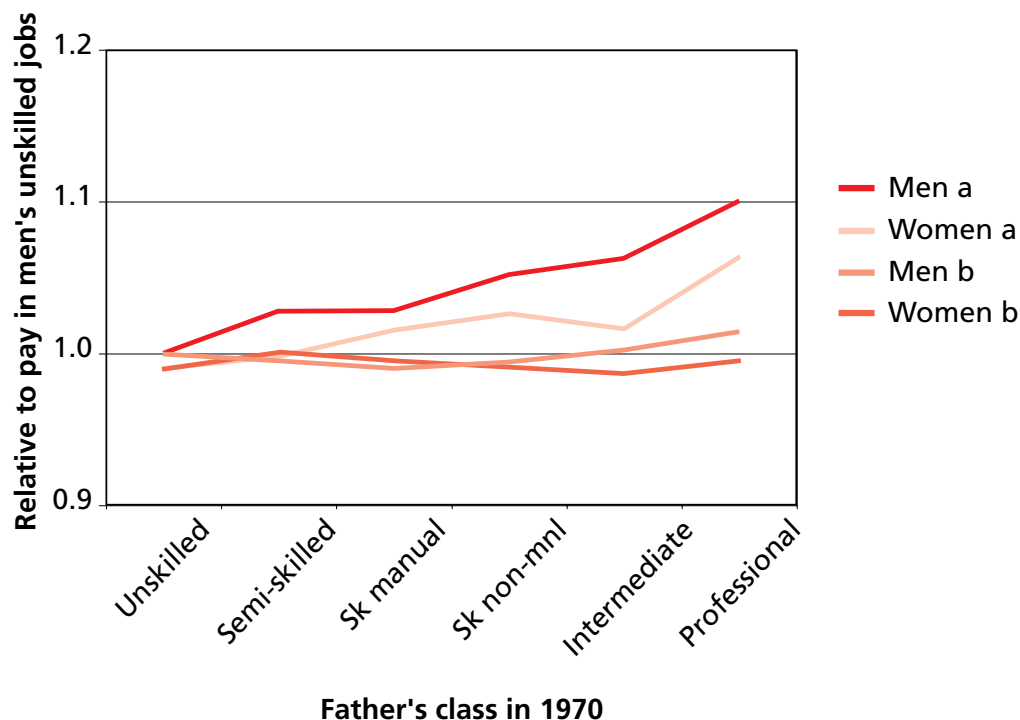
Malaise

Our measures of mental health classed adult survey members as suffering from depression at ages 26 and 33 if they scored sufficiently badly (more than 7) on the 'Malaise Inventory'. 8% of the NCDS 33 year olds were thus classified, 6% of the BCS70 men at 26, and a striking 17% of the BCS70 women. Gender was thus a powerful predictor in the later cohort. In contrast to the other outcomes we investigated, in neither cohort were circumstances at birth systematically strong predictors (model 1). For men, having been born to an unskilled father raised the chances of being depressed in NCDS, as did having a semi-skilled father in BCS70 (see Appendix Table A3.7a). For women, the most consistent family-of-origin predictor was having a father who left school early, which raised the odds of being depressed by factors of 1.4 and 1.3 in the two cohorts respectively. (see Appendix Table A3.7b).

Factors measured in mid childhood and at the school leaving age (models 2 and 3) added modestly to the explanation of adult malaise, and supplanted family-of-origin variables. There were some other significant predictors. Better maths, but not reading, predicted better mental health in adulthood, but these effects were mainly found in NCDS. Having received free school meals was associated with poor mental health in young men (though only significantly so in NCDS – 1 odds ratio 1.6). Home ownership in childhood raised the chances of women avoiding depression in both cohorts by about 1.2.

As Figure 4.7 shows, introducing highest qualification into the model improved its predictive power (model 4), but this was largely concentrated in whether any qualification had been obtained or not. The most highly qualified men and women, in both cohorts, were

Figure 4.6 Occupational attainment by father's social class, BCS70controlling for
a) parental education only, and
b) childhood factors and own educational attainment



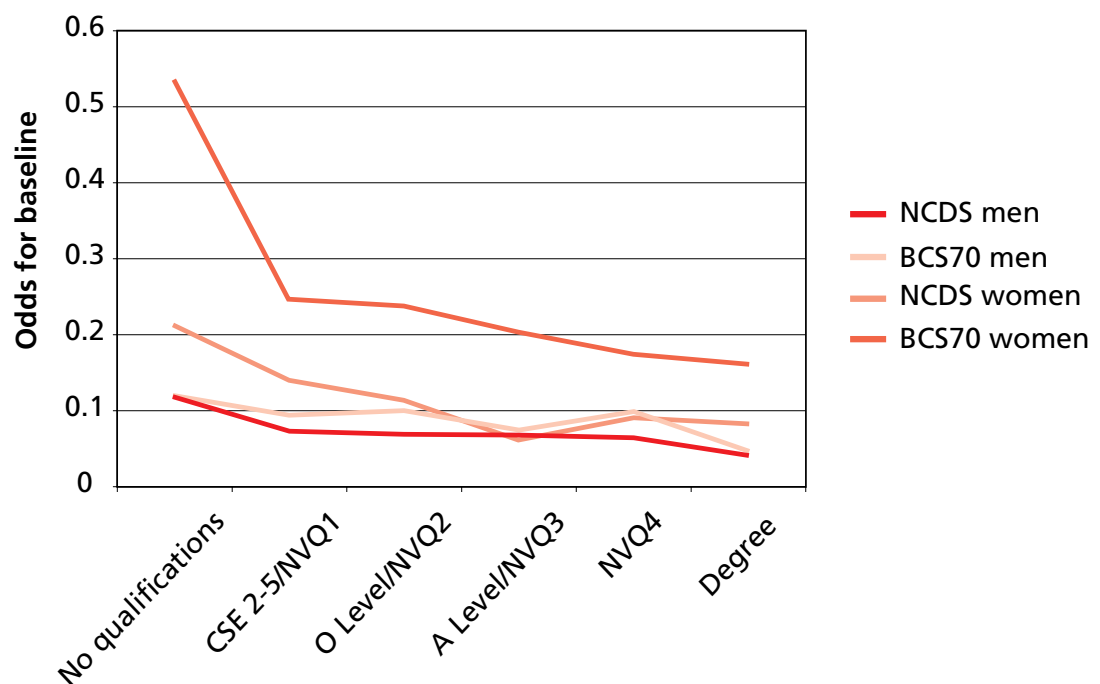
about one third as likely as men and women with no qualifications to report depression symptoms. To put it the other way round, cohort members with no qualifications were three times more likely than graduates to be classified as depressed at 33 and 26.

Conclusions

The findings extend but also sharpen those for the transition outcomes reported in the previous chapter. The dominance of those outcomes - especially highest qualification - in predicting performance in the adult labour market is apparent. Qualification effects were stronger for the 1970 than the 1958 cohort for male unemployment, pointing to a possible increase in the value placed on them by employers. Lack of qualifications also becomes the major predictor of depression (although many avoid it). However, there were moderate residual effects stemming from family background, suggesting that the impact of family on life chances persists, apart from its influence on education achievement.

These effects were strongest at the bottom end of the social class scale, with families with fathers in an unskilled occupation reflecting the major disadvantage, and men burdened more by it than women. The effects were also stronger in NCDS than in BCS70, hinting again at a possible weakening for the later cohort of the attachment between class and long term occupational achievement, and the enhanced significance of qualifications. These conclusions must however be treated as tentative and provisional because of the different ages in the two cohorts at which labour market performance and psychological state were assessed. Overall we gain a picture of obstacles and opportunities to adult life chances strongly rooted in family circumstances. The effects of these on later outcomes are mediated largely, but not entirely, through educational attainment.

Figure 4.7 Malaise by qualifications, controlling for childhood and family background factors



5: The Rural Dimension

We now turn to the question of whether the pattern of differential chances of success in adult life was different for those who were brought up in the countryside. Our information on whether or not the cohort member came from a rural area referred to the place they were living at 16. This was the earliest age at which we could identify the ward of residence, and thus attempt a nationally comparable classification of places. For cases where we had good information on the place of residence, we used census data on the population density to distinguish (in non-metropolitan areas) rural wards with fewer than 250 inhabitants per square kilometre, and within them, wards with fewer than 43 people per square kilometre. The latter group only covered about 4% of each sample (around 300 individuals in each cohort), but a look at the maps shows that these sparsely populated places are also usually ‘remote’. Other electoral wards, including all in metropolitan districts, were all assumed to be urban. We have not explored different urban settings such as inner cities, outer suburbs or free-standing towns at this stage.

The proposition we set out to investigate was that the rural environment presents a particular obstacle to opportunities for young people. Education may be less specialised and more difficult to access; there are fewer local jobs; training opportunities tend to be concentrated in large cities. For young people without their own transport, taking advantage of what opportunities there may be is difficult, if not impossible, and aspirations may be accordingly adjusted downwards. The hypothesis would further suggest that any such handicaps of rural life would be more apparent for the young people living in the more sparsely populated regions.

Adding the Rural Variables

We tested this idea firstly by including in the foregoing sets of regressions (apart from model 3) two extra terms signaling whether the cohort member was living in sparsely populated area, and whether they were in another more densely populated rural area. The idea was to see whether there was any *prima facie* difference in the

outcome variables for these two sets of rural dwellers compared to the urban majority. The analysis found only modest detectable differences for most outcomes. This could mean that the avenues of opportunity and disadvantage are fairly universal, for rural and urban youth alike, despite the different environments they inhabit. But it could also mean that our evidence is not sufficiently sensitive to local conditions to detect real differences, or not sufficiently abundant to yield statistically significant estimates of real differences.

In an attempt to overcome the shortage of cases, we repeated the exercise, combining the two rural categories into one. This raised the number of cases in the ‘rural’ sub-sample, but lost the detail on the supposedly remoter zones. The results are summarised in Table 5.1, which shows only the estimated coefficients for the rural variables from larger regression tables (not shown). The coefficients for the other variables that are not reported were very similar to those shown in the tables in Appendix 3. The estimates in the column labelled ‘rural’ are taken from the second set of regressions, where all rural cases were treated together, and the estimates under the column headed ‘sparse’ were for the residents of sparsely populated areas taken from the original regression. The estimates are asterisked if there was a significant difference between either category of rural area and urban and metropolitan environments. In the other cases there is such a margin of sampling error around the estimate that any effect might go either way.

Table 5.1 confirms the statement that there were not many large differences between the rural and urban dwellers. Therefore the ones that did appear were of particular interest. The unexpected finding was that the differences were not consistently in the same direction, for males and females or for successive cohorts. Consider first the issue of staying on at school. In NCDS, boys in the sparsely populated areas were more likely than elsewhere to leave school at 16¹⁶. By contrast, NCDS girls in sparse areas (and all rural areas in Model 1) were

TABLE 5.1
Impact of rural factors on outcome variables

Outcome Variables	Model	NCDS		FEMALES		BCS70		FEMALES	
		MALES Rural	Sparse	Rural	Sparse	MALES Rural	Sparse	Rural	Sparse
Left school at 16	1	0.14	0.61*	-0.22*	-0.19*	-0.21*	0.06	-0.32*	-0.46*
	2	0.05	0.38	-0.16	-0.19*	-0.04*	0.21	-0.26	-0.47*
Qualifications	1	-0.20*	-0.47*	0.16	0.02	0.18*	0.06	0.16*	0.05
	2	-0.13*	-0.25*	0.09	-0.01	0.06	-0.05	0.12*	0.05
Early Parent	1	-0.36	-0.23	-0.18	0.12	-0.03	-0.62	-0.53*	0.10
	2	-0.36	-0.31	-0.11	0.14	0.10	-0.55	-0.47*	0.17
	4	-0.44	-0.47	-0.04	0.14	0.10	-0.59	-0.43*	0.27
Unemployed and Sick (males only)	1	-0.31	-0.37			-0.34	-0.12		
	2	-0.36	-0.51			-0.26	-0.03		
	4	-0.46	-0.68			-0.29	-0.01		
Full Time Employed (Females only)	1			-0.71	0.06			0.01	-0.36*
	2			-0.11	0.04			-0.42	-0.38*
	4			-0.14	0.02			-0.09	-0.43*
Social Class and Pay	1	-0.02*	-0.02	0.00	0.00	0.01	0.00	0.00	-0.02
	2	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.02
	4	-0.01	0.01	-0.01	-0.01	0.00	0.00	-0.01	-0.02
Malaise	1	-0.10	-0.25	-0.19	-0.05	-0.39	-0.54	-0.07	0.07
	2	-0.14	-0.37	-0.17	-0.07	-0.30	-0.48	-0.04	0.09
	4	-0.18	-0.05	-0.14	-0.09	-0.30	-0.47	-0.03	0.09

*Statistically significant unstandardised regression coefficients (P<0.05) are shown in bold.

less likely to leave school early than urban girls (i.e. in 1974) by a factor of around 20% (Models 1 and 2). The rural lead in staying on in education was repeated to early leaving (i.e. in 1986) in the 1970 cohort. This time, it applied to boys as well as to girls in rural areas as a whole compared with urban areas, though rather less strongly. There was still early school leaving by males in sparsely populated areas in 1986, but the effect had become much smaller and insignificant. The largest estimated effect for BCS70 was for females in the sparse areas being about 1.6 times more likely than their urban counterparts to stay on at school.

This pattern was further reflected in qualifications gained - rural males in NCDS tended to lack qualifications (negative coefficients), again particularly in the sparse areas¹⁷. However for women in NCDS and for both men and women in BCS70 the effect of rural residence on qualifications, was, if anything, in the opposite direction (positive coefficients). Living in rural

areas enhanced the qualification level achieved (significantly so for BCS70). This suggests (but does not prove) that there was something about rural employment opportunities (in farming, forestry, and quarrying for example) in 1974 which enticed young men, but not young women, to leave school at the earliest opportunity. It further suggests that by 1986, shrinking employment in traditionally male rural occupations reduced the educational dropout of young men in some rural areas.

Once we consider outcomes beyond school leaving age we can see whether these different patterns of educational attainment translate into adult achievements or disadvantages. Taking first the chances of becoming a teenage parent, the only significant difference we found was that rural women born in 1970 were significantly less likely to become teenage mothers than their urban contemporaries (about 60% below the latter). This tendency has some resemblance to that found for later

¹⁶ The estimated coefficient in model 1 implies multiplying their odds by 1.8, but this is smaller and less well determined in Model 2 after allowing for the other childhood circumstances.

¹⁷ Again partly mediated by the inclusion of data on childhood attainments and circumstances in model 2.

school leaving among rural girls, but as it is found in all 3 models, the effect is in addition to that associated with childhood background and educational attainment. There was a similar negative effect on the likelihood of teenage motherhood for NCDS women in rural areas at 16, though it was not statistically significant. In the sparsely populated areas, the chances of teenage motherhood in both cohorts were raised slightly, but not to a statistically significant level. Perhaps larger samples would reveal a genuine problem, which one might speculate reflects poorer access to contraception and abortion services in remote areas, but there is no direct evidence here for this, or for other possible explanations.

Continuing with the careers of young women to labour market participation at 33 or 26, the only significant set of effects was a reduction of the full-time employment chances of women born in 1970 from sparsely populated areas at 16 (by factors ranging from 70% to 54% of urban chances). This might reflect a relative shortage of female employment opportunities in the sparsely populated rural areas. Another explanation could be related to difference in the age of entering motherhood between those who were in sparse rural and urban areas at 16. As we have seen with motherhood before age 20, the women from the sparsely populated areas in 1986 were slightly more likely than urban women to embark on early parenthood. If this differential continued through the early twenties, it would mean more mothers at 26, and less full-time employment, for the women from 'sparsely' inhabited places. We cannot tell the same story for the NCDS women from 'sparse' rural areas, for despite their raised rates of teenage childbearing (non-significant) they had positive differentials for full-time employment (also non significant and very small). Those women who had been in the sparsely populated places at 16 had much the same chance of a full-time job as those who had been in urban areas¹⁸.

Our indicator of fortunes in the male labour market,

namely whether the man was 'out-of-work' (unemployed or sick) at age 33 or 26 showed reduced chances of this status for both sorts of rural area. This implied a better chance of being in work in the rural rather than in the urban areas, which may reflect the continuing base of agricultural work. However none of these estimates was statistically significant. Neither were the estimates for the occupational attainment of either men or women in either cohort. Turning to mental health (depression), the 'rural' coefficients were all negative, signifying somewhat less depression outside towns and cities, but again the estimates had big margins of error. Only one out of 24 was 'significantly' different from zero, the sort of result that could arise by chance.

Combining Rurality with Class

We have thus detected little difference between rural and urban Britain in these models. Those we did find have to be interpreted as showing that any disadvantage or advantage of living in a rural location attaches to everyone in the rural area regardless of their background. We took a second step to unearth 'rural' effects by specifying additional variables representing combinations of living in (combined) rural areas with class of origin. These 'interactions' were looking for a different experience of rural dwellers with a father in each Social Class (at birth). In other words, we wanted to see if the effect of class background was intensified or ameliorated for those living in rural areas at 16, i.e. whether the class gradient in outcomes was stronger or weaker in the rural areas.

For each type of outcome through combinations of this kind we estimated 60 extra coefficients¹⁹. To simplify reporting, Table 5.2 shows only entries where the result was significantly different from zero and its sign. Of the 300 possible entries, only 23 passed formal significance tests (of having less than a 5% probability of being equal to zero), but even these could have arisen through chance. So we do not put much weight on what were always small estimates. The overwhelming finding was

¹⁸ The estimates for all rural areas are not significant for either cohort, but suggest somewhat less full-time employment for women starting out in rural rather than urban areas.

¹⁹ Two cohorts x three models x 2 sexes x 5 social classes = 60 (including male teenage parenthood).

absence of systematic disadvantages (or advantages) for people living in a rural area at 16 from any particular class of origin. Nor was there any rural/urban differential in the gradient of the outcome by class of origin.

The only significant coefficients for qualifications as an outcome were in BCS70. In some but not all cases, sons seemed to be at a slight disadvantage if their fathers had been in Social Class 4. There were no significant effects for parenthood before age 20, for either sex and in either cohort. The full-time employment estimates for women showed some positive interactions with rurality for fathers in Social Classes II, IIIM and V, a curiously alternating pattern, probably not worth further attention. The only significant interaction for men being unemployed was in BCS70: sons of fathers in

Social Class V seemed not to gain from the rural advantages otherwise apparent. The only significant interactions for occupational score were two for women in BCS70 with a father in Social Class IIIM. Finally there was a rural interaction for poor psychological well-being (depression) for men in NCDS with fathers in Social Class II, and women in BCS70 with fathers in Social Class IIIM. In both cases, the selected family backgrounds were associated with more malaise (depression) than for other rural families, but not necessarily more than for the urban sample.

Overall the estimates of interactions in the second step of our investigations do not tell a coherent story. There is little consistent evidence for class-based disadvantage specific to rural areas

TABLE 5.2:
Interactions of rural residence with father's class at birth: estimates significantly different from zero

	NCDS		Model 2		Model 4		BCS70		Model 2		Model 4	
	Model 1	Males Females	Males	Females	Males	Females	Model 1	Males	Females	Males	Females	
Qualifications												
Class II, rural at 16												
Class III NM, rural at 16												
Class III M, rural at 16												
Class IV, rural at 16							-		-		-	
Class V, rural at 16												
Early Parent												
Class II, rural at 16												
Class III NM, rural at 16												
Class III M, rural at 16												
Class IV, rural at 16												
Class V, rural at 16												
Unemployed and Sick (men)												
Full Time Employed (women)												
Class II, rural at 16				+		+						
Class III NM, rural at 16												
Class III M, rural at 16		+		+		+						+
Class IV, rural at 16												
Class V, rural at 16		+		+		+	+		+			+
Occupational Score												
Class II, rural at 16												
Class III NM, rural at 16							-			-		
Class III M, rural at 16												
Class IV, rural at 16												
Class V, rural at 16												
Malaise												
Class II, rural at 16		+		+		+						
Class III NM, rural at 16												
Class III M, rural at 16							+		+			+
Class IV, rural at 16												
Class V, rural at 16												

Note: + = statistically significant positive coefficient (P< .05)

- = statistically significant negative coefficient (P< .05)

Conclusions

All we can conclude about obstacles and opportunities facing young people in the countryside is that there must be broad features in the process of making one's way from family of origin to adult life that are common to most localities. The data on the specific characteristics of particular places is not part of this nationally representative data set. There are, however, things that could be done with existing data that could not be pursued within the present project.

Information about in and out migration could be brought into the modeling. Small area statistical information about locations, such as unemployment

rates and indices of deprivation could be brought into the analysis, subject to preserving the anonymity of cohort members. This would enable differentiation of types of rural areas. There is also certainly scope for differentiating the urban addresses to allow for different types of urban environment. Thus although this exercise has not been able to produce very firm evidence about any drawbacks of rural life, it has pointed to a strategy through which further progress might be made. A concrete achievement is the addition to the cohort study databases of the indicators of rural residence, which were constructed uniquely for this project. The national dataset can now be used as a backdrop or control to studies of particular places.

6: Risk Factors and Policy Levers

Introduction

Obstacles and opportunities in life are in principle removable or re-enforceable. The foregoing analyses have revealed in striking form the persistence of certain kinds of barriers towards achievement. They also indicate the kinds of policy levers that may be effective in removing them. Failure to remove these obstacles increases the likelihood of progression down the social exclusion path to some of the negative outcomes in adulthood that we have examined. The work has identified those sub-populations of young people who are particularly “at risk” of such later social exclusion. It has also thrown up differences between the sexes and between two cohorts separated by 12 years at birth, both in the levels of risk and in the ways in which risk impacts on young lives. In this chapter, we review the findings with a view to identifying the key questions arising from them that policy needs to address.

Modeling Obstacles and Opportunities

The analysis was directed at testing (and elaborating) a simple explanatory model linking family circumstances and children’s educational performances to later achievements in the labour market and in personal life.

The aim was to:

- to identify the key factors in the process of social exclusion and to evaluate their impact at different stages of life
- to assess changes in these factors in successive cohorts
- to determine whether men and women were being affected differentially by them
- to identify the effects of living in a rural area on the social exclusion process.

The critical youth transition from school to work was investigated first: who leaves education and who stays? The highest qualification achieved followed, focusing on those who had failed to gain any qualifications. Later adult statuses were then investigated: becoming a teenage mother; being out of or in full-time employment; low occupational achievement (based on the average wage

for the occupational level reached); the psychological state of depression. The extent to which these statuses could be accounted for by earlier circumstances and experience was the focus of analysis. Were the markers of educational achievement critical in predicting the final status achieved? To what extent did family background factors continue to exercise an independent effect, including those such as parental social class and education present at the cohort members’ birth? The analyses were conducted separately for men and women and for the two cohorts i.e. each model was evaluated four times. Finally the idea was tested that living in a rural area at the critical transition stage of 16 and later, might add another dimension of disadvantage, and might change the nature of the exclusion process itself. This involved adding to the models of social and educational opportunity variables signifying residence in a rural area at 16. Their effects were assessed independently and in interaction with social class of origin.

What have we learned? The context of growing up for these two cohorts had shifted quite substantially over the twelve years separating them. Parents were more educated and more affluent - though family poverty as reflected in the receipt of free school meals remained at the same level. The cohort members’ own education was extending with more staying in school on and more getting qualifications. Girls had also caught up with boys in education, were rising up the occupational scale and far more were postponing parenthood.

Despite these changes, we find remarkable stability in the processes through which some of our respondents had gained access to successful and fulfilling lives while others were excluded. Not only were these processes relatively constant across cohorts, but also to a large extent between urban and rural areas of different population density and, with some qualifications, between men and women. There were some signs of a reducing effect of social class in the younger cohort and

a greater impact of first test scores and subsequently early leaving and qualifications. But overall the impact of the factors evaluated through our models was much the same.

Youth Transitions

The critical transitions at 16 reflect the educational capital brought into the labour market from the schooling system. The analysis demonstrated convincingly that family social class and the parents' educational level at the time our respondents were born were critically important factors in determining what was going to happen to them sixteen years later. Thus although their own performance at school - as witnessed by test scores - tended to take over to a certain extent as the major predictor of leaving school at 16, there were residual family background effects present at birth and child poverty effects that persisted. Gender and cohort differences were also apparent with girls apparently less affected by parental social class than boys. There were also signs that for the younger cohort the reading and maths test scores had a more important role in predicting early leaving than for the older cohort.

Those who left school at the minimum age were limited to gaining qualifications at the GCE 'O' level standard (as it was for both cohorts at the time), or to leave without any qualifications at all. Just under 10% left and another 10% had gained the minimum level of qualification below 'O' level (GCE grades D-E or CSE grades 2-5 - roughly equivalent to NVQ1). Those staying on - a rising proportion in the younger cohort - could go on building their human capital via 'A' levels and university; 13% of the NCDS cohort had achieved a degree and 21% of the BCS70 cohort.

The explanation of the different levels achieved, had much in common with that for leaving school. There was a strong likelihood of those with professional family backgrounds, and especially those with parents who did

not leave school at the minimum age of 16, continuing their education to reach higher levels of qualification. Between the cohorts there was also a clear sign of closing of the gap between the sexes across the two cohorts, with women catching the men up in the younger cohort. On the other hand, signs of financial hardship in the family in the later stages of primary school appeared to depress the level of later qualifications achieved. This was especially the case for the earlier NCDS cohort.

Boys leaving education early with poor prospects of getting employment may drift in and out of casual jobs and unemployment. The routes of girls in this position often take a more clearly defined path. Teenage pregnancy was highly associated with the kinds of characteristics that predicted early school leaving and absence of qualifications.

There has been much speculation about the reasons why some but not all young women embrace early motherhood when their labour market prospects are poor, and why this a less common response in most other European countries.²⁰ Unpartnered girls with limited prospects of employment, frequently find themselves pressurised into domestic roles within the family, whereas young men are indulged to the point where unemployment extends their adolescence even further. The girls' escape is through partnership to set up a home of her own, and that often involves parenthood.²¹ Such young women may in fact not leave the labour market permanently. Many return, usually part-time, to do menial kinds of work, such as cleaning, to support their families. Those where the initial partnership has failed, of course, face all the problems of single parenthood, but without the resources that the older, qualified woman in this situation would have.

The factors predicting teenage parenthood were clearly identified among the early school-leavers in both cohorts. Very few who left school past 16 became

²⁰ Social Exclusion Unit 1999, op cit

²¹ e.g. Wallace, C.(1987) For Richer and Poorer: Growing up in and out of Work. London: Tavistock.

mothers. Of course we cannot rule out the possibility that some early pregnancies brought about the early leaving and most of it occurred after the age of 17. Similarly, the lack of qualifications among teenage mothers may also have been a product of their early pregnancy. However, this causal account seems less plausible than the alternative one that early pregnancy is more frequently part of a complex culturally-based response to lack of opportunity.

Adult Statuses

In adulthood the outcomes reflecting social exclusion were largely an extension of what had come previously. Though this time the 16+ outcomes themselves had a role in the explanation. A question to address was particularly what, if any, of the effects of earlier influences prior to 16 remained in the prediction of the adult outcome. We examined occupational status, e.g. unemployed/employed for men and full-time employed/not employed (unemployed, home care) for women. We also measured occupational achievement reflecting both earning power and the kinds of occupation in which the young person was located. The other outcome was more a reflection of psychological state, the evidence of likely depression.

In relation to labour market outcomes, there was less evidence of a persisting effect of early family background, especially in the 1970 cohort. What dominated the explanation of the adult outcomes, both employment and occupational achievement, was the level of qualification achieved. Those cohort members who had achieved the highest qualifications were by far the least likely to be unemployed at the time of interview and by far the most likely to have the highest levels of occupational achievement. Qualifications in this sense therefore provided not only a protection against unemployment, but were also the main boost to progress within the labour market itself.

There were signs that family background remained more of a factor in predicting the labour market participation of women in the 1958 cohort than in the

1970 cohort. Childhood poverty also continued to play a part in predicting women's absence from full-time employment, again presumably because of the link between absence from full-time employment and early if not teenage motherhood. On the other hand, qualifications turned out to be more important for women in the 70 cohort than in the 58 cohort, pointing to the growing significance of human capital as expressed through qualifications in securing a continuing position in the modern labour market.

Occupational attainment largely repeated the picture except that there was a pattern of reduced social class obstacles for women compared with men in the 1970 cohort. In other words, in line with hypotheses about increasing individualisation of the modern life course and the (slow) advance of Equal Opportunities policy and practice, women in the 1970 cohort were less constrained in their career advancement by their father's occupation. There is difficulty, though, in being certain about this because the outcome measures were actually measured at different times for women in the two cohorts; so there could be a life-cycle effect involved.

The other important factor in occupational achievement was the transition outcome, discussed earlier - staying on in school. As we might expect, this was a powerful predictor of occupational achievement: those who stayed on longest were likely to end up in occupations with the highest level of reward.

The final outcome we assessed was the psychological state of depression as assessed by the Malaise inventory. Relationships were a good bit weaker here, but still reflected the same basic division seen earlier. Low qualifications, leaving school early and an impoverished family background all predicted depression in adulthood. Family origin effects largely disappeared in the face of later circumstances and educational performance. The main difference in these results from those obtained for other social exclusion outcomes was the dominance of women in this social exclusion category. Women at 26 were far more likely to report depression and the

relationship especially between lack of qualifications and depression was strongest for them.

Rural Dimension

The two levels of rural population density we examined (sparse, more populated) did indicate modest effects of living in rural areas on some social exclusion outcomes. For example, over and above all other factors, leaving school early was predicted by living in a rural area for men but not for women. Similarly women tended in rural areas to gain better qualifications than those in urban areas. These results probably reflected broadly the nature of employment available for men and women in rural as opposed to urban areas. Overall, although the picture was no worse for young people in rural areas than in urban areas, it was not substantially better.

Policy Levers

The messages for policy that come from these findings bring into sharp relief the challenges facing current policy initiatives to combat social exclusion. Questions need addressing in four areas: education; employability; equal opportunities and finance.

Education

The significance of family background at birth in subsequent educational development supports policy interventions such as Sure Start to increase resources and support for young children growing up in conditions of disadvantage. In targeting both children's and parents' educational development, family literacy campaigns appear to have a particularly important role to play in this respect

So what should be the specific policy targets? Will policies directed primarily at parenting skills and educational support be adequate to combat the pervasive effects of child poverty? How much material support for families is needed before the disadvantaging effects of poverty are removed? Not only is the alleviation of child poverty an end in itself, but these analyses show that it will help eventually towards the creation of human capital.

Perhaps as significant as the kind of support families need is how long in a child's life will support of all kinds be needed? The social exclusion route is one of reducing opportunities for participation in education, which can occur almost by default. There can be downward drift out of the system brought about by the negative effects of disadvantaged home backgrounds on children's progress first through primary school and then through secondary school. By the third year the die is often cast; truancy is common and educational exclusion is complete.

A common element of the process is the steady weakening of home school relations as the child moves through the different stages of schooling. This suggests the need to revisit some of the policy initiatives arising from such reports as Plowden, Newsom and Hargreaves (Inner London Education Authority) in which Home-School Links were a central plank of policy. Does teacher training adequately address the issue? What part might a revitalised and universally applied Educational Welfare Officer have in bridging the gap?

We were unable to examine the influences of particular schools in this particular study, but it is reasonable to speculate that they will tend to strengthen rather than counteract the disadvantaging effects of family background. 'Sink schools' with teachers holding pessimistic views about the children's prospects, are not going to gain the custom of well-heeled families, but that of the families for whom intervention is most needed. We have to ask to what extent market principles supported by 'league tables' enhance or weaken children's prospects further? Can schools be expected to serve the interests of all their children or, in order to optimise their position, are they being encouraged to invest most of their efforts in those with the best prospects of success? The wide range of current policies to raise standards needs to be inclusive at all levels if the most vulnerable children are to benefit.

Employment

Educational achievement coupled with family aspirations underpins the critical decision at 16 whether to stay on in education or leave and seek employment. What follows at one extreme may either be the route to qualifications, higher education and a professional career and at the other, casual unskilled manual work and unemployment. A fortunate minority land good jobs with training. Modern apprenticeships provide another route with prospects, as may the modern variant of youth training - Government supported training (GST). The growing concerns about young people not in employment, education and training have added urgency to the widening of opportunities available through New Deal.²²

This research bears on these concerns in two ways. First the dominance of qualifications in employment outcomes points to the need for a strong educational component in any policy directed at young people. First jobs particularly are as much to do with vocational education in the sense of preparation for future employment as they are to do with the job itself. To what extent is this recognised in policies targeted at getting young men and women, including young mothers back into work?

Secondly decisions taken at 16 reflect a set of circumstances and relationships in which the young person is embedded. The British system welcomes young people into employment when the economy is booming but is much more unforgiving towards young people without qualifications, social skills or work experience when times are bad.²³ The question this raises is whether policies conceived narrowly in terms of employability for particular groups are adequate to meet young people's needs.

Most continental countries attach ministerial responsibility to the period from 15 -25, or even longer, in the furtherance of a comprehensive youth policy.

This recognises the increasing complexity of modern youth transitions and the need for extended social and economic support to enable the transition to succeed. The aim is to keep options for educational and training opportunities open for as long as possible. Support on the ground lies collectively with Local Authorities, employers and trade unions. The current thrust toward "holistic" policies working across departmental boundaries, as promoted by the Social Exclusion Unit, fits well with this conception. What should Britain's youth policy comprise and how might it be best advanced in government?²⁴

Equal Opportunities

Much of what has been said so far can be seen as an argument for the expansion of equal opportunities policies. The social exclusion agenda is directed at removing obstacles to full participation in all the domains of adult life. Rectifying the effects of persistent child poverty is a means of equalising life chances. The deeper and more pervasive effects of social class as a basis for exclusion may need more fundamental shifts in aspiration and perception for its often stultifying effects on life chances to be eradicated. The challenge for policy is how to bring about what amounts to a cultural change. How can institutions truly guarantee to implement equality of treatment for all groups? How can those who work in them be helped to change their expectations and actions towards groups defined by class and ethnicity? Though the main focus of this report has been class and gender inequalities, much the same considerations apply to young people from ethnic minorities and those with disabilities. How can institutions be helped to counter rather than re-enforce disadvantage and discrimination?

The possibility of change is evident with respect to gender. The improvement of women's situation overall relative to men's is one of the more striking consequences of the equal opportunities policies which were promoted through out the 1970s. In our younger cohort, girls were doing better in education and the

²² Social Exclusion Unit, 1999 op cit

²³ e.g. see Bynner, J. and Roberts, K. (Eds.) (1991): Youth and Work: Transition to Employment in England and Germany. London: Anglo-German Foundation.

²⁴ The Social Exclusion Unit Policy action Team 12 is addressing this issue- also see the report on young people not in employment education employment training Social Exclusion Unit 1999 op cit

labour market. Notably though, family background had a stronger effect on life chances for them than for boys.

Such apparent success can mask the continuing problems that many young women face. Teenage pregnancy, though rarer in the young cohort, was associated with the same factors in both cohorts: unskilled family background, early school leaving and poor educational achievement. In the context of rising prospects for women generally the polarising effects of early motherhood are therefore even more keenly experienced. The substantially higher levels of depression in the younger cohort at the age of 26 - again associated with disadvantage and educational failure - points perhaps to the greater sense of exclusion that many such young women feel.

The question for policy is how to ensure that the benefits accruing to the educated are shared across the spectrum. As poverty and poor education is so closely associated with young motherhood, how can the deficits be made up while supporting the young woman's right to care for her child? What can be done to resist the inevitable pressures towards repetition of poverty and early parenthood across the generations that teenage pregnancy often brings? What kind of support within the educational system and outside is going to be most effective in helping the young woman to avoid the pregnancy option? Are the health services adequate to cope with the psychological stress that increasing numbers of young women are experiencing?

The comprehensive report on teenage pregnancy produced by the Social Exclusion Unit set out a raft of policies which address these questions. The research emphasises the long-term nature of the processes preceding teenage pregnancy. To be effective protective policies need to start early and continue as long as there is vulnerability to risk.

Rural Factors

The rural dimension brings together all the issues raised in the previous sections and poses the last set of challenges for policy. Although the analysis could not identify any major differences either in the prevalence or processes of social exclusion in rural areas, it did point to a number of potential obstacles which growing up in a rural area presents. The association of early leaving, and lack of qualifications among rural males and the opposite among rural females - points to different and relatively fixed occupational niches filled by them. The continuing need for some unskilled labour in agriculture particularly may prompt boys' relatively rapid exit from education. The white collar jobs, which girls favour demand some extended education wherever they are located

While communities and employment are static then little disadvantage may be felt. But as the nature of rural employment changes and some industry declines so the protection offered by education becomes all the more necessary. This is when questions arise about accessibility, mobility and support. The decline of services and the remoteness of educational institutions for many people living in sparsely populated areas constitute formidable obstacles to career change and advancement.²⁵ Mobility between rural and urban areas is associated with achievement. Staying put is associated with early leaving and early parenthood.

The main policy message that comes from the analysis is the need to recognise the geographical context in which obstacles and opportunities operate. This may constitute a formidable additional obstacle to life chances in itself. In the case of the sparsely populated and remote regions should the target be to preserve existing employment opportunities and existing communities at all costs? If changes are to occur how can the education and social services be adapted to meet the new demands? And how can mobility to get to them be assured?

25 A 1998 Rural Development Commission seminar on rural disadvantage spelled out the range of difficulties young people in rural areas face.

Finally, deep rooted problems of class, poverty and poor education need radical solutions. In a world where the pace of technological change is continually increasing and employment opportunities polarising, the future has to lie in social and cultural transformation.²⁶ Will Hutton's 30-30-40 society envisages marginalisation for up to 40% of the population.²⁷ This assumes that the bottom 40% stays the bottom 40% because limitations of human and cultural capital dictate that it should. Removing the obstacles to achievement is the essential counter to this new hierarchy of disadvantage. It provides the means by which the processes of social exclusion can be halted, opportunities shared and full citizenship for every individual achieved.

Appendix 1: Definitions of Variables

Outcome Variables

Employment Status

- Full Time Employed (Females only): This variable was obtained at 33 for NCDS and at 26 for BCS70 and was created through the current employment status question. As it seemed to work for female participants but not males another variable was selected as the employment indicator for male members, namely, "unemployed and sick".
- Unemployed and Sick (males only): The "unemployed and sick" group seemed to adequately represent those male cohort members that were excluded from employment and seemed to work better than the "full time employed" variable (for males). Again, this variable was derived from the current employment status question, asked at 33 for NCDS members and at 26 for BCS70.

Academic/Occupational Achievement

- Age Left Education: This variable was distinguishing those cohort members who left school at a minimum age (16) from those who did not.

- Qualifications: The highest qualifications of participants were grouped into 6 major categories, roughly equivalent to NVQ/GNVQ levels - No Qualifications (1); NVQ1 (2); NVQ2 (3); NVQ3 (4); NVQ4 (5); NVQ5 (6) - starting from no qualifications and ending with degrees or over.
- Occupational Score: Occupational scores were constructed by calculating the mean hourly pay of members in each social class, taking the logarithm of each mean and then attributing that score to each participant, according to his/her social class. As for the rest of the measures, it was taken at 33 for NCDS and 26 for BCS70.

Health Indicator

- Malaise: Measures of depressive behaviour were taken by the malaise inventory, a scale consisting of 24 items. If participants agreed with more than seven of them they were categorised as depressed.

Family Indicator

- Early Parent: As especially young parents are considered a socially excluded group, a measure that would distinguish them from the rest of the people was needed. For both NCDS and BCS70 this measure was constructed from the household grid, with early parents being defined as the people who lived with an own child that was born before they reached their 21st birthday. It was defined for both male and female cohort members. Anyone who had children not living in their household would not have been detected.

Explanatory Variables

Conditions Present at Cohort Members Birth

- Father's Social Class: Father's social class was defined by the Registrar General's Classification of Occupations at the time of birth of the cohort member. This Classification was created taking into consideration the occupations that existed in 1958 and 1970 whereas the grouping of occupations was

²⁶ see Aranowitz, S. and Di Fazio, W. (1994) *The Jobless Future*. Minneapolis: University of Minnesota Press.

²⁷ Hutton, W. (1995) *The State We Are In*: London: Jonathan Cape.

not identical with the ones that followed later on.

- **Father's Age of Leaving School:** As was the case with the age the cohort member left school, the main dichotomy regarding this variable was whether the fathers of the participants had left school at the minimum age (15 or earlier) or later.
- **Mother's Age of Leaving School:** Similarly to the aforementioned variable, mother's age of leaving school, as stated at birth, was also grouped into two broad categories; those leaving school at 15 (or before) and those who left later.
- **Area of Residence at 16:** This variable was constructed using the electoral wards in which the houses of the 16-year old cohort members were located (based on the 1981 census). The assumption is that participants, residence at 16 would be more or less similar to that in childhood, and given the absence of any other information regarding area of residence earlier on, was used as the best approximation. The addresses that could be classified, were grouped into three broad categories; rural sparse (fewer than 43 people per square kilometre), rural dense (fewer than 250 people per square kilometre) and metropolitan areas/urban cities.

Childhood Factors

- **Cohort Member's Reading Scores:** The reading tests that were administered at age 10 for BCS70 members and 11 for NCDS were standardised and divided into quintiles for comparability purposes. It should be noted that the reading test for NCDS was constructed by the National Foundation for Educational Research in England and Wales (NFER) for the purposes of this study. For BCS70, on the other hand, the Edinburgh Test of Reading, was used.
- **Cohort Member's Maths Scores:** The mathematics tests were also administered at age 10 for BCS70 members and 11 for NCDS and again were standardised and divided into quintiles for comparability purposes. Similarly to the NCDS reading test the mathematics

test was also constructed by the National Foundation for Educational Research in England and Wales (NFER) for the purposes of this study. For BCS70 on the other hand, the Friendly Test of Mathematics at 10 was utilised.

- **Housing Tenure:** Living in a rented house in early childhood (11, NCDS; 10, BCS10) was one of the three poverty indicators that were used in this study. The variable distinguished cohort members for whom there was some indication that they lived in a rented accommodation in early childhood from those who had another sort of living arrangement.
- **Receipt of School Meals:** The second poverty indicator grouped cohort members into two categories, those receiving free school meals in childhood (according to the parents reports) and those not.
- **Sign of Financial Hardship:** (11, NCDS; 10, BCS10). The last poverty indicator in childhood was whether the cohort members family experienced any sort of financial hardship. However, there were no identical variables measuring financial difficulties in both studies and for this reason, financial hardship was measured by a question directly asking whether the family reported any sort of financial problem in the last year for NCDS (age 11) but was based on the level of gross family income for BCS70 (age 10-less than £50pw).

Appendix 2: Tables of Frequencies and Rural/Urban Distribution

TABLE A2.1a
Frequencies for Variables in Regressions - Males

	NCDS		BCS70	
	(number)	(%)	(number)	(%)
Valid cases	5587	99.70	4102	100
Missing cases	19	0.3	0	0
Dependent Variables				
Unemployed or sick	453	8.08	342	8.34
Early Parent	83	1.48	256	6.24
Malaise	401	7.15	229	5.58
Explanatory Variables				
Father's social class				
I	256	5.06	246	7.60
II	705	13.93	854	26.40
IIINM	528	10.43	355	10.97
IIIM	2565	50.69	1341	41.45
IV	593	11.72	341	10.54
V	413	8.16	98	3.03
Missing	527		867	
Valid cases	5060	100.00	3235	100.00
Father's age of leaving school				
after 15	1008	20.92	1356	37.71
before/at 15	3811	79.08	2240	62.29
Missing	768		506	
Valid cases	4819	100.00	3596	100.00
Mother's age of leaving school				
after 15	1374	25.95	1416	38.07
before/at 15	3920	74.05	2303	61.93
Missing	293		383	
Valid cases	5294	100.00	3719	100.00
Residence at 16				
Metropolitan/urban area	3949	85.72	2282	80.44
Rural <250ppk	502	10.90	423	14.91
Rural <43ppk	156	3.39	132	4.65
Missing	980		1265	
Valid cases	4607	100.00	2837	100.00
Quintile Reading				
Lower 20%	875	18.22	657	21.91
20-40%	962	20.03	598	19.95
40-60%	904	18.83	553	18.45
60-80%	975	20.30	597	19.91
Top 20%	1086	22.62	593	19.78
Missing	785		1104	
Valid cases	4802	100.00	2998	100.00
Quintile Maths				
Lower 20%	822	17.12	604	20.12
20-40%	950	19.79	529	17.62
40-60%	958	19.95	504	16.79
60-80%	1007	20.97	600	19.99
Top 20%	1064	22.16	765	25.48
Missing	786		1100	
Valid cases	4801	100.00	3002	100.00

TABLE A2.1a - Males (continued)

	NCDS		BCS70	
	(number)	(%)	(number)	(%)
Rented house in childhood				
No	2429	50.02	2243	67.20
Yes	2427	49.98	1095	32.80
Missing	731		764	
Valid cases	4856	100.00	3338	100.00
Receipt of free meals				
No	4357	91.75	1403	91.64
Yes	392	8.25	128	8.36
Missing	838		2571	
Valid cases	4749	100.00	1531	100.00
Financial hardship in childhood				
No	4165	90.37	2494	94.97
Yes	444	9.63	132	5.03
Missing	978		1476	
Valid cases	4609	100.00	2626	100.00
Cohort Member's age leaving school				
Before/at 16	2920	62.10	1990	49.05
Post 16	1007	21.42	807	19.89
Post 18	775	16.48	1260	31.06
Missing	885		45	
Valid cases	4702	100.00	4057	100.00
Qualifications				
None	763	13.66	249	6.55
CSE 2-5/NVQ1	605	10.83	703	18.50
O LEVEL/NVQ2	1666	29.82	1461	38.44
A LEVEL/NVQ3	1002	17.93	362	9.52
Higher/NVQ4,5	783	14.01	169	4.45
Degree +	768	13.75	857	22.55
Missing	0		301	
Valid cases	5587	100.00	3801	100.00
Qualifications	Mean = 2.48	S.D.=1.55	Mean = 2.54	S.D.=1.57
Occupational score	Mean = 1.48	S.D.=0.22	Mean = 1.56	S.D.=0.13

The number of cases, percentages and mean scores were taken from the samples used for the regressions/run for the Unemployed or Sick outcome variable but are approximately the same for all the other outcome variables.

TABLE A2.1b
Frequencies for Variables in Regressions - Females

	NCDS		BCS70	
	(number)	(%)	(number)	(%)
Valid cases	5681	97.97	4834	98.63
Missing cases	118	2.03	67	1.37
Dependent Variables				
Full Time Employed	2087	35.99	3147	64.21
Early Parent	777	13.40	399	8.14
Malaise	437	7.54	831	16.96
Explanatory Variables				
Father's social class				
I	227	4.41	264	6.95
II	695	13.51	1021	26.89
IIINM	517	10.05	383	10.09
IIIM	2629	51.09	1589	41.85
IV	644	12.51	439	11.56
V	434	8.43	101	2.66
Missing	535		1037	
Valid cases	5146	100.00	3797	100.00
Father's age of leaving school				
after 15	1039	21.13	1624	37.69
before/at 15	3878	78.87	2685	62.31
Missing	764		525	
Valid cases	4917	100.00	4309	100.00
Mother's age of leaving school				
after 15	1388	25.78	1626	36.55
before/at 15	3996	74.22	2823	63.45
Missing	297		385	
Valid cases	5384	100.00	4449	100.00
Residence at 16				
Metropolitan/urban area	4160	86.13	2852	80.56
Rural <250ppk	489	10.12	552	15.59
Rural <43ppk	181	3.75	136	3.84
Missing	851		1294	
Valid cases	4830	100.00	3540	100.00
Quintile Reading				
Lower 20%	767	15.67	657	18.17
20-40%	1094	22.34	737	20.39
40-60%	917	18.73	734	20.30
60-80%	1150	23.49	725	20.06
Top 20%	968	19.77	762	21.08
Missing	785		1219	
Valid cases	4896	100.00	3615	100.00
Quintile Maths				
Lower 20%	839	17.14	774	21.41
20-40%	975	19.91	771	21.33
40-60%	1079	22.04	736	20.36
60-80%	1075	21.96	727	20.11
Top 20%	928	18.95	607	16.79
Missing	785		1219	
Valid cases	4896	100.00	3615	100.00

TABLE A2.1b - Females (continued)

	NCDS		BCS70	
	(number)	(%)	(number)	(%)
Rented house in childhood				
No	2414	48.63	2647	66.64
Yes	2550	51.37	1325	33.36
Missing	717		862	
Valid cases	4964	100.00	3972	100.00
Receipt of free meals				
No	4400	91.06	1765	92.17
Yes	432	8.94	150	7.83
Missing	849		2919	
Valid cases	4832	100.00	1915	100.00
Financial hardship in childhood				
No	4174	89.32	3059	95.30
Yes	499	10.68	151	4.70
Missing	1008		1624	
Valid cases	4673	100.00	3210	100.00
Cohort Member's age leaving school				
Before/at 16	2704	54.87	1997	41.55
Post 16	1448	29.38	1414	29.42
Post 18	776	15.75	1395	29.03
Missing	753		28	
Valid cases	4928	100.00	4806	100.00
Qualifications				
None	848	14.93	231	5.05
CSE 2-5/NVQ1	766	13.48	754	16.48
O LEVEL/NVQ2	2104	37.04	1975	43.18
A LEVEL/NVQ3	563	9.91	532	11.63
Higher/NVQ5,6	781	13.75	205	4.48
Degree +	619	10.90	877	19.17
Missing	0		260	
Valid cases	5681	100.00	4574	100.00
Qualifications	Mean = 2.25	S.D.= 1.52	Mean = 2.51	S.D.= 1.46
Occupational score	Mean = 1.41	S.D.= 0.23	Mean = 1.55	S.D.= 0.12

The number of cases, percentages and mean scores were taken from samples used for the regressions run for the Full Time Employed outcome variables but are approximately the same for all the other outcome variables.

TABLE A2.2
Characteristics of samples by whether lived in urban, sparse rural or other rural at 16

Area type	NCDS								percentages unless otherwise specified BCS70							
	Males				Females				Males				Females			
	Total	Sparse	Dense	Urban	Total	Sparse	Dense	Urban	Total	Sparse	Dense	Urban	Total	Sparse	Dense	Urban
Age Left Education (CM)																
Before/at 16	62	68	58	63	55	48	48	56	49	42	39	47	42	27	33	41
Post 16	21	17	22	21	29	31	33	29	20	19	23	21	29	36	29	30
Post 18	17	15	20	16	16	21	19	15	31	39	38	32	29	37	38	29
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4716	155	502	3950	5028	186	497	4224	4057	132	420	2259	4836	137	550	2858
Qualifications (CM)																
None	14	22	14	12	15	19	10	15	7	3	4	6	5	4	3	4
CSE 2-5/ NVQ1	11	12	9	11	13	8	10	14	19	14	16	18	16	11	15	16
O Level/ NVQ2	30	25	28	30	37	31	36	37	38	43	32	39	43	42	36	44
A Level/ NVQ3	18	14	19	18	10	14	15	9	10	6	11	10	12	14	13	12
Higher Qual./NVQ4	14	15	14	15	14	14	16	14	4	3	8	4	5	7	8	4
Higher Qual./NVQ5,6	13	12	16	14	11	14	13	11	22	31	29	23	19	22	25	20
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	5606	156	503	3962	5799	187	497	4239	3901	126	388	2137	4598	134	529	2726
Adult Outcome Variables																
Unemployed or Sick																
Valid cases	8	5	5	8	-	-	-	-	8	6	5	8	-	-	-	-
Missing Cases	5587	156	502	3962	-	-	-	-	4102	132	423	2282	-	-	-	-
Full Time Employed																
Valid cases	-	-	-	-	37	40	35	38	-	-	-	-	64	60	68	66
Missing Cases	5	4	3	6	15	16	11	16	2	1	2	2	9	8	4	8
Early Parent																
Valid cases	4727	156	502	3959	5035	186	497	4231	3616	114	376	2012	4612	130	527	2726
Malaise																
Valid cases	7	5	6	7	12	11	9	12	12	7	8	12	19	18	17	19
Missing Cases	3015	77	252	2163	3572	86	497	2686	3299	99	323	1846	4414	126	482	2614
Occupational score																
Mean	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6
S.D.	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Independent Variables																
Father's Social Class																
	NCDS (%)								BCS70 (%)							
I	5	3	7	5	4	4	7	4	8	12	8	8	7	6	8	7
II	14	33	22	13	14	27	17	13	26	45	38	23	27	44	34	26
IIINM	10	8	8	11	10	6	11	10	11	4	9	13	10	8	11	10
IIIM	51	35	42	52	51	35	41	53	41	25	39	41	42	28	35	43
IV	12	13	17	11	12	22	18	11	11	13	4	11	11	11	10	11
V	8	8	4	8	9	6	6	9	3	1	2	4	3	3	2	3
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	5077	144	465	3603	5251	175	465	3863	3235	112	365	1866	3850	119	463	2350
Father's Age of Leaving School																
After 15	21	29	27	20	21	26	25	21	38	45	45	37	37	44	45	39
Before/at15	79	71	73	80	79	74	75	79	62	55	55	63	63	56	55	61
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4836	137	443	3445	5024	167	424	3724	3596	115	369	2022	4369	133	505	2603
Mother's Age of Leaving School																
After 15	26	35	34	25	26	32	31	25	38	52	50	37	36	50	48	36
Before/at15	74	65	66	75	74	68	69	75	62	48	50	63	64	50	52	64
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	5312	153	482	3764	5498	180	480	4047	3719	118	378	2090	4511	134	519	2683
Quintile Reading Scores																
Bottom 20%	18	27	17	17	16	12	12	15	22	12	16	21	19	14	14	17
20-40%	20	23	18	20	22	26	19	23	20	18	17	21	20	15	19	20
40-60%	19	12	21	18	19	18	18	19	18	18	18	19	20	18	21	20
60-80%	20	19	22	21	23	19	24	24	20	20	21	20	20	27	21	21
Top 20%	23	19	22	24	20	25	27	19	20	32	28	19	21	26	25	22
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4820	129	450	3441	4993	162	435	3703	2998	92	318	1732	3656	107	410	2236
Missing Cases	786	27	53	521	806	25	62	536	1104	40	105	550	1245	32	144	658

TABLE A2.2 (continued)

Area type	NCDS								BCS70							
	Males				Females				Males				Females			
	Total	Sparse	Dense	Urban	Total	Sparse	Dense	Urban	Total	Sparse	Dense	Urban	Total	Sparse	Dense	Urban
Quintile Maths Scores																
Bottom 20%	17	19	14	17	17	9	10	18	20	15	13	19	22	13	15	21
20-40%	20	25	18	19	20	19	19	19	18	11	18	18	21	19	20	21
40-60%	20	20	19	20	22	27	25	22	17	12	15	17	20	27	21	21
60-80%	21	19	25	22	22	20	23	22	20	20	21	20	20	26	24	19
Top 20%	22	17	24	22	19	25	23	19	25	42	33	26	17	15	20	18
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4819	129	449	3441	4993	162	435	3703	3002	92	317	1737	3656	107	410	2235
	787	27	54	521	806	25	62	536	1100	40	106	545	1245	32	144	659
Housing Tenure in Childhood																
Not rented	50	59	51	51	49	52	55	49	67	75	76	67	66	71	73	67
Rented	50	41	49	49	51	48	45	51	33	25	24	33	34	29	27	33
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4873	138	449	3471	5073	168	429	3758	3338	114	352	1933	4030	126	481	2454
	733	18	54	491	726	19	68	481	764	18	71	349	871	13	73	440
Receipt of Free School Meals																
No, Meals	92	90	92	93	91	90	92	92	92	97	97	91	92	89	98	92
Yes, Meals	8	10	8	7	9	10	8	8	8	3	3	9	8	11	2	8
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4768	128	444	3404	4928	164	433	3636	1531	60	189	1156	1943	57	252	1444
	838	28	59	558	871	23	64	603	2571	72	234	2282	2958	82	302	1450
Sign of Hardship in Childhood																
No Signs	90	89	94	91	89	93	94	89	95	92	98	95	95	90	97	95
Yes, Signs	10	11	6	9	11	7	6	11	5	8	2	5	5	10	3	5
Valid cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Missing Cases	4623	127	429	3322	4772	159	423	3554	2626	112	352	1876	3252	115	443	2395
	983	24	74	640	1027	28	74	685	1476	20	71	406	1649	24	111	499

TABLE A2.3
Characteristics of Movers between and Stayers in Rural and Urban Areas, age 16 and Age 33/26

Residence Sequence	NCDS								BCS70							
	Males				Females				Males				Females			
	R - R	R - U	U - R	U - U	R - R	R - U	U - R	U - U	R - R	R - U	U - R	U - U	R - R	R - U	U - R	U - U
Father's Social Class																
I	5	8	10	4	5	7	7	4	8	11	10	7	7	9	10	7
II	28	21	19	12	20	19	19	12	41	38	33	23	36	35	31	25
IIINM	7	8	10	11	8	11	11	10	6	9	12	13	10	11	11	10
IIIM	38	42	45	53	40	39	50	53	34	37	35	42	32	35	39	43
IV	18	15	11	11	21	18	9	12	9	3	10	11	12	9	8	12
V	4	6	5	9	6	6	4	9	2	2	0	4	3	1	1	3
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
329	269	321	3244	296	333	414	3406	254	192	78	1755	285	260	182	2111	
Father's Age of Leaving School																
After 15	22	34	27	19	18	31	29	20	40	50	50	37	43	47	42	38
Before/at15	78	66	73	81	82	69	71	80	60	50	50	63	57	53	58	62
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
313	256	312	3100	278	304	396	3281	267	199	93	1887	316	291	198	2337	
Mother's Age of Leaving School																
After 15	31	37	31	25	27	35	32	24	48	52	45	37	51	47	41	36
Before/at15	69	63	69	75	73	65	68	76	52	48	55	63	49	53	59	64
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
341	283	336	3390	302	347	433	3565	271	206	95	1953	324	296	200	2415	
Quintile Reading Scores																
Bottom 20%	20	17	10	18	15	10	8	16	18	13	20	21	17	12	20	18
20-40%	23	15	18	20	23	19	16	23	16	21	20	21	18	19	17	20
40-60%	19	19	16	18	17	19	18	19	19	17	15	19	18	22	20	20
60-80%	18	25	24	21	22	24	30	23	23	17	18	20	25	19	16	21
Top 20%	20	24	32	23	23	28	28	19	24	32	27	19	22	28	27	21
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
313	256	321	3086	266	322	390	3266	221	171	75	1623	240	241	162	2013	
Quintile Maths Scores																
Bottom 20%	18	11	11	18	11	9	11	18	15	12	17	19	15	14	20	21
20-40%	21	18	15	20	24	16	12	21	17	16	12	19	20	18	19	21
40-60%	18	20	19	20	25	25	22	22	16	12	15	17	26	19	22	20
60-80%	24	22	22	21	20	25	29	21	20	21	24	20	23	25	17	20
Top 20%	19	29	33	21	20	25	26	18	32	39	32	25	16	24	22	18
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
313	255	321	3086	266	322	390	3266	220	171	75	1628	249	241	162	2011	
Housing Tenure in Childhood																
Not rented	49	59	59	50	51	57	60	48	75	77	84	66	71	77	72	66
Rented	51	41	41	50	49	43	40	52	25	23	16	34	29	23	28	34
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
341	283	336	3390	302	347	433	3565	271	206	95	1953	324	296	200	2415	
Receipt of Free School Meals																
No	92	92	95	93	88	94	95	91	97	97	100	91	96	95	93	91
Yes	8	8	5	7	12	6	5	9	3	3	0	9	4	5	7	9
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
311	251	318	3052	267	321	383	3208	140	96	38	1063	146	140	96	1310	
Sign of Hardship in Childhood																
No	92	94	93	91	92	92	92	89	96	97	96	95	95	96	97	95
Yes	8	6	7	9	8	8	8	11	4	3	4	5	5	4	3	5
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
297	249	300	2485	264	307	372	3137	256	185	82	1756	268	253	183	2148	
Education Variables																
Age Left Education (CM)																
Before/at 16	67	51	50	64	55	43	45	58	45	33	41	47	37	28	33	41
Post 16	19	24	27	21	30	34	31	28	20	24	25	21	30	28	30	30
Post 18	14	25	23	15	15	23	24	14	35	43	34	32	33	44	37	29
Valid Cases	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
348	298	357	3554	313	359	444	3729	298	227	110	2100	334	313	212	2572	

TABLE A2.3 (continued)

Residence Sequence	NCDS								BCS70							
	Males				Females				Males				Females			
	R - R	R - U	U - R	U - U	R - R	R - U	U - R	U - U	R - R	R - U	U - R	U - U	R - R	R - U	U - R	U - U
Qualifications (CM)																
None	21	10	9	13	16	9	9	16	4	3	7	5	4	1	2	5
CSE 2-5/ NVQ1	9	9	8	11	9	10	11	15	17	14	11	19	15	15	14	16
O Level/ NVQ2	27	28	26	30	40	31	34	39	35	34	46	38	41	32	43	44
A Level/ NVQ3	19	16	20	18	16	13	11	9	11	8	10	10	11	14	11	12
Higher Qual./NVQ4	14	16	18	14	8	21	20	11	7	6	1	4	7	9	4	4
Higher Qual./NVQ5,6	10	21	19	14	11	16	15	10	26	35	25	24	22	29	26	19
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mean qualification	350	298	358	3565	314	359	445	3742	273	215	107	1985	321	302	205	2449
(std deviation)	(1.6)	(1.6)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.6)	(1.6)	(1.5)	(1.6)	(1.5)	(1.5)	(1.5)	(1.4)
Adult Outcome Variables																
Unemployed & Sick	6	4	5	8	-	-	-	-	7	4	7	8	-	-	-	-
Valid cases	349	298	355	3555	-	-	-	-	300	228	111	2122	-	-	-	-
F/T Employed	-	-	-	-	34	38	37	38	-	-	-	-	66	69	67	66
Valid cases	-	-	-	-	310	349	438	3671	-	-	-	-	339	313	212	2608
Early Parent	5	2	2	6	14	11	9	17	2	2	1	2	5	4	8	8
Valid cases	349	298	358	3562	313	259	444	3735	260	204	102	1864	322	295	205	2451
Malaise	7	4	8	7	7	11	6	13	10	5	6	13	17	17	16	19
Valid cases	168	158	199	1951	154	207	270	2399	227	172	95	1711	294	277	195	235
Mean occupation score	1.5	1.5	1.6	1.5	1.4	1.5	1.5	1.4	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6
(std deviation)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)

R - R: CMs living in rural areas (sparse or dense) at 16 who also lived in rural areas at 33/ 26

R - U: CMs living in rural areas (sparse or dense) at 16 who lived in metropolitan/urban areas at 33/26

U - R: CMs living in metropolitan/urban areas (sparse or dense) at 16 who lived in rural areas (sparse or dense) at 33/26

U - U: CMs living in metropolitan/urban areas (sparse or dense) at 16 who also lived in metropolitan/urban areas at 33/26

Appendix 3: Regression Analysis of Outcome Variables: Tables of Coefficients

TABLE A3.1
Leaving School at 16: Odds ratios estimated in logistic regression analysis

	Model 1				Model 2			
	NCDS		BCS70		NCDS		BCS70	
	Males	Females	Males	Females	Males	Females	Males	Females
Explanatory Variables								
constant (odds for base case)	0.06	0.06	0.12	0.10	0.51	0.51	0.33	0.29
Father's Social Class								
II	3.38*	2.13*	2.13*	1.64*	3.36*	2.09*	2.02*	1.48*
IIINM	3.64*	2.70*	2.74*	2.15*	3.24*	2.14*	2.71*	1.84*
IIIM	6.67*	4.67*	4.46*	3.45*	5.21*	3.3*	3.45*	2.73*
IV	9.28*	7.15*	5.08*	4.12*	6.29*	4.66*	3.77*	2.9*
V	15.89*	7.62*	7.20*	5.68*	9.41*	3.9*	4.61*	3.49*
FSC Missing	6.07*	5.46*	3.58*	2.98*	4.43*	3.67*	2.29*	2.09*
Father's Age of Leaving School								
Before/at15	2.77*	2.87*	1.93	1.89*	2.06*	2.1*	1.6*	1.61*
FALS Missing	2.32*	2.35*	1.34*	1.50*	1.79	2.01	1.02	1.18
Mother's Age of Leaving School								
Before/at15	2.78*	2.37*	2.43	2.20*	2.21*	1.76*	2.01*	1.9*
MALS Missing	1.30	0.82	1.16*	1.57*	1.17	0.59*	1.09	1.66*
Quintile Reading Scores								
20-40%					0.72	0.99	0.67*	0.68*
40-60%					0.41*	0.74*	0.57*	0.57*
60-80%					0.32*	0.55*	0.52*	0.47*
80-100%					0.17*	0.28*	0.3*	0.34*
QRS Missing					0.07	0.18*	0.5	0.57
Quintile Maths Scores								
20-40%					0.9	0.61*	1	0.81
40-60%					0.68*	0.36*	0.85	0.67
60-80%					0.39*	0.25*	0.59*	0.67*
80-100%					0.19*	0.19*	0.33*	0.45*
QMS Missing					21.7		0.82	0.73
Housing Tenure in Childhood								
Rented					1.51*	1.63*	1.52*	1.47*
HT Missing					1.08	1.01	1.16	0.98
Receipt of Free School Meals								
Yes, Meals					1.24	1.36*	1.41	0.98
RFSM Missing					1.15	1.36	1.17*	1.16*
Sign of Hardship in Childhood								
Yes, Signs					1.25	1.16	1.84*	1.06
SHDC Missing					1.09	1.02	1.22*	1.2*
Log-likelihood	5298	5883	4996	5943	4479	5337	4602	5696
No of cases included in the analysis	4716	4907	4057	4836				

* indicates that estimate is significantly different from one at 95% confidence level.

TABLE A3.2
Qualifications Attained: Coefficients regression (unstandardised)

Explanatory Variables	Model 1				Model 2			
	NCDS		BCS70		NCDS		BCS70	
	Males	Females	Males	Females	Males	Females	Males	Females
constant	4.20*	3.95*	4.08*	3.98*	2.40*	2.20*	2.72*	2.72*
Father's Social Class								
II	-0.37*	-0.21*	-0.61*	-0.49*	-0.31*	-0.21*	-0.53*	-0.36*
IIINM	-0.54*	-0.40*	-0.72*	-0.72*	-0.41*	-0.27*	-0.64*	-0.51*
IIIM	-0.84*	-0.73*	-1.14*	-1.08*	-0.53*	-0.42*	-0.79*	-0.74*
IV	-1.13*	-1.03*	-1.36*	-1.13*	-0.68*	-0.63*	-0.96*	-0.66*
V	-1.44*	-1.17*	-1.62*	-1.74*	-0.82*	-0.58*	-1.01*	-1.07*
FSC Missing	-1.02*	-0.93*	-1.13*	-0.99*	-0.63*	-0.48*	-0.66*	-0.52*
Father's Age of Leaving School								
Before/at15	-0.62*	-0.66*	-0.57*	-0.62*	-0.28*	-0.31*	-0.33*	-0.39*
FALS Missing	-0.61*	-0.58*	-0.58*	-0.58*	0.00	-0.10	-0.30*	-0.28*
Mother's Age of Leaving School								
Before/at15	-0.58*	-0.67*	-0.82*	-0.66*	-0.31*	-0.37*	-0.56*	-0.45*
MALS Missing	-0.01	-0.16	-0.07	-0.29*	0.10	-0.02	0.03	-0.26
Quintile Reading Scores								
20-40%					0.30*	0.35*	0.20*	0.30*
40-60%					0.44*	0.48*	0.53*	0.44*
60-80%					0.70*	0.58*	0.79*	0.74*
80-100%					0.95*	1.07*	1.17*	1.12*
QRS Missing					-1.47	1.20*	1.00*	0.54
Quintile Maths Scores								
20-40%					0.31*	0.29*	0.35*	0.26*
40-60%					0.62*	0.37*	0.58*	0.39*
60-80%					0.91*	0.77*	0.82*	0.56*
80-100%					1.42*	1.15*	1.15*	0.93*
QMS Missing					2.60*	-0.26	-1.41*	0.31
Housing Tenure in Childhood								
Rented					-0.17*	-0.36*	-0.23*	-0.39*
Tenure in Childhood Missing					-0.30	-0.11	-0.26	-0.08
Receipt of Free School Meals								
Yes, Meals					-0.32*	-0.46*	-0.30*	-0.47*
RFSM Missing					0.01	-0.10	0.12	-0.10*
Sign of Hardship in Childhood								
Yes, Signs					-0.28*	-0.38*	-0.19*	-0.01
SHDC Missing					-0.14*	-0.15*	-0.14*	-0.17*
Adjusted R Square	0.15	0.17	0.19	0.19	0.36	0.36	0.31	0.30

* indicates that the estimate is significantly different from zero at 95% confidence level

TABLE A3.3
Teenage motherhood: Odds ratios estimated in logistic regression analysis - women only

Explanatory Variables	NCDS				BCS70				Odds Ratios	
	Birth	Age 11	Age 16	Age 33	Birth	Age 10	Age 16	Age 26		
constant: base case	0.02	0.042	0.11	0.19	0.01	0.02	0.06	0.23		
Father's Social Class	*	*	*	*	*					
II	1.83	1.92	1.43	1.31	2.14	1.92	1.59	1.47		
IIINM	2.30	2.09	1.41	1.32	3.34*	2.81	2.18	2.12		
IIIM	3.87*	3.12*	1.92	1.76	4.00*	2.84*	1.96	1.68		
IV	4.79*	3.51*	2.06	1.78	4.83*	3.15*	2.22	1.96		
V	5.31*	3.28*	1.99	1.71	8.94*	4.55*	3.02	2.35		
FSC Missing	7.16*	4.95*	3.11*	2.82*	4.51*	2.89*	2.20	2.03		
Father's Age of Leaving School	*	*	*		*	*				
Before/at15	2.41*	1.77*	1.43*	1.38	1.75*	1.43*	1.20	1.20		
FALS Missing	2.34*	0.98	0.82	0.85	2.83*	2.04*	1.79*	1.71		
Mother's Age of Leaving School	*	*			*					
Before/at15	1.66*	1.25	1.06	1.02	1.61*	1.36*	1.11	1.02		
MALS Missing	0.87	0.73	0.83	0.83	0.86	0.86	0.78	0.80		
Quintile Reading Scores	*	*	*			*	*			
20-40%		0.97	0.96	1.06		0.71	0.77	0.88		
40-60%		0.79	0.83	1.02		0.52*	0.59*	0.71		
60-80%		0.60*	0.67*	0.88		0.41*	0.49*	0.63		
80-100%		0.35*	0.51*	0.71		0.39*	0.57	0.76		
QRS Missing		0.42*	0.55*	0.66		0.20	0.22	0.28		
Quintile Maths Scores		*								
20-40%		0.81	0.84	0.96		1.03	1.06	1.14		
40-60%		0.70*	0.79	0.95		1.03	1.12	1.26		
60-80%		0.50*	0.63*	0.78		1.00	1.10	1.29		
80-100%		0.60*	0.91	1.21		0.67	0.85	1.03		
QMS Missing						2.54	2.78	2.53		
Housing Tenure in Childhood		*				*	*	*		
Rented		1.29*	1.18	1.13		2.05*	1.82*	1.64*		
HT Missing		2.00	1.97	1.76		2.07*	2.14*	2.03*		
Receipt of Free School Meals		*	*	*						
Yes, Meals		1.97*	1.90*	1.78*		1.41	1.37	1.16		
RFSM Missing		1.41	1.37	1.49		0.93	0.88	0.85		
Sign of Hardship in Childhood		*	*	*						
Yes, Signs		1.45*	1.45*	1.41*		1.27	1.30	1.27		
SHDC Missing		1.31*	1.33*	1.30*		1.10	1.05	0.98		
Age Left Education (CM)		*	*			*	*			
17-18			0.35*	0.49*			0.38*	0.50*		
Post 18			0.05*	0.10*			0.14*	0.31*		
ALS Missing			5.52*	6.49*			2.01*	1.49		
Qualifications (CM)				*				*		
CSE 2-5/ NVQ1				0.62*				0.27*		
O Level/ NVQ2				0.44*				0.22*		
A Level/ NVQ3				0.30*				0.14*		
Higher Qualification/NVQ4				0.20*				0.12*		
Higher Qualification/NVQ5,6				0.12*				0.06*		
Qualifications Missing										
Log Likelihood	3623	3713	3900	4114	2280	2368	2497	2592		
Number of cases included in the analysis				5035				4612		

* indicates that the estimate is significantly different from one at 95% confidence level.
Each column shows the results of a model based on variables up to the stated age.

TABLE A3.4
Unemployed and sick: Odds ratios estimated in logistics regression analysis - Males only

	NCDS				BCS70			
	Birth	Age 11	Age 16	Age 33	Birth	Age 10	Age 16	Age 26
Explanatory Variables								
baseline	0.03	0.12	0.16	0.33	0.05	0.12	0.17	0.57
Explanatory Variables								
Father's Social Class		*	*		*	*		
II	1.00	1.04	0.96	0.89	0.71	0.69	0.66	0.63
IIINM	1.17	1.14	1.04	0.93	1.55	1.45	1.34	1.28
IIIM	1.45	1.24	1.09	0.98	1.14	0.93	0.83	0.76
IV	1.57	1.17	1.02	0.89	1.59	1.29	1.14	1.01
V	2.78*	1.77	1.53	1.27	1.73	1.18	1.02	0.90
FSC Missing	2.66*	2.12*	1.86	1.64	1.33	1.01	0.94	0.85
Father's Age of Leaving School		*			*			
Before/at15	1.40	1.01	0.95	0.90	1.32	1.16	1.11	1.08
FALS Missing	1.75*	0.55	0.52	0.52	2.02*	1.78*	1.81*	1.64
Mother's Age of Leaving School		*			*			
Before/at15	1.32*	1.05	0.98	0.91	1.29	1.12	1.03	0.92
MALS Missing	0.78	0.67	0.68	0.70	0.66	0.56	0.55	0.59
Quintile Reading Scores								
20-40%		0.86	0.87	0.98		0.55*	0.58*	0.65*
40-60%		0.73	0.74	0.88		0.61*	0.65	0.74
60-80%		0.67	0.71	0.89		0.71	0.77	0.90
80-100%		0.60*	0.69	0.86		0.61	0.69	0.84
QRS Missing		54.89	55.42	32.43		0.77	0.81	0.94
Quintile Maths Scores		*	*	*				
20-40%		0.63*	0.63*	0.71*		0.72	0.72	0.88
40-60%		0.40*	0.40*	0.50*		0.90	0.91	1.18
60-80%		0.36*	0.38*	0.50*		0.66	0.70	0.95
80-100%		0.28*	0.32*	0.43*		0.47*	0.53*	0.72
QMS Missing		0.02	0.02	0.04		0.78	0.81	0.86
Housing Tenure in Childhood								
Rented		1.18	1.14	1.09		1.36*	1.31	1.16
HT Missing		2.49*	2.44	2.26		1.32	1.30	1.22
Receipt of Free School Meals		*	*	*		*	*	*
Yes, Meals		1.98*	1.95*	1.71*		2.43*	2.36*	2.04*
RFSM Missing		0.67	0.67	0.69		1.01	0.98	0.94
Sign of Hardship in Childhood								
Yes, Signs		1.27	1.22	1.14		0.69	0.65	0.62
SHDC Missing		0.89	0.86	0.82		1.01	0.99	0.93
Age Left Education (Cohort Member)			*	*		*		
17-18			0.79	0.97		0.45*	0.65*	
Post 18			0.37*	0.49*		0.62*	1.10	
ALS Missing			1.34*	1.38*		1.01	0.78	
Qualifications (Cohort Member)				*			*	
CSE 2-5/ NVQ1				0.45*				0.26*
O Level/ NVQ2				0.41*				0.19*
A Level/ NVQ3				0.27*				0.13*
Higher Qualification/NVQ4				0.25*				0.11*
Higher Qualification/NVQ5,6				0.27*				0.12*
Q Missing				*				0.52*
Log-likelihood	3078	3144	3144	3144	2310	2354	2354	2354
Number of case included in the analysis (NCDS)				5587				4102

* indicates that the estimate is significantly different from one at 95% confidence level.
Each column shows the results of a model based on variables up to the stated age.

TABLE A3.5
Full-time Employment 33 and 26: odds ratios - women only

Explanatory Variables	NCDS				BCS70			
	Birth	Age 11	Age 16	Age 33	Birth	Age 10	Age 16	Age 26
baseline	0.89	0.34	0.25	0.18	3.75	1.98	1.33	0.46
Father's Social Class	*				*			
II	1.02	1.03	1.09	1.11	0.85	0.90	0.92	0.96
IIINM	1.03	1.09	1.17	1.20	0.75	0.83	0.87	0.89
IIIM	0.88	1.00	1.12	1.15	0.64*	0.81	0.89	0.97
IV	0.82	0.96	1.11	1.18	0.55*	0.73	0.80	0.85
V	0.66*	0.82	0.92	0.98	0.32*	0.51*	0.58*	0.68
FSC Missing	0.92	1.09	1.24	1.30	0.61*	0.84	0.89	0.94
Father's Age of Leaving School					*			
Before/at15	0.84*	0.96	1.02	1.06	0.73*	0.84*	0.89	0.92
FALS Missing	0.96	1.23	1.34	1.30	0.59*	0.73	0.76	0.79
Mother's Age of Leaving School	*				*			
Before/at15	0.77*	0.86*	0.92	0.96	0.83*	0.93	1.01	1.08
MALS Missing	0.81	0.87	0.85	0.86	1.19	1.19	1.27	1.27
Quintile Reading Scores					*			
20-40%		1.25	1.25	1.21		1.28*	1.19	1.08
40-60%		1.42*	1.38*	1.26		1.39*	1.26	1.10
60-80%		1.56*	1.48*	1.29*		1.26	1.11	0.91
80-100%		1.72*	1.51*	1.27		1.51*	1.28	1.01
QRS Missing		1.64*	1.48	1.26		1.05	0.95	0.80
Quintile Maths Scores					*			
20-40%		1.46*	1.44*	1.35*		1.16	1.13	1.06
40-60%		1.35*	1.29*	1.18		1.21	1.15	1.06
60-80%		1.44*	1.33*	1.17		1.62*	1.56*	1.39*
80-100%		1.92*	1.68*	1.42*		1.79*	1.67*	1.42*
Maths missing						1.47	1.45	1.44
Housing Tenure in Childhood					*			
Rented		0.93	0.97	0.99		0.59*	0.63*	0.67*
HT Missing		0.83	0.81	0.87		0.77*	0.76*	0.79*
Receipt of Free School Meals					*			
Yes, Meals		1.20	1.21	1.28*		0.63*	0.62*	0.69
RFSM Missing		1.19	1.20	1.17		1.05	1.07	1.10
Sign of Hardship in Childhood					*			
Yes, Signs		0.83	0.85	0.88		0.84	0.83	0.83
SHDC Missing		1.07	1.08	1.12		0.91	0.94	0.97
Age Left Education (CM)					*			
17-18			1.33*	1.09			2.01*	1.61*
Post 18			2.03*	1.26			1.80*	0.93
ALS Missing			1.05	0.95			0.16*	0.21*
Qualifications (CM)					*			
CSE 2-5/ NVQ1				1.27*				2.66*
O Level/ NVQ2				1.49*				3.61*
A Level/ NVQ3				2.09*				5.47*
Higher Qualification/NVQ4				2.41*				6.69*
Higher Qualification/NVQ5,6				3.25*				8.27*
Qualifications Missing				1.18*				1.80*
Log-likelihood	7470	7296	7239	7161	6271	6126	5976	5837
Number of cases included in the analysis	5681				4901			

* indicates that the estimate is significantly different from one at 95% confidence level.
Each column shows the results of a model based on variables up to the stated age.

TABLE A3.6a

Pay level of Social Class of current or last job at 33/26: Unstandardised regression coefficients from multiple analysis of log average occupational pay

	NCDS Males	BCS70 Fem	BCS70 Males	NCDS Fem	NCDS Males	BCS70 Fem	BCS70 Males	NCDS Fem	NCDS Males	BCS70 Fem	BCS70 Males	NCDS Fem	NCDS Males	BCS70 Fem	BCS70 Males	NCDS Fem
Explanatory variables																
(Constant)	1.69*	1.61*	1.66	1.62*	1.50*	1.45*	1.59*	1.55	1.44*	1.36*	1.54	1.50	1.35*	1.29*	1.51*	1.46
Father's Social Class																
II	-0.04*	-0.05*	-0.04*	-0.01	-0.04*	-0.05*	-0.03*	-0.01*	-0.02*	-0.03	-0.02*	0.00	-0.01	-0.03	-0.01	0.00
IIINM	-0.06*	-0.06*	-0.05*	-0.04*	-0.05*	-0.05*	-0.04*	-0.03*	-0.03*	-0.03	-0.02*	-0.01	-0.02	-0.02	-0.02	-0.01
IIIM	-0.12*	-0.09*	-0.07*	-0.05*	-0.09*	-0.06*	-0.05*	-0.03*	-0.06*	-0.03	-0.03*	-0.02	-0.04*	-0.02	-0.02*	-0.01
IV	-0.14*	-0.13*	-0.07*	-0.06*	-0.10*	-0.09*	-0.05*	-0.04*	-0.07*	-0.05	-0.03*	-0.02	-0.04*	-0.03*	-0.02	-0.02
V	-0.17*	-0.14*	-0.10*	-0.07*	-0.11*	-0.09*	-0.07*	-0.04*	-0.08*	-0.06	-0.05*	-0.02	-0.05*	-0.04*	-0.04*	-0.01
FSC Missing	-0.15*	-0.09*	-0.05*	-0.04*	-0.11*	-0.06*	-0.04*	-0.03*	-0.09*	-0.03	-0.02*	-0.01	-0.06*	-0.01	-0.01	-0.01
Father's Age of Leaving School																
(before/at 15)	-0.07*	-0.07*	-0.04*	-0.03*	-0.04*	-0.04*	-0.03*	-0.02*	-0.02*	-0.03	-0.02*	-0.01	-0.01	-0.01	-0.02*	0.00
FALS Missing	-0.07*	-0.06*	-0.04*	-0.03*	0.01	-0.02	-0.03*	-0.02*	0.02*	0.00	-0.02*	-0.01	0.02	0.00	-0.01	-0.01
Mother's Age of Leaving School																
(before/at 15)	-0.06*	-0.07*	-0.04*	-0.03*	-0.03*	-0.05*	-0.03*	-0.02*	-0.02*	-0.03	-0.02*	-0.01	-0.01	-0.01*	-0.01	0.00
MALS Missing	0.04	0.00	0.01*	0.00	0.05*	0.02	0.01	0.00*	0.05*	0.01	0.01*	-0.01	0.04*	0.02	0.01	0.01
Adjusted R Square	0.11	0.09	0.11	0.08												
Quintile Maths Scores																
20-40%					0.05*	0.03	0.00	0.02*	0.05*	0.03	0.00*	0.02	0.03*	0.02	-0.01	0.02*
40-60%					0.06*	0.05	0.00	0.03*	0.06*	0.04	0.00*	0.02	0.03*	0.03*	-0.01	0.02*
60-80%					0.09*	0.07	0.01	0.04*	0.08*	0.06	0.00*	0.03	0.04*	0.03*	-0.01	0.02*
80-100%					0.14*	0.11	0.04*	0.06	0.11*	0.08	0.02*	0.05	0.05*	0.04*	0.00	0.03*
QMS Missing						-0.01	0.01*			0.00*	0.00			-0.01	0.00	
Quintile Reading Scores																
20-40%					0.04*	0.03	0.01	0.03*	0.04*	0.03*	0.01*	0.02	0.02*	0.02*	0.01	0.02*
40-60%					0.04*	0.04	0.04*	0.02*	0.03*	0.03	0.03*	0.02	0.02	0.01	0.03*	0.02*
60-80%					0.07*	0.07	0.04*	0.03*	0.05	0.06	0.04*	0.02	0.02*	0.02	0.03*	0.01
80-100%					0.10*	0.10	0.06*	0.04*	0.08	0.07	0.05*	0.03	0.04*	0.03*	0.03*	0.01
QRS Missing					0.11*	0.09*	0.06	0.05*	0.09	0.06	0.04*	0.05	0.04*	0.02	0.03	0.04
Housing Tenure in Childhood																
Rented					-0.02*	-0.03	-0.03*	-0.02*	-0.01	-0.02	-0.02*	-0.02	-0.01	-0.01	-0.01*	-0.01*
HT Missing					-0.05*	-0.03	-0.01*	-0.01*	-0.05*	-0.03	-0.01*	-0.01	-0.04	-0.02	-0.01	-0.01
Receipt of Free School Meals																
Yes Meals					-0.04*	-0.01	-0.01	-0.02*	-0.04*	-0.01	-0.01*	-0.02	-0.03*	0.00	-0.01	-0.01
RFSM Missing					0.00	0.02	0.00	-0.01*	0.00*	0.02	0.00*	0.00	0.01	0.01	0.00	0.00
Sign of Financial Hardship																
Yes, Signs					-0.01	-0.01	-0.01	0.00*	-0.01*	0.00	0.01*	0.00	0.00	0.01	0.01	0.00
SHDC Missing					-0.01	0.00	0.00	0.00*	0.00*	0.00	0.00*	0.00	0.00	0.01	0.00	0.00
Adjusted R Square					0.20	0.16	0.22	0.18								
Left Education (post 16)																
Left Education (post 18)										0.07*	0.06	0.03*	0.03	0.05*	0.01	0.01*
Left Education Missing										0.16*	0.19	0.09*	0.08	0.07*	0.04*	0.01
Adjusted R Square										0.03*	0.05	0.01*	0.05	0.01	0.02*	0.00
										0.24	0.21	0.22*	0.18			0.05
Qualifications																
Qualifications 1														0.04*	0.03*	0.01
Qualifications 2														0.08*	0.08*	0.04*
Qualifications 3														0.12*	0.13*	0.07*
Qualifications 4														0.21*	0.27*	0.11*
Qualifications 5														0.26*	0.32*	0.15
Adjusted R Square														0.33	0.33	0.27

Coefficients reflect the impact on occupational level of the regressors in terms of the proportional increase likely to be associated with a change in Social Class
* indicates that the estimate is significantly different from one at 95% confidence level.

TABLE A3.6b
Pay level of - Social Class in current or last job at 33/26 - Standardised (Beta Values)
regression coefficients

	NCDS Males	BCS70 Fem Males	NCDS Fem	NCDS Males	BCS70 Fem	NCDS Males	NCDS Fem	BCS70 Males	NCDS Fem	BCS70 Males	NCDS Fem	NCDS Males	BCS70 Fem	NCDS Males	BCS70 Fem
Explanatory variables															
Constant															
Father's Social Class															
II	-0.62*	-0.07*	-0.11*	-0.05	-0.06*	-0.07*	-0.09*	-0.03*	-0.03*	-0.05	-0.05*	-0.01	-0.01	-0.04	-0.04
IIINM	-0.81*	-0.08*	-0.09*	-0.08*	-0.07*	-0.07*	-0.08*	-0.06*	-0.05*	-0.04	-0.05*	-0.04	-0.02	-0.03	-0.04
FIIM	-0.27*	-0.20*	-0.24*	-0.18*	-0.20*	-0.14*	-0.18*	-0.12*	-0.14*	-0.07	-0.11*	-0.06	-0.09*	-0.05	-0.08*
IV	-0.20*	-0.18*	-0.14*	-0.15*	-0.14*	-0.13*	-0.10*	-0.10*	-0.10*	-0.08	-0.05*	-0.05	-0.06*	-0.05*	-0.04
V	-0.20*	-0.16*	-0.10*	-0.08*	-0.13*	-0.11*	-0.08*	-0.04*	-0.09*	-0.07	-0.06*	-0.02	-0.05*	-0.05*	-0.04*
FSC Missing	-0.19*	-0.12*	-0.16*	-0.15*	-0.14*	-0.08*	-0.11*	-0.09*	-0.11*	-0.04	-0.06*	-0.05	-0.08*	-0.02	-0.04
Father's Age of Leaving School															
(before/at 15)	-0.15*	-0.15*	-0.15*	-0.11*	-0.08*	-0.09*	-0.11*	-0.07*	-0.05*	-0.05	-0.07*	-0.04	-0.03	-0.03	-0.06*
FALS Missing	-0.11*	-0.10*	-0.08*	-0.08*	0.02	-0.03	-0.06*	-0.04*	0.04*	0.00	-0.05*	-0.04	0.03	0.01	-0.03
Mother's Age of Leaving School															
(before/at 15)	-0.12*	-0.15*	-0.15*	-0.12*	-0.07*	-0.09*	-0.10*	-0.08*	-0.04*	-0.06	-0.06*	-0.04	-0.02	-0.03*	-0.04
MALS Missing	0.04	0.00	0.02*	0.01	0.05*	0.02	0.03	0.00*	0.05*	0.01	0.02*	-0.02	0.04*	0.02	0.02
Adjusted R Square	0.11	0.09	0.11	0.08											
Quintile Maths Scores															
20-40%				0.08*	0.05	0.01	0.07	0.08*	0.05	0.00*	0.07	0.06*	0.03	-0.01	0.05*
40-60%				0.11*	0.09	-0.01	0.08	0.10*	0.08	-0.01*	0.06	0.06*	0.05*	-0.03	0.05*
60-80%				0.16*	0.13	0.03	0.12	0.14*	0.10	0.01*	0.10	0.07*	0.05*	-0.03	0.07*
80-100%				0.25*	0.19	0.12*	0.18	0.19*	0.13	0.06*	0.14	0.09*	0.07*	0.01	0.09*
QMS Missing						-0.02	0.04*			-0.01*	0.01			-0.03	-0.01
Quintile Reading Scores															
20-40%				0.06*	0.05	0.04	0.08	0.06*	0.05*	0.04*	0.07	0.04*	0.04*	0.03	0.06*
40-60				0.07*	0.06	0.09*	0.07	0.06*	0.06	0.08*	0.07	0.03	0.02	0.07*	0.05*
60-80				0.11*	0.13	0.11*	0.09	0.09	0.11	0.10*	0.07	0.04*	0.04	0.08*	0.03
80-100				0.18*	0.17	0.16*	0.13	0.13	0.12	0.12*	0.09	0.07*	0.04*	0.08*	0.04
QRS Missing				0.17*	0.13*	0.19	0.17	0.14	0.09	0.13*	0.17	0.06*	0.04	0.09	0.01
Housing Tenure in Childhood															
Rented				-0.05*	-0.06	-0.08*	-0.09*	-0.03	-0.04	-0.07*	-0.07	-0.01	-0.02	-0.05*	-0.05*
HT Missing				-0.08*	-0.04	-0.04*	-0.03*	-0.08*	-0.05	-0.04*	-0.03	-0.06	-0.03	-0.03	-0.03
Receipt of Free School Meals															
Yes Meals				-0.05*	-0.01	-0.01	-0.02*	-0.05*	-0.01	-0.01*	-0.02	-0.03*	0.00	-0.01	-0.02
RFSM Missing				0.01	0.03	-0.01	-0.02*	0.00*	0.03	0.00*	-0.02	0.01	0.02	0.01	-0.01
Sign of Financial Hardship															
Yes, Signs				-0.01	-0.01	-0.01	-0.01*	-0.01*	0.00	0.01*	0.00	0.00	0.01	0.01	0.00
SHDC Missing				-0.01	0.00	-0.01	-0.02*	-0.01*	0.00	0.01*	-0.01	0.00	0.01	0.01	0.00
Adjusted R Square				0.20	0.16	0.22	0.18								
Left Education (post 16)															
Left Education (post 18)								0.13*	0.12	0.09*	0.10	0.08*	0.02	0.04*	0.06*
Left Education Missing								0.24*	0.29	0.31*	0.31	0.11*	0.06*	0.04	0.02
Adjusted R Square								0.05*	0.07	0.01*	0.02	0.02	0.03*	0.00	0.02
Qualifications															
Qualifications 1													0.05*	0.05*	0.04
Qualifications 2													0.16*	0.16*	0.16*
Qualifications 3													0.21*	0.17*	0.15*
Qualifications 4													0.33*	0.42*	0.16*
Qualifications 5													0.41*	0.45*	0.46
Adjusted R Square													0.33	0.33	0.27

Beta coefficients reflect the effects of the regressors in terms of the proportional increase likely to be associated with a change in occupational attainment, adjusted for differing variability of the regressors and dependent variable

* indicates that the estimate is significantly different from one at 95% confidence level.

TABLE A3.7a
Malaise: odds ratios from logistic regression analysis - Males

	Birth	Age 11	Age 16	Age 33	Birth	Age 10	Age 16	Age 26
Explanatory Variables								
Baseline	0.03	0.06	0.08	0.12	0.06	0.07	0.1	0.121
Father's Social Class	*				*			
II	1.20	1.25	1.17	1.08	1.23	1.18	1.11	1.06
IIINM	1.04	1.07	1.01	0.92	1.81	1.77	1.61	1.56
IIIM	1.91	1.85	1.67	1.54	1.61	1.42	1.25	1.20
IV	1.70	1.49	1.35	1.20	2.37*	2.06	1.82	1.72
V	2.79*	2.21	2.00	1.77	1.80	1.43	1.21	1.17
FSC Missing	2.95*	2.67	2.40	2.14	2.44*	1.80	1.65	1.59
Father's Age of Leaving School								
Before/at15	1.00	0.82	0.78	0.76	1.32	1.25	1.20	1.18
FALS Missing	1.44	1.04	0.99	1.03	1.77*	1.63	1.62	1.58
Mother's Age of Leaving School								
Before/at15	1.49*	1.30	1.27	1.23	1.20	1.09	1.00	0.96
MALS Missing	0.02	0.02	0.02	0.02	0.80	0.82	0.81	0.80
Quintile Reading Scores	*				*			
20-40%		0.93	0.93	1.00		1.07	1.11	1.12
40-60%		0.82	0.84	0.92		0.93	0.98	1.00
60-80%		1.08	1.12	1.27		0.76	0.81	0.83
80-100%		0.73	0.78	0.90		0.97	1.12	1.19
QRS Missing		1.28	1.35	1.50		0.34	0.33	0.36
Quintile Maths Scores	*							
20-40%		0.79	0.78	0.83		0.78	0.78	0.81
40-60%		0.67	0.68	0.75		0.88	0.89	0.92
60-80%		0.37*	0.39*	0.43*		0.90	0.94	1.00
80-100%		0.49*	0.52	0.61		0.69	0.76	0.84
QMS Missing						2.17	2.36	2.28
Housing Tenure in Childhood								
Rented		0.99	0.97	0.94		1.25	1.21	1.19
HT Missing		1.05	1.03	0.95		1.18	1.18	1.17
Receipt of Free School Meals		*	*					
Yes, Meals		1.63*	1.60*	1.48		1.57	1.48	1.41
RFSM Missing		0.64	0.63	0.63		0.98	0.98	0.97
Sign of Hardship in Childhood					*	*	*	*
Yes, Signs		1.14	1.12	1.09		2.48*	2.30*	2.28*
SHDC Missing		1.05	1.03	1.03		1.29	1.27	1.25
Age Left Education (CM)						*	*	*
17-18			0.78	0.84			0.69*	0.73
Post 18			0.71	0.93			0.61*	0.92
ALS Missing			1.22	1.22			2.47*	2.31*
Qualifications (CM)				*				
CSE 2-5/ NVQ1				0.62*				0.78
O Level/ NVQ2				0.58*				0.83
A Level/ NVQ3				0.57*				0.62
Higher Qualification/NVQ4				0.55*				0.82
Higher Qualification/NVQ5,6				0.35*				0.38*
Qualifications Missing				-0.05*				0.97
Log likelihood	1536	1547	1551	1587	2327	2339	2358	2396
Number of cases included in the analysis				3015				3299

* indicates that the estimate is significantly different from one at 95% confidence level.
Each column shows the results of a model based on variables up to the stated age.

TABLE A3.7b
Malaise: odds ratios from logistic regression analysis - Females

	NCDS				BCS70			
	Birth	Age 11	Age 16	Age 33	Birth	Age 10	Age 16	Age 26
Explanatory Variables								
Baseline	0.05	0.11	0.15	0.21	0.16	0.25	0.27	0.54
Father's Social Class								
II	1.12	1.12	1.06	1.01	0.87	0.84	0.84	0.82
IIINM	1.75	1.58	1.51	1.47	1.00	0.94	0.92	0.92
IIIM	1.67	1.38	1.24	1.18	1.17	1.04	1.02	0.97
IV	1.74	1.38	1.22	1.14	1.14	0.96	0.94	0.91
V	2.19	1.53	1.38	1.27	1.27	0.98	0.96	0.85
FSC Missing	1.90	1.43	1.31	1.26	1.11	0.93	0.92	0.90
Father's Age of Leaving School					*			
Before/at15	1.44*	1.17	1.10	1.08	1.27*	1.17	1.16	1.14
FALS Missing	1.49	0.65	0.60	0.66	1.44	1.26	1.25	1.20
Mother's Age of Leaving School								
Before/at15	1.40*	1.20	1.14	1.10	1.21	1.13	1.11	1.07
MALS Missing	0.93	0.64	0.57	0.57	1.30	1.16	1.16	1.20
Quintile Reading Scores		*						
20-40%		0.98	0.98	1.09		0.79	0.81	0.88
40-60%		0.94	0.96	1.11		0.76	0.78	0.86
60-80%		0.90	0.94	1.18		0.74	0.76	0.86
80-100%		0.94	1.06	1.38		0.75	0.79	0.91
QRS Missing		1.06	1.14	1.36		0.54	0.55	0.59
Quintile Maths Scores		*	*	*				
20-40%		0.66*	0.68*	0.74		0.89	0.90	0.92
40-60%		0.58*	0.62*	0.70		0.76	0.77	0.80
60-80%		0.48*	0.53*	0.62*		0.67*	0.68*	0.72
80-100%		0.33*	0.37*	0.42*		0.68	0.70	0.74
						1.35	1.37	1.40
Housing Tenure in Childhood								
Rented		1.29*	1.23	1.18		1.23*	1.21	1.14
HT Missing		2.35	2.34	2.04		1.17	1.17	1.14
Receipt of Free School Meals		*						
Yes, Meals		1.31	1.28	1.20		1.10	1.10	1.00
RFSM Missing		0.54	0.54	0.57		1.09	1.08	1.07
Sign of Hardship in Childhood								
Yes, Signs		1.13	1.12	1.08		1.04	1.05	1.04
SHDC Missing		0.85	0.84	0.80		0.96	0.95	0.93
Age Left Education (CM)		*	*					
17-18			0.55*	0.69*			0.89	1.01
Post 18			0.61*	0.85			0.88	1.22
ALS Missing			1.03	1.06			1.83*	1.43
Qualifications (CM)			*	*				*
CSE 2-5/ NVQ1				0.66*				0.46*
O Level/ NVQ2				0.53*				0.44*
A Level/ NVQ3				0.28*				0.38*
Higher Qualification/NVQ4				0.43*				0.32*
Higher Qualification/NVQ5,6				0.39*				0.30*
Qualifications Missing				-0.05				0.73
Log likelihood	2506	2532	2550	2615	4145	4184	4191	4227
Number of cases included in the analysis				3015				3299

* indicates that the estimate is significantly different from one at 95% confidence level.