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# Chapter Two: The British Cohort Study: Youth Transitions in Education and Employment

"a different country… You have to blink and rub your eyes". – Jacques (1982)[[1]](#footnote-1)

# Introduction to Chapter Two

Continuing the theme set in Chapter One, Chapter Two attempts to replicate the previous analysis of entry from school into work. This chapter focuses on the British Cohort Study (BCS) that started in 1970. As in chapter one, this chapter will focus on the pathways and choices made by individuals in the BCS after they reached 16 and ended mandatory schooling. Once more, focus will be placed on structural inequalities of social class, sex, and housing tenure to understand young people’s transitional experiences during this period. An attempt is made to duplicate the NCDS chapter as precisely as possible to enable a comparison of cohort transitional experiences.

This chapter begins with a literature review of the present literature on BCS youth and their transitional experiences. Then, this chapter will move on to a duplication analysis of the model used in chapter one, with sensitivity analysis and handling missing data sections. Finally, this chapter will conclude with a comparison of NCDS and BCS youth.

The data was used from sweeps from birth to age 30 using the BCS. The present chapter continues the tradition of the previous by updating prior literature with modern statistical techniques. This chapter will look at four primary economic activity outcomes: employment, education, training & apprenticeship, and unemployment & out of the labour force. Due to the nature of the BCS, missingness will form a critical discussion within this chapter.

## Literature Review: BCS Timeframe and Context

This section provides an overview of the literature within the field of youth transitions of the BCS cohort. This review focuses on existing research outlining the school-to-work transition and examining the structural impacts of that transition within the context of the BCS cohort. Initially, the literature will focus on the historical and temporal context of the BCS cohort to ground the empirical research on transitions. As with Chapter One, major transition themes are identified as they relate to employment, education, training, and unemployment. Each is influenced to some degree by structural factors that impact individual choice and opportunity. The changing nature of the labour market and British polity during the BCS timeframe have had a substantive impact on the role of training and apprenticeships within an individual’s first significant transition from mandatory schooling into the world of economic activity.

At the time of the BCS cohort, young people were in full-time education until 16 – like the NCDS cohort. At this age, individuals were typically expected to undergo some examination. The BCS cohort were some of the last individuals to sit the O’level at 16 before its replacement with the GCSE. After this mandatory schooling period, there were options of continuing within education, moving on to training under the YTS scheme, entering employment, or becoming unemployed or out of the labour force. The relative diversity of options compared to the NCDS cohort was restricted. Traditional apprenticeship schemes were gone, as was unemployment benefit for individuals aged 16-18. These effects will be discussed at length in the literature review below.

### Story of transitions for BCS youth

Within Britain, the 1970s and 1980s were periods of large-scale transformation (Bynner, Ferri and Shepherd, 2019). The 1970 BCS cohort can be characterised by a continuing decline in manufacturing and apprenticeships, high levels of unemployment, more significant government intervention in young people’s economic activity, and a growing higher education participation rate.

The 1970s saw a continuing trend post-war of simultaneous growth of automation and technology alongside a decline in manufacturing. However, this came more out of the 1973-5 recession that devastated the heavy industrial markets of the North of England – the recovery and rebuilding of a service economy were located exclusively within the South of England (Hamnett, McDowell and Sarre, 1989) – half of all jobs created between 1983-87 were made in the south-east (ibid). These pressures brought about the primary labour market and societal transformation for society, increasing the worker's uncertainty and risk (Schoon, 2007; Beck, 2014). As a result of this transformation of society, Hutton describes this period of British history as the ‘30/30/40’ society, whereby 40 per cent of the population are permanently in casual employment, 30 per cent are doing fine, and another 30 per cent are struggling, leading to the phrase ‘Getting on, getting by, getting nowhere’ (Bynner, Ferri and Shepherd, 2019).

These ‘new’ jobs were defined by their transferable skills across the service sector (Bynner and Ferri, 2003). As a result, the apprenticeship scheme linked to traditionally heavy manufacturing and highly specialised training declined. It was eventually replaced by the Youth Training Scheme in 1983 under the management of the Manpower Services Commission (MSC). This in turn would be replaced by Youth Training (YT) in 1990 (Droy, Goodwin and O’connor, 2019). The YTS was the first time in Britain that youth had become a category of large-scale policy intervention beyond education (Wallace and Cross, 1990). The YTS modus opernadi was based on keeping kids off the streets and filling unemployment gaps – this became especially apparent during the recession of 1986-7, whereby the unemployment rate for men was 2.6 per cent but 12 per cent were in some form of government training. However, this eventually fell below unemployment figures in 1988 post-recession (Bynner and Ferri, 2003). The YTS has experienced sociological critique (Droy, Goodwin and O’connor, 2019). The main critique of the YTS is that it was seen as an attempt at direct intervention from a collapsing youth labour market from an anti-interventionist government (ibid). It started as a one-year program in 1983 (eventually to a two-year program in 1986) that mainly provided low-level training that was more comparable to an alternative to unemployment than to higher education or employment (Bynner and Ferri, 2003). Whilst the YTS maintained a steady average of 400,000 people between 1985-89, it was neither an adequate replacement for the highly skilled training of a traditional apprenticeship nor an acceptable form of pay and employment. (Wallace and Cross (Wallace and Cross, 1990) argued that the YTS represented a ‘dual-carriageway’, attempting to complete the goals of education and work training at the same time - unsuccessfully. The YTS was also internally stratified. It offered attractive, highly trained schemes, such as the so-called ‘Model A’ schemes that worked directly with employers. However, these were very hard to acquire and often went to those who did not need them the most (Wallace and Cross, 1990). The ‘Model B’ schemes were the most numerous and typically what people mean when they describe the YTS. Among these unattractive schemes, individuals were usually sorted into the growing service sector, associated with insecurity and risky employment prospects. This liminal zone of the youth labour market was stratified along gender and class grounds (Droy, Goodwin and O’connor, 2019).

It was, for many, a stopgap – an unattractive one. It would not be accurate to compare the YTS –a training scheme, to the much more rigorous training and education of a traditional apprenticeship (Bynner et al., 2002). Most young people felt forced into the YTS scheme because the Thatcher government cut unemployment benefits for all people between the ages of 16-18 in 1988. This is arguably the start of the punitive approach toward unemployment and welfare in the late 20th century (Droy, Goodwin and O’connor, 2019). Due to the timing of these unemployment benefit cuts, the 1970 cohort could still claim benefits. However, they still suffered as part of the ‘vulnerable core’ of the labour market through Thatcher’s cuts and de-regulations towards employment rights and the minimum wage (Hamnett, McDowell and Sarre, 1989). The proclamation in 1981 under the New Training Initiative of heralding in universal youth training for all was, in reality, a poorly thought out scheme that some compared to a stopgap, whilst harsher critiques referred to it simply as ‘slave labour’ (Bynner, Ferri and Shepherd, 2019). The YTA offered cheap, subsidised labour to employers with no requirements to continue an individual’s employment after the scheme was completed (Droy, Goodwin and O’connor, 2019). It would be fair to characterise the YTS as a short-term benefit to businesses whilst leaving the individual worker under-trained, underpaid, and often unemployed.

The initial desired purpose of the scheme was to establish a training scheme comparable to German lines (at the time, argued to be the best apprenticeship program in Europe). The result, however, was a scheme that failed to train youth appropriately, and the best form of vocational training was instead found to be employment itself (Bynner et al., 2002). The YTS has been found to have had negative consequences for men’s employment prospects (Dolton, Galinda-Rueda and Makepeace, 2004; Droy, Goodwin and O’connor, 2019; Goodwin et al., 2020) and overall a negative impact on earnings over the life course (Dolton, Galinda-Rueda and Makepeace, 2004) compared to those men that did not enter the YTS. For women, the effects on earnings were small and insignificant (Dolton, Galinda-Rueda and Makepeace, 2004).

The relative decline of apprenticeship schemes and increase in education opportunities due to the increasing pressure on young people to accumulate credentials resulted in a much higher proportion of school leavers in the 1970s onwards staying on within education than their earlier cohorts (Bynner and Ferri, 2003). Those who did not choose to stay on within education and had little to no qualifications faced the harsh reality of a ‘patchwork’ career trajectory, characterised by shifting occupations and periods of unemployment (Bynner, 2005). In 1976, the number of individuals who left school without qualifications was 21 per cent; in 1986, it was 9 per cent (Wallace and Cross, 1990). The 1970 cohort was the last to ever experience the dual O’level/CSE composition at 16 – the BCS cohort was in the middle of a massive amount of educational reform that would come in 1988 with the advent of the Education Reform Act. In particular, men saw a significantly increased probability of being in full-time education over employment compared to the 1958 cohort (Bynner and Ferri, 2003), though prominent members of men were also entering government training schemes like the YTS. For women, the decreasing numbers of young women being out of the labour force also saw a corresponding increase in labour market participation and higher education participation (Bynner and Ferri, 2003). The expansion of the university system in the late 1960s following the Robbins Report (Robbins Report, 1963) supplied higher education places that this new service-based labour market so often demanded (Bynner and Ferri, 2003). Compared to the continent at the time, European education participation rates were changing more rapidly than Britain (Bynner, Ferri and Shepherd, 2019). For most, the transition into adulthood is characterised by an initial movement from mandatory education to some form of employment. The fact that the BCS cohort appears to exhibit an elongated stay within education (Bynner et al., 2002) is some indication of the changing nature of the labour market within the UK – and also provides evidence for the development of an ‘Emerging Adulthood’ (Bynner, 2005). This transitional change is indicative of two potential sources; the first would be a significant economic shock in the form of a recession, which would encourage individuals to stay in education for longer to avoid the initial economic shocks and uncertainty that come with being employed in a labour market experiencing a downturn. The second relates to a degree of economic restructuring due to technological change, resulting in different skills and credentials, thus encouraging a more prolonged stay within education to garner such skills and credentials. The BCS cohort experienced two major economic shocks in their life course by age 16 – the 1973-5 recession and the 1980-1 recession. The BCS cohort also experienced the aftereffects of economic restructuring during the post-war consensus and a growing service economy (Bynner et al., 2002). Leaving school to enter employment for minimum school-age leavers was a much more complicated process compared to 10-20 years earlier – even more so for those living in industrial and manufacturing heartlands (Bynner et al., 2002).

The returns to education for the BCS cohort confer a 17 per cent average increase in income for those individuals who stayed on within education post-mandatory schooling compared to their peers (Boero et al., 2020). This is not entirely surprising, considering that education is the most important predictor of adult incomes and earnings (Breen, 2022). However, it does emphasise the importance of reflecting on the stratifying influences during education and their subsequent impacts on choice and opportunity post-education. This single most important predictor is a worrying phenomenon when combined with a ‘wastage of talent’ (Bukodi, Bourne and Betthäuser, 2017), whereby young people from disadvantaged backgrounds face barriers to fully realise their academic potential within the British educational system.

The changing role of education and individuals' relationship with it was not built-in isolation. The changing structure of the labour market also had other effects. Labour market restructuring was part of the increase in home ownership from the 1950s to the 1990s. In 1951, only 31 per cent of people owned their own homes; in 1991, this rose to 67 per cent (Bynner and Ferri, 2003). While homeownership increased, it was stratified by parental social class and income (Blanden and Machin, 2017). For the BCS cohort, having parents who were homeowners when they were aged 16 increases the probability of themselves being a homeowner at 42 by 116 per cent (ibid).

All this historical phenomenon has impacted the relative stability of youth transitions, which is apparent for the NCDS cohort. The relative decline in individuals moving straight from school into work after mandatory schooling and the growth of tricky transitions and accumulating human capital via higher education suggests increased risk and uncertainty (Anders and Dorsett, 2017).

### Structural Barriers to successful transitions – the role of social class and sex

#### Social Class

The BCS cohort experienced a stratified post-mandatory schooling experience. Regarding participation in higher education, those from the most advantaged social origins were more likely to attend higher education institutions than those from less advantaged backgrounds (Alcott, 2013). Prior academic attainment explains most of the variance in this stratified higher education participation (around 60%) (Alcott, 2013). With the growth of an ‘Emerging Adulthood’ and an elongated stay within education, involvement in education for the BCS cohort has widened the gap between disadvantaged and privileged social origins (Bynner, 2005). These apparent returns to schooling are stratified according to social class origins, with the advantages offered by specific qualifications differing according to class origins (Bukodi and Goldthorpe, 2011; Parsons, Green and Wiggins, 2016).

#### Sex

Women's experience within the 1970 cohort saw a continuing weakening of gender differences in processes of occupational attainment – a similar trend seen within the 1958 cohort (Bukodi, 2009). However, the strength of education in this process appears to remain the same across cohorts (Bukodi and Goldthorpe, 2009). The weakening of gender differences is seen at the educational and occupational levels through take-home income (Bynner, 2005). However, whilst the BCS cohort experienced a decline in gender-segregated occupational sorting (Lekfuangfu and Lordan, 2022), occupations with the highest share of males maintained relatively high levels of segregation. Whilst it has been emphasised that social class origins have had an impact on the BCS youth, the changing nature of the labour market has also had ramifications for men and women concerning their biographical agency and their ability to find routes to stability and security (Schoon, Martin and Ross, 2007).

#### Conclusion

The BCS cohort can be characterised by choice. Compared to previous generations, that choice was much more numerous in the options presented to the BCS youth on what to do after mandatory education. The ‘Emerging Adult’ could theoretically choose any of these options; however, the reality is that many of these options constrain the individual either immediately or down their life course. If the desired route from education were to find stable employment, the NCDS cohort would find that simply entering employment would provide a viable route to success. For the BCS cohort, however, this was not strictly the case. On top of a major recession, labour market restructuring and technological innovation provided a much more complex, elongated transition to a stable occupation (Martin, Schoon and Ross, 2008), resulting in a ‘winding road’ school-to-work transition (Leuze, 2010). Entering employment immediately after mandatory education could lead to periods of unemployment due to a lack of skills in a new economic landscape (Bynner, 2005). Joining a government training program like the YTS would provide some equally unsatisfactory results (ibid). Unemployment was a route that was even more restrictive than earlier cohorts due to cutting young people off benefits. Thus, the BCS cohort can be characterised as one of an educational turn. Staying within education, weathering the recession storm, and picking up relevant and sometimes required qualifications were most likely the best options to lead to a stable and successful occupational career. Unfortunately, education – particularly post-mandatory education – was highly stratified. This stratified nature impacted the most privileged – by giving them advantages in the labour market and the least privileged – by incurring further disadvantages. It should be assumed that, with this context, those individuals who entered education as a route post-mandatory schooling would thus be from more privileged backgrounds, perhaps in an even more striking ‘haves and have nots’ fashion than previously seen post-1944 Education Act reform.

## Data and Methods

Chapter Two is a replication analysis of the models presented in Chapter One using the NCDS. Therefore, similar to Chapter One, the relationship between social origins and economic activity after mandatory schooling is examined using the large-scale, nationally representative data collected from the British Cohort Study. Educational attainment, housing tenure, and sex are also included in the model, as they were in the NCDS model. This is to assess choice and opportunity into different forms of economic activity: employment, education, training & apprenticeships, and unemployment & out of the labour force. BCS data is available using the UK Data Service.

Before any modelling, it is essential to note that the BCS sample has issues with longitudinal linkage to earlier and later datasets. The unique case identifier included with the BCS70 datasets is the 6-digit variable [KEY] derived from combining the 5-digit variable [chesno] and one-digit twin code [tc] together (Dodgeon, 2002). All participants taken at the Birth sweep were given KEYs ranging up to 200,000. Those added to the survey at age five were given KEYs from 300,010-450490, the 10-year-old sweep KEYs 600020-703560, and the 16-year-old sweep KEYs 800020-804890 (Dodgeon, 2002). KEYs were added up to age 30, but after age 16, expanding the population base was limited to returning to those already located but not already interviewed (Dodgeon, 2002). Including new participants or new KEYs at later points, post-birth sweep means that some individuals have important information missing at earlier and later sweeps within the BCS. For example, the 21 sub-sample sweep has 92.59 per cent of cases originally collected at Birth. The remaining 7.41 per cent were collected from age five onwards (ibid).

Another issue with the BCS data is that those in the original birth sample included 626 children living in Northern Ireland. After the initial survey, the Northern Ireland population was excluded from all subsequent sweeps, except for the small amount that moved to Great Britain (Dodgeon, 2002). Thus, any substantive interpretations of the dataset using data post-birth-sweep cannot draw on any Northern Irish data.

Whilst this chapter has attempted to replicate the analysis in chapter one, there are some substantive differences. Firstly, and most substantially, chapter two's outcome variable of economic activity after mandatory schooling only has four categories in chapter five. Chapter two is missing a ‘post-education schooling’ category that encapsulates non-traditional forms of education that did not follow the traditional university route. For the BCS cohort, these non-traditional forms of education had decreased in popularity despite not being appropriately recorded In the BCS survey. The second substantive change relates to the construction of social class measures (NS-SEC and RGSC) within chapter two. Whilst both chapter one and chapter two use occupational coding data from 2012), the NCDS codes are only available for fathers of participants, while for the BCS cohort, both fathers and mothers are made available. Due to this, both NS-SEC and RGSC are coded by using mothers’ occupational data to fill in any missing data entries from the father’s data. Besides these two differences, the model presented for analysis in chapter two is identical to that of chapter one. This is to start to build a historical picture of the changes and developments in choice and opportunities for different cohorts across different periods.

As with Chapter One, after an initial exploration of descriptive statistics, multinominal logistic regression will be used to understand the choices and opportunities of BCS youth regarding economic activity post-mandatory schooling. After this initial model, a sensitivity analysis of social stratification measures will be employed to assess the most appropriate measure. Finally, an analysis of missing data involving multiple imputation will be conducted to evaluate the impact of missingness on the substantive findings of the model.

### Introduction to the BCS data

This chapter will use data from the British Cohort Study (University College London, 2022). The BCS70 began in 1970 with data initially collected on 17,198 babies born in England, Scotland, Wales, and Northern Ireland in the week of 5-11th April. This chapter will use data from participants up to the age of 30. Full cohort sweeps were gathered when participants were aged 5, 10, 16, 26, and 30 – with a subsample taken at 21 (Bynner, 2017). Initially, the data was collected using medical records and the mother’s input. As the cohort members got older, they started actively answering survey questions. Age 26 was the first time the cohort member took direct control of answering the survey itself. This was also a period of transition for the BCS; it typically relied on school records to keep in contact with its cohort members through their registered addresses, but after the age 16 sweep, when most left mandatory education, a large number of respondents were lost when it came time to contact them for the age 26 sweep (Elliott and Shepherd, 2006).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 1970 | 1980 | 1991 | 1996 | 2000 |
| Sweep | 0 | 2 | (sub-sample) | 4 | 5 |
| Age | Birth | 10 | 21 | 26 | 30 |

Alongside the standard sweeps detailed in the table below, the 21-year-old sub-sample sweep and the BCS economic activity dataset are two other aspects of the BCS. Both were considered supplementary to the total sample sweeps. The former consisted of a sub-sample of 10 per cent of the participants in the full sample and covered aspects such as economic activity since age 16. The BCS economic activity datasets' sole focus was creating a monthly economic activity record of participants since they left mandatory schooling up to 2016. The economic activity dataset used activity-related data from sweeps 5-10 (Hancock and Peters, 2021). Barring the 21-subsample sweep, economic activity history on the type of activity individuals did post-mandatory schooling at age 16 was not collected until participants were aged 30 in sweep 5. The content covered in the age 30 sweep and the economic activity dataset for the period of this analysis is virtually identical. The 21 subsample, however, provides additional data that is missing in both the economic activity and sweep six datasets. Data was thus merged with the sweep five and the subsample to boost the overall sample size of the outcome variable of interest.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Total cohort | Dead | Permanent Emigrants | Non-Response | Other[[2]](#footnote-2) | Participants | (% of the eligible sample)[[3]](#footnote-3) | Data Collected From |
| Birth – 1970 | 17,287 | 0 | 0 | 91 | 0 | 17,196 | 96 | Mother and Medical Records |
| Age 5 – 1975 | 16,720 | 567 | 0 | 2,812 | 360 | 12,981 | 79 | Parents, medical records, cohort members |
| Age 10 – 1980 | 16,700 | 587 | 0 | 588 | 655 | 14,870[[4]](#footnote-4) | 89 | Parents, school, tests, medical exam, cohort member |
| Age 16 – 1986 | 16,690 | 597 | 0 | 2,884 | 1,594 | 11,615 | 70 | Parents, school, tests, medical exam, cohort member |
| Age 26 – 1996[[5]](#footnote-5) | 16,545 | 697 | 45 | 4,416 | 2,384 | 9,003 | 55 | Cohort member |
| Age 30 – 2000 | 16,253 | 747 | 287 | 2,439 | 2,553 | 11,261 | 70 | Cohort member |

The BCS did not record information on permanent emigrants before sweep 4; some have attempted to estimate this number in prior sweeps (Plewis, 2004), but it remains an estimation. Another to mention is that unlike the NCDS cohort, where the number of participants has steadily declined as the sweeps go by, there is a much more tumultuous story for the BCS. The BCS went through many states of management and how the data was precisely collected; this, combined with the extensive period of 10 years from age 16 to age 26, has meant that attrition has been less than steady for the BCS cohort. This, even before analysis, suggests that missing data may present a problem for future models.

#### Introduction to measures for subsequent analysis

The following section provides an overview of key variables used for subsequent multivariate analysis. Variable selection was a process that involved a combination of using the CLOSER search platform, digital codebooks, and manual searching of the individual BCS databases. This search was much more manageable in Chapter Two than in Chapter One, as the analytical variables in question were already chosen in Chapter One. Thus, the goal of variable selection in Chapter Two was to find the most appropriate similar measurements used in the BCS.

##### Economic Activity

As the primary purpose of this chapter is to replicate the analysis of Chapter One with a different cohort from an additional period, the economic activity outcome variable has been selected in much the same way it was for Chapter One. The variable of interest was economic activity data for individuals of month 201 –when participants were 16 in September. As the BCS cohort’s mandatory schooling period ended when participants were 16, this was a natural month selection to measure economic activity. The month of September gives enough time for O-level results to be received and have any potential impact on an individual’s economic activity circumstances.

Economic activity was recorded retrospectively in the 21-year-old sub-sweep. It contained 10% of the participants in the sample. The 21-sub-sample sweep was drawn from cohort members who are residents in England and Wales – no data on Scottish residents was included; interpretations of data using this sweep are restricted to England and Wales only. Interviews were conducted face-to-face in 25 clusters based on 26 postcode areas (Bynner, 2017).

The original raw economic activity variable [va86sep] in the 21 sub-sample sweeps is provided below in Table XXXX. Some recoding was required. The economic activity variable has four outcomes: employment, education, training & apprenticeships, and unemployment & out of the labour force. Employment is defined as any individual who, after mandatory education, entered employment. Education was coded as any individual that stayed within some form of schooling or education post-mandatory period; this for most would be individuals taking A-level examinations. The training & apprenticeships category is coded as all those training schemes that do not fall under education. Finally, the unemployment and out of the labour force category codes anyone who is either unemployed, out of the labour force, or otherwise economically inactive. The response level for this last category is minimal and can potentially impact the statistical power of the model adversely. Unfortunately, there is no viable alternative to this.

|  |  |
| --- | --- |
| Economic Activity in Month 201 | Frequency |
| Seeking Work | 68 |
| Looking After Children/home ft | 9 |
| On Training Scheme | 426 |
| FT Education | 723 |
| FT Employee | 352 |
| PT Employee | 35 |
| Self-employed | 5 |
| Something Else | 13 |
| Total | 1,631 |

This economic activity variable was re-coded along similar lines within the NCDS model. Unlike the NCDS model, there is no qualitative distinction between what specific type of education an individual engages in as a form of economic activity. There is only one ‘FT Education’ category. Therefore, where the NCDS model had five distinct outcomes within the economic activity outcome variable, the BCS model will only have four: Employment, Education, Training & Apprenticeship, and Unemployment & Out of the Labour Force. The categories ‘FT Employee’, ‘PT Employee’, and ‘Self-employed’ were combined to make an ‘Employment’ category. The category ‘FT Education’ was renamed the ‘Education’ category. The category ‘On Training Scheme’ was renamed the ‘Training & Apprenticeship’ category. Finally, the categories ‘Seeking Work’ and ‘Looking After Children/home ft’ were combined to make an ‘Unemployed & Out of the Labour Force’ category. The ‘Something Else’ category from the raw economic activity variable was re-coded as missing because it was too vague to be placed in other outcome categories. The recorded economic activity variable [econ201] thus has a total frequency of 1,618.

##### Educational Attainment

The BCS cohort members reached compulsory school leaving age in 1986. The BCS cohort was the last group to experience the O-level/CSE split system (Pearson qualifications, 2023). By being the previous cohort to share this, the variable dictated as educational attainment is directly replicated from chapter one. The variable itself is a binary variable of the number of O-level passes. The construction of educational attainment in the BCS cohort is complicated because attainment for individuals was first coded when participants were 26 years old. At that point in the cohort, only 9,003 participants responded; of those, only 5,438 responded to an educational attainment variable. The BCS documents O’level attainment in two ways. The first is a variable of the number of O’level passes ranging from A-C grade [b960169]. The second is a variable of the number of O’level passes going from D onwards [b960157]. The educational attainment variable takes all data from the former variable and codes that into a binary less than five/five or more variables. There are instances where data is missing in the former variable but available in the latter. In these instances, it is assumed that individuals only received ‘other’ O’level grades. When this is the case, this data is coded as individuals receiving less than five O'levels. Unlike the NCDS, where O’level passes were coded for all individuals in the UK (Scottish equivalents were automatically coded into the O’level variable), the BCS data separates Scottish educational data from the rest of the UK. This meant that the Scottish equivalent for O’levels at the time of the BCS – Ordinary Grades, or O’grades, were merged with the original O’level passes variable. The procedure for dealing with Scottish grades was identical to that for O’level grades. It had two variables: one that hosted the number of O’grades A-C [b960169] and another that hosted the number of O’grades D-onwards [b960172]. All these variables were combined to make an O’level attainment variable as a measure of educational attainment. However, this only accounts for 5,438 individuals in the total cohort. At age 30, individuals were again asked to record their educational attainment and number of O’level passes. This is merged with the educational attainment variable to boost observations. The educational attainment variable takes a semi-dominant approach to this merging. The underlying thought process is that at age 26, an individual will be more likely to accurately recall their educational attainment than at age 30. Thus, in cases where there are repeated observations and they differ, age 26 is given dominance. At age 30, a variable [edolev1] gives a count of the number of O’level passes. Unfortunately, at age 30, the BCS decided not to document how many O’grade passes Scottish students attained – instead opting for a simple ‘Did you complete a Scottish qualification’ variable. This could lead to a substantive amount of missingness amongst Scottish individuals.

Compared to the NCDS cohort, most BCS cohorts gained five or more O-level passes. The table below illustrates that more of the BCS cohort gained five or more O-level passes proportionally compared to the NCDS cohort.

[insert comparison of O-level passes for NCDS and BCS]

##### Sex

Sex is a variable taken from the birth sweep to ensure the most significant number of responses. Sex measures the respondent's sex in a binary male/female format, as seen in chapter one; sex as a variable played a critical analytical role in understanding the structural inequalities and barriers that play an essential role in choice and opportunity for youth. Its inclusion in the BCS model is essential not just for replication, but as seen in the literature review, the role of women and men in the labour market was still undergoing systematic changes. Sex as a variable is taken at birth [a0255], though not all people included in the following sweeps have data for sex available; thus, this original sex variable is supplemented through a variable at age 26 [b960337] and age 30 [dmsex].

##### Housing Tenure

Housing tenure was taken from when respondents were ten years old. There was information on tenure when respondents were 16, although the responses were scattered across several binary variables with low overall responses. The age ten variable on housing tenure was a multiple-category variable with few overall missing cases. Housing tenure as a measure for inclusion in this model is the most critical measure to focus upon. The arguments of Saunders (2002, 2003, 2021) and other new structuralists were born when the BCS cohort was economically active. Statements related to the ‘death of class’ (XXXX) and the rise of tenure as the most substantive structural explanation for inequality are central to this chapter. As a variable housing tenure is taken at age 10 [d2] – similar to the NCDS cohort, this is again like other variables supplemented by a set of variables on housing tenure at age 16 [of3\_1, of3\_2, of3\_3, of3\_4, of3\_5].

In 1986, home ownership rates within England stood at 63.5 per cent (HomeOwners Alliance, 2012). Within the BCS, the recoded housing tenure variable has 61.87 per cent of the sample owning their own home compared to 38.13 per cent that do not own their own home. This is relatively similar to the official statistics of England at the time in 1986. However, when fitting housing tenure into the complete records analysis for model interpretation, missingness from other variables causes a shift in these per cent rates. Within the Complete Records model, those that own their own home jumps to 78.98 per cent compared to 21.02 per cent that do not own their own home. This is over 16 per cent larger than the official statistics report. This is an initial indication that missingness may pose a problem for the model in the future and that specific techniques, such as multiple imputation, may be helpful to investigate this.

#### Social Stratification and Socio-Economic Background: NS-SEC, CAMSIS, RGSC

As in Chapter One, a core component of this chapter is conducting a sensitivity analysis of social stratification measures. The continuation of a sensitivity analysis in Chapter Two provides a basis for comparison with Chapter One. As seen in Chapter One, each of the three models that used a different social stratification measure was relatively and substantively identical. Chapter two seeks to understand whether that is a unique phenomenon for the NCDS cohort or a pattern replicating in different periods.

As mentioned, Chapter Two's RGSC and NS-SEC measures differ slightly from their Chapter One counterparts. While the basis of each measure is the father’s social class position when the respondent was ten, missing responses are filled in with the mother’s social class position when the respondent was ten. This accomplishes three things. The first is that the mother’s social class position fills potential item missingness. The second is that it offers those respondents who do not come from a traditional nuclear family the ability to enter the model by taking the mother’s social class position where a father’s is not present. Finally, through both of these accomplishments, the level of missingness and overall responses is increased within the model, enhancing the statistical power of the model overall.

All social stratification codes are taken from Gregg’s documentation of the NCDS and BCS (Gregg, 2012). For the NS-SEC construction, a semi-dominance approach was used. Thus, a variable on the father’s NS-SEC position at age 14 [B3FSNSSEC] and the mother’s NS-SEC position at age 14 [B3MSNSSEC] are combined (when the father’s data is not available, the mother’s data is used instead. The same procedure is used for the RGSC construction, with the father’s data [B3FSRGSC] and the mother’s data [B3MSRGSC]. The same procedure was used for CAMSIS, the father’s CAMSIS at age 14 [B3FSSOC90] and the mother’s data [B3MSSOC90]. Similarly to the NCDS construction of CAMSIS, the files produced by Gregg (Gregg, 2012) erroneously erased the qualitative distinctions in CAMSIS by shifting the decimal point one to the left and rounding up to one decimal point. CAMSIS was reconstructed using SOC90 codes provided by Gregg (ibid).

The overall patterns of social class position between the NCDS and BCS have not changed substantively. This lack of change is worth noting, considering the relatively large-scale changes the British economy and society underwent during 1958-1980 (XXXX). Below is a table comparing each social stratification measure between the NCDS and BCS cohorts.

## Descriptive Statistics

Table xxxx shows the frequencies and summary statistics for the BCS. Overall, 16.78 per cent of the sample is in employment. Whilst 64.04 per cent are in education – making up the majority of the sample. Regarding training & apprenticeships, 16.32 per cent of respondents are in this form of economic activity. Only 2.77 per cent of respondents are unemployed & out of the labour force – this is potentially the influence of the YTS.

|  |  |  |
| --- | --- | --- |
| Table 1: Descriptive Statistics for Economic Activity | | |
|  | n | % |
| Economic Activity of Respondent |  |  |
| Employment | 122 | 16.87% |
| Education | 463 | 64.04% |
| Training & Apprenticeships | 118 | 16.32% |
| Unemployment & OLF | 20 | 2.77% |
| Educational Attainment O'levels |  |  |
| Less than Five O'Levels | 414 | 57.26% |
| Five or More O'Levels | 309 | 42.74% |
| Sex of Respondent |  |  |
| Female | 417 | 57.68% |
| Male | 306 | 42.32% |
| Housing Tenure of Respondent when a Child |  |  |
| Own Home | 571 | 78.98% |
| Don't Own Home | 152 | 21.02% |
| Semi-Dominant NS-SEC Social Class of Parents when Respondent was 10 |  |  |
| Large Employers and higher managerial occupations | 42 | 5.81% |
| Higher professional occupations | 55 | 7.61% |
| Lower Managerial and professional occupations | 142 | 19.64% |
| Intermediate occupations | 82 | 11.34% |
| Small employers and own account workers | 72 | 9.96% |
| Lower supervisory and technical occupations | 125 | 17.29% |
| Semi-routine occupations | 89 | 12.31% |
| Routine occupations | 116 | 16.04% |
| Semi-Dominant RGSC Social Class of Parents when Respondent was 10 |  |  |
| Professional | 40 | 5.53% |
| Managerial and Technical | 219 | 30.29% |
| Skilled non-manual | 89 | 12.31% |
| Skilled manual | 249 | 34.44% |
| Partly skilled | 94 | 13.00% |
| Unskilled | 32 | 4.43% |
|  |  |  |
|  | Mean | SD |
| Semi-Dominant CAMSIS Respondent was 10 | 50.13 | 14.53 |
|  |  |  |
| n |  | 723 |
| Data Source: BCS [Sweeps 0-4] | | |

Regarding educational attainment, 57.26 per cent of individuals received less than five O-levels, while the remaining 42.74 per cent received five or more O-levels. Sex illustrates a slight overrepresentation of men (57.68 per cent) compared to women (42.32 per cent). Regarding home ownership, 21.02 per cent of individuals grew up in a home that wasn’t owned by their parents compared to 78.98 per cent that did. The NS-SEC categories all see a relatively even distribution of respondents between 10-20 per cent except for NS-SEC 1.1 and 1.2. This will cause issues related to statistical power within the model, and due to these categories being split over four outcome categories, the standard errors for this category will most likely be very high. The level of interpretation that can be gained from these specific categories within NS-SEC will be low. RGSC is much more unevenly distributed in comparison to NS-SEC. Skilled manual occupations comprise 34.44 per cent of respondents, with professional and unskilled occupations making up 5.53 and 4.43 per cent, respectively. Similar to comments about NS-SECs' intermediate occupations, the same can be said about RGSCs' professional occupations. CAMSIS, as a metric measure, does not have these issues; it has a mean of 50.13. Given its metric nature, alongside the potentially problematic statistical power issues related to some of the categories within both NS-SEC and RGSC, if the sensitivity analysis concludes, similar to Chapter One, that all three models are substantively identical, it would thus be best to select CAMSIS for further study over NS-SEC and RGSC.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Descriptive Statistics by Economic Activity | | | | | |
|  | Economic Activity of Respondent | | | | |
|  | Employment | Education | Training & Apprenticeships | Unemployment & OLF | Total |
| N | 122.00 (16.87%) | 463.00 (64.04%) | 118.00 (16.32%) | 20.00 (2.77%) | 723.00 (100.00%) |
| Educational Attainment O'levels |  |  |  |  |  |
| Less than Five O'Levels | 94.00 (77.05%) | 201.00 (43.41%) | 100.00 (84.75%) | 19.00 (95.00%) | 414.00 (57.26%) |
| Five or More O'Levels | 28.00 (22.95%) | 262.00 (56.59%) | 18.00 (15.25%) | 1.00 (5.00%) | 309.00 (42.74%) |
| Sex of Respondent |  |  |  |  |  |
| Female | 67.00 (54.92%) | 275.00 (59.40%) | 67.00 (56.78%) | 8.00 (40.00%) | 417.00 (57.68%) |
| Male | 55.00 (45.08%) | 188.00 (40.60%) | 51.00 (43.22%) | 12.00 (60.00%) | 306.00 (42.32%) |
| Housing Tenure of Respondent when a Child |  |  |  |  |  |
| Own Home | 89.00 (72.95%) | 386.00 (83.37%) | 82.00 (69.49%) | 14.00 (70.00%) | 571.00 (78.98%) |
| Don't Own Home | 33.00 (27.05%) | 77.00 (16.63%) | 36.00 (30.51%) | 6.00 (30.00%) | 152.00 (21.02%) |
| Semi-Dominant NS-SEC Social Class of Parents when Respondent was 10 |  |  |  |  |  |
| Large Employers and higher managerial occupations | 2.00 (1.64%) | 35.00 (7.56%) | 5.00 (4.24%) | 0.00 (0.00%) | 42.00 (5.81%) |
| Higher professional occupations | 5.00 (4.10%) | 46.00 (9.94%) | 2.00 (1.69%) | 2.00 (10.00%) | 55.00 (7.61%) |
| Lower Managerial and professional occupations | 21.00 (17.21%) | 107.00 (23.11%) | 13.00 (11.02%) | 1.00 (5.00%) | 142.00 (19.64%) |
| Intermediate occupations | 10.00 (8.20%) | 60.00 (12.96%) | 12.00 (10.17%) | 0.00 (0.00%) | 82.00 (11.34%) |
| Small employers and own account workers | 12.00 (9.84%) | 38.00 (8.21%) | 17.00 (14.41%) | 5.00 (25.00%) | 72.00 (9.96%) |
| Lower supervisory and technical occupations | 25.00 (20.49%) | 69.00 (14.90%) | 27.00 (22.88%) | 4.00 (20.00%) | 125.00 (17.29%) |
| Semi-routine occupations | 19.00 (15.57%) | 47.00 (10.15%) | 19.00 (16.10%) | 4.00 (20.00%) | 89.00 (12.31%) |
| Routine occupations | 28.00 (22.95%) | 61.00 (13.17%) | 23.00 (19.49%) | 4.00 (20.00%) | 116.00 (16.04%) |
| Semi-Dominant RGSC Social Class of Parents when Respondent was 10 |  |  |  |  |  |
| Professional | 4.00 (3.28%) | 32.00 (6.91%) | 2.00 (1.69%) | 2.00 (10.00%) | 40.00 (5.53%) |
| Managerial and Technical | 28.00 (22.95%) | 167.00 (36.07%) | 23.00 (19.49%) | 1.00 (5.00%) | 219.00 (30.29%) |
| Skilled non-manual | 10.00 (8.20%) | 63.00 (13.61%) | 16.00 (13.56%) | 0.00 (0.00%) | 89.00 (12.31%) |
| Skilled manual | 52.00 (42.62%) | 135.00 (29.16%) | 48.00 (40.68%) | 14.00 (70.00%) | 249.00 (34.44%) |
| Partly skilled | 22.00 (18.03%) | 49.00 (10.58%) | 21.00 (17.80%) | 2.00 (10.00%) | 94.00 (13.00%) |
| Unskilled | 6.00 (4.92%) | 17.00 (3.67%) | 8.00 (6.78%) | 1.00 (5.00%) | 32.00 (4.43%) |
| Semi-Dominant CAMSIS Respondent was 10 | 46.48 (12.79) | 52.62 (14.91) | 45.18 (12.46) | 43.89 (13.46) | 50.13 (14.53) |

From Table XXXX, some observations can be made. Their economic activity grouping stratifies an individual’s educational attainment. The only economic activity category with a majority of individuals with five or more O’levels is the continuing education category. For employment, training & apprenticeships, and unemployment & OLF, most individuals received less than five O’levels at school. Concerning respondents’ sex by economic activity, the only category with a majority of male respondents is the unemployment & OLF category – with the employment, education, and training & apprenticeship categories having a majority of women. Concerning housing tenure, all categories see a majority of respondents living in homes their parents owned – though the most significant majority of these categories resides within the education category.

Moving on to NS-SEC, the most relevant observation is that NS-SEC 1.1 and 3 have zero observations in the unemployment & OLF categories. This will pose statistical power problems when modelling economic activity – the standard errors will also be very high. The distribution of NS-SEC changes depending on the economic activity category that is looked at. For example, those who enter education as an economic activity see a more significant proportion of respondents from NS-SEC 1.1-3 compared to all other economic activity categories. Conversely, NS-SEC 7 has a more significant proportion of respondents within employment than education.

Moving on to RGSC, the most relevant observation to be made here is that, like NS-SEC, some categories within economic activity have zero observations and will thus impact statistical power going into the sensitivity analysis. This is true for RGSC 3 non-manual within the unemployment & OLF category. Beyond this, like the NCDS analysis, a straightforward manual/non-manual divide becomes apparent when looking at these descriptive statistics; for the unemployment & OLF category, 85 per cent of respondents reside within manual occupations. Comparatively, over 55 per cent of respondents within the education category reside within non-manual occupations.

For CAMSIS, there is a base total mean of 50.13. The only economic activity category with a mean above this relates to the education category at 52.62. Employment, training & apprenticeships, and unemployment & OLF categories have a mean CAMSIS below 50.12 – the lowest being unemployment & OLF with a mean CAMSIS of 43.89.

## Modelling Main Economic Activity:

The primary outcome variable is the main economic activity of individuals in September of 1986. This is the first-month individuals were in when they received their O’level results after mandatory schooling. The first set of analyses estimates a multinomial logistic regression model. Table XXXX details the deviance, change in deviance, change in degrees of freedom, and McFadden’s Adjusted Pseudo R2, AIC, and BIC measures to compare the null model with models of one explanatory variable. Table XXXX details the exact statistics but through a sequential building of the null model with each subsequent independent variable added.

This model has been tested for the goodness of fit of two competing statistical models based on the ratio of their likelihoods in a likelihood-ratio test and again with a Wald test. Both found that the hypothesis that all the coefficients associated with educational attainment, sex, tenure and NS-SEC are simultaneously equal to 0 and can be rejected at the 0.01 level.

The model output uses the reference category of education. The education category contrasts with all other economic activity categories because it has the most significant barrier to entry; continuing schooling expects previous educational merit. Less than five O’levels is the reference category for educational attainment, Female is the reference category for Sex, Own home is the reference category for housing tenure, and NS-SEC 7 is the reference category for NS-SEC.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome Variable: Economic Activity | Deviance | Deviance (from Null) | d. f. (from Null) | McFadden’s R2 | AIC | BIC |
| Null Model | 1418.18 | - | - | - | 1424.18 | 1437.93 |
| Null Model + Educational Attainment | 1305.16 | 113.02 | 3 | 0.08 | 1317.16 | 1344.66 |
| Null Model + Sex | 1414.68 | 3.5 | 3 | 0.00 | 1426.68 | 1454.18 |
| Null Model + Tenure | 1403.27 | 14.91 | 3 | 0.01 | 1415.27 | 1442.77 |
| Null Model + NS-SEC | 1353.42 | 64.76 | 21 | 0.05 | 1401.42 | 1511.42 |

Explanatory variables are entered sequentially in the subsequent multiple logistic model following the (Gayle and Lambert, 2009) example.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome Variable: Economic Activity | Deviance | Deviance (from Previous) | d. f. (from Previous) | McFadden’s Adjusted Pseudo R2 | AIC | BIC |
| Null Model | 1418.18 | - | - | - | 1424.18 | 1437.93 |
| Null Model + Educational Attainment | 1305.16 | 113.02 | 3 | 0.08 | 1317.16 | 1344.66 |
| Null Model + Educational Attainment + Sex | 1299.29 | 5.87 | 3 | 0.08 | 1317.29 | 1358.54 |
| Null Model + Educational Attainment + Sex + Tenure | 1294.22 | 5.07 | 3 | 0.09 | 1318.22 | 1373.23 |
| Null Model + Educational Attainment + Sex + Tenure + NS-SEC | 1253.08 | 41.14 | 21 | 0.12 | 1319.08 | 1470.33 |

The model fit statistics demonstrate that there are normally distributed residuals and that the model is correctly specified. Table XXXX suggests that deviance is reduced by 41.44 from the null for the full proposed model. AIC and BIC statistics suggest, unlike the NCDS model, that the full proposed model is not the best-fit model amongst those entered – however, the difference in such statistics is slight. Finally, the full model presents an adjusted pseudo-R2 of 0.12. In other words, the full model explains 12 per cent of the variance of economic activity, leaving 88 per cent unexplained. This is a 12 per cent drop in R2 compared to the NCDS model, suggesting that a temporal element of explanation may be necessary to the story of economic activity sorting. The following analysis with the full model is a complete records analysis with 723 observations.

As with the NCDS models, log odds will be presented alongside average marginal effects and quasi-variance statistics. On top of this, predicted probabilities, log odds and quasi-variance statistics are also graphed for a more intuitive understanding of the model.

The results of the multinomial logistic regression model are reported in Table XXXX. The output for employment demonstrates that individuals receiving five or more O’levels have decreased log odds of employment over education. Using average marginal effects there is a 12 per cent decreased probability for individuals to be employed over education if they received five or more O’levels. Sex and housing tenure had no statistically significant effect on an individual being in employment over being in education. Apart from NS-SEC 1.1, the parental social class also had no statistically significant effect on an individual's employment over education. There is a decreased likelihood of employment over education for individuals whose parents inhabit NS-SEC 1.1 compared to those in NS-SEC 7. Using average marginal effects translates to a 17 per cent decreased probability for an individual to be in employment over education for individuals that came from NS-SEC 1.1 origins compared to NS-SEC 7 origins.

The output for training & apprenticeship category demonstrates that individuals that received five or more O’levels have a decreased log odds of being in training & apprenticeships compared to education. Using average marginal effects, there is a 16 per cent decreased probability for individuals to be in training & apprenticeships over education if they received five or more O’levels. Neither sex, housing tenure, nor NS-SEC are statistically significant, so their substantive results will not be interpreted.

Finally, the unemployment & OLF category output demonstrates that individuals who received five or more O’levels have a decreased log odds of being in unemployment & OLF over education. Using average marginal effects, this translates to a 4 per cent decreased probability of being in unemployment & OLF category over education if individuals received five or more O’levels. Sex is statistically significant; men have an increased log odds of being unemployed & OLF over being in education compared to women. Translated to average marginal effects, men have a 3 per cent increased probability of being unemployed & OLF over education compared to women. Neither housing tenure nor NS-SEC are statistically significant.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | NS-SEC | | | Average Marginal Effects | | Quasi-variance | | |
| Economic Activity | Coef. | S.E | Sig. | Prob. | S.E | S.E | LCI | UCI |
| Employment |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Five or More O’levels | -1.37 | (0.24) | \*\*\* | -0.12 | (0.03) |  |  |  |
| Sex |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Male | 0.33 | (0.22) |  | 0.03 | (0.03) |  |  |  |
| Housing Tenure |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Don't Own Home | 0.25 | (0.26) |  | 0.02 | (0.03) |  |  |  |
| NS-SEC |  |  |  |  |  |  |  |  |
| 1.1 | -1.32 | (0.78) |  | -0.12 | (0.05) | 0.74 | -2.83 | 0.18 |
| 1.2 | -0.54 | (0.54) |  | -0.06 | (0.06) | 0.48 | -1.53 | 0.45 |
| 2 | Ref. | (.) |  | (.) | (.) | 0.25 | -0.51 | 0.51 |
| 3 | -0.23 | (0.43) |  | -0.04 | (0.05) | 0.35 | -0.94 | 0.49 |
| 4 | 0.31 | (0.42) |  | -0.01 | (0.05) | 0.34 | -0.38 | 1.01 |
| 5 | 0.55 | (0.35) |  | 0.03 | (0.05) | 0.24 | 0.05 | 1.05 |
| 6 | 0.35 | (0.38) |  | 0.02 | (0.05) | 0.29 | -0.23 | 0.93 |
| 7 | 0.46 | (0.35) |  | 0.04 | (0.05) | 0.24 | -0.03 | 0.95 |
| Intercept | -1.14 | (0.28) | \*\*\* | (.) | (.) | (.) | (.) |  |
|  |  |  |  |  |  |  |  |  |
| School | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
|  |  |  |  |  |  |  |  |  |
| Training & Apprenticeships |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Five or More O’levels | -1.87 | (0.28) | \*\*\* | -0.17 | (0.03) | (.) | (.) |  |
| Sex |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Male | 0.27 | (0.23) |  | 0.01 | (0.03) | (.) | (.) |  |
| Housing Tenure |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Don't Own Home | 0.36 | (0.26) |  | 0.04 | (0.03) | (.) | (.) |  |
| NS-SEC |  |  |  |  |  |  |  |  |
| 1.1 | 0.08 | (0.58) |  | 0.03 | (0.06) | 0.50 | -0.95 | 1.10 |
| 1.2 | -0.94 | (0.79) |  | -0.06 | (0.04) | 0.73 | -2.44 | 0.56 |
| 2 | Ref. | (.) |  | (.) | (.) | 0.31 | -0.63 | 0.63 |
| 3 | 0.41 | (0.45) |  | 0.05 | (0.05) | 0.33 | -0.27 | 1.09 |
| 4 | 1.09 | (0.44) | \* | 0.11 | (0.05) | 0.31 | 0.45 | 1.72 |
| 5 | 1.08 | (0.39) | \*\* | 0.11 | (0.05) | 0.24 | 0.59 | 1.58 |
| 6 | 0.72 | (0.43) |  | 0.07 | (0.05) | 0.29 | 0.13 | 1.31 |
| 7 | 0.63 | (0.40) |  | 0.05 | (0.04) | 0.26 | 0.10 | 1.16 |
| Intercept | -1.48 | (0.32) | \*\* | (.) | (.) | (.) | (.) |  |
|  |  |  |  |  |  |  |  |  |
| Unemployment & Out of Labour Force |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Five or More O’levels | -3.18 | (1.04) | \*\* | -0.04 | (0.01) | (.) | (.) |  |
| Sex |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Male | 1.03 | (0.48) | \* | 0.02 | (0.01) | (.) | (.) |  |
| Housing Tenure |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  |
| Don't Own Home | 0.26 | (0.54) |  | 0.00 | (0.01) | (.) | (.) |  |
| NS-SEC |  |  |  |  |  |  |  |  |
| 1.1 | -13.07 | (1070.37) |  | -0.01 | (0.01) | 1070.37 | -2199.06 | 2172.93 |
| 1.2 | 1.64 | (1.26) |  | 0.05 | (0.04) | 0.76 | 0.08 | 3.20 |
| 2 | Ref. | (.) |  | (.) | (.) | 1.02 | -2.07 | 2.07 |
| 3 | -12.79 | (759.94) |  | -0.01 | (0.01) | 759.94 | -1564.79 | 1539.21 |
| 4 | 2.42 | (1.13) | \* | 0.06 | (0.03) | 0.50 | 1.41 | 3.44 |
| 5 | 1.71 | (1.14) |  | 0.02 | (0.02) | 0.53 | 0.63 | 2.79 |
| 6 | 1.60 | (1.16) |  | 0.02 | (0.02) | 0.54 | 0.50 | 2.71 |
| 7 | 1.35 | (1.15) |  | 0.02 | (0.02) | 0.53 | 0.27 | 2.43 |
| Intercept | -4.23 | (1.05) | \*\*\* | (.) | (.) | (.) | (.) |  |
|  |  |  |  |  |  |  |  |  |
| Number of observations | 723 | | | | | | | |
| McFadden’s R2 | 0.12 | | | | | | | |
| McFadden’s Adjusted Pseudo R2 | 0.03 | | | | | | | |
| Cox-Snell Pseudo R2 | 0.20 | | | | | | | |
| Nagelkerke Pseudo R2 | 0.24 | | | | | | | |
| AIC | 1319.08 | | | | | | | |
| BIC | 1470.33 | | | | | | | |
| \*\*\* p<.001, \*\* p<.01, \* p<.05 Data Source: BCS [Birth-Age30]  Note: Complete Records Analysis | | | | | | | |  |

Each variable is graphically visualised with its predicted probabilities to understand these results in a more manageable format. This allows for a more intuitive understanding of the multinominal logistic regression and provides a different outlook for interpretation. Each graph focuses on one variable within the model: educational attainment, sex, housing tenure, and NS-SEC, with each of the four economic activity outcome categories graphed using predicted probabilities.

A graph showing the number of probabilities

Description automatically generatedA graph showing the number of probabilities of economic activity

Description automatically generatedA graph showing the number of individuals in the same age

Description automatically generated with medium confidenceA graph showing the number of individuals in the economic activity

Description automatically generated with medium confidence

Alongside the graphical presentation of predicted probabilities, the following figures also visualise the log odds of NS-SEC within each outcome category (except the reference category of education) alongside quasi-variance statistics to overcome the reference category problem.

A graph of a graph showing the number of individuals

Description automatically generated with medium confidenceA graph showing the number of numbers and the number of logistic

Description automatically generated with medium confidence

A graph with red and black lines

Description automatically generated

### Discussion and Conclusion

The multinomial logistic regression model indicates that some structural inequalities impact an individual’s choice of sorting into economic activity post-mandatory schooling. Educational attainment was statistically and substantively significant across all economic activity categories. NS-SEC was also partially statistically significant within the employment outcome category. Sex and Housing tenure were not statistically significant at any point across the model…

## Sensitivity Analysis of Independent Variables

Following the NCDS chapter, this section seeks to present a sensitivity analysis of social stratification measures to provide an informed assessment of which social stratification measure to use within the given BCS model. As with the NCDS, NS-SEC, CAMSIS, and RGSC are the three measures that will be used within subsequent sensitivity analysis…

Testing Measures of Parental Social Class

Three separate multinomial logistic regressions are presented in Table XXXX. The first model has been described at length in the previous section and uses NS-SEC. The second model uses CAMSIS, and the third model uses RGSC. These models are all presented using log odds and average marginal effects to enhance interpretation and comparison between models.

Educational attainment is substantively identical across all models, including the NS-SEC, CAMSIS, and RGSC models. All three models also present substantively identical results for sex at the unemployment & OLF. The RGSC model presents no statistically significant social class results compared to the NS-SEC model, which is statistically significant at NS-SEC 1.1 in the employment category. The CAMSIS model presents statistically significant results for CAMSIS across employment and training & apprenticeship categories. Still, there is no per cent change in the models when looking at average marginal effects.

The goodness-of-fit statistics are similar for all three models. Differences in R2 measures exist, but the minor nature of these differences indicates the amount of variance explained across the three models remains consistent. AIC and BIC statistics are also minimal. The most parsimonious model is the RGSC model when using AIC and CAMSIS when using BIC. BIC penalises models for estimating additional parameters. Unsurprisingly, CAMSIS is a better fit than either NS-SEC or RGSC models – the marginal difference in BIC statistics between the models does not make a convincing case for selecting CAMSIS over the other two models. As such, there is a general preference when considering both AIC and BIC statistics towards the RGSC model. From now on, the preferred model of choice for subsequent analysis will be the RGSC model.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | NS-SEC | | | | | CAMSIS | | | | | RGSC | | | | |
| Economic Activity | Coef. | S.E | Sig. | Prob. | S.E | Coef. | S.E | Sig. | Prob. | S.E | Coef. | S.E | Sig. | Prob. | S.E |
| Employment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Five or More O’levels | -1.37 | (0.24) | \*\*\* | -0.12 | (0.03) | -1.35 | (0.24) | \*\*\* | -0.12 | (0.03) | -1.38 | (0.24) | \*\*\* | -0.12 | (0.03) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) |  |  |  | (.) | (.) |  |  |  | (.) | (.) |
| Male | 0.33 | (0.22) |  | 0.03 | (0.03) | 0.31 | (0.22) |  | 0.03 | (0.03) | 0.30 | (0.22) |  | 0.02 | (0.03) |
| Housing Tenure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) |  |  |  | (.) | (.) |  |  |  | (.) | (.) |
| Don't Own Home | 0.25 | (0.26) |  | 0.02 | (0.03) | 0.27 | (0.25) |  | 0.02 | (0.03) | 0.30 | (0.26) |  | 0.03 | (0.03) |
| NS-SEC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.1 | -1.32 | (0.78) |  | -0.12 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 1.2 | -0.54 | (0.54) |  | -0.06 | (0.06) |  |  |  |  |  |  |  |  |  |  |
| 2 | Ref. | (.) |  | (.) | (.) |  |  |  |  |  |  |  |  |  |  |
| 3 | -0.23 | (0.43) |  | -0.04 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 4 | 0.31 | (0.42) |  | -0.01 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 5 | 0.55 | (0.35) |  | 0.03 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 6 | 0.35 | (0.38) |  | 0.02 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 7 | 0.46 | (0.35) |  | 0.04 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| CAMSIS |  |  |  |  |  | -0.02 | (0.01) | \*\* | -0.00 | (0.00) |  |  |  |  |  |
| RGSC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |  | -0.20 | (0.58) |  | -0.02 | (0.06) |
| 2 |  |  |  |  |  |  |  |  |  |  | Ref. | (.) |  | (.) | (.) |
| 3NM |  |  |  |  |  |  |  |  |  |  | -0.19 | (0.41) |  | -0.03 | (0.04) |
| 3M |  |  |  |  |  |  |  |  |  |  | 0.67 | (0.27) | \* | 0.06 | (0.04) |
| 4 |  |  |  |  |  |  |  |  |  |  | 0.68 | (0.35) | \* | 0.07 | (0.05) |
| 5 |  |  |  |  |  |  |  |  |  |  | 0.40 | (0.54) |  | 0.02 | (0.07) |
| Intercept | -1.14 | (0.28) | \*\*\* | (.) | (.) | 0.05 | (0.41) |  |  |  | -1.32 | (0.25) | \*\*\* |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| School |  |  |  |  |  | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Training & Apprenticeships |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Five or More O’levels | -1.87 | (0.28) | \*\*\* | -0.17 | (0.03) | -1.81 | (0.28) | \*\*\* | -0.16 | (0.03) | -1.85 | (0.28) | \*\*\* | -0.17 | (0.03) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Male | 0.27 | (0.23) |  | 0.01 | (0.03) | 0.26 | (0.22) |  | 0.02 | (0.03) | 0.27 | (0.22) |  | 0.02 | (0.03) |
| Housing Tenure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Don't Own Home | 0.36 | (0.26) |  | 0.04 | (0.03) | 0.36 | (0.25) |  | 0.04 | (0.03) | 0.35 | (0.26) |  | 0.03 | (0.03) |
| NS-SEC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.1 | 0.08 | (0.58) |  | 0.03 | (0.06) | (.) | (.) |  |  |  | (.) | (.) |  |  |  |
| 1.2 | -0.94 | (0.79) |  | -0.06 | (0.04) |  |  |  |  |  |  |  |  |  |  |
| 2 | Ref. | (.) |  | (.) | (.) |  |  |  |  |  |  |  |  |  |  |
| 3 | 0.41 | (0.45) |  | 0.05 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 4 | 1.09 | (0.44) | \* | 0.11 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 5 | 1.08 | (0.39) | \*\* | 0.11 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 6 | 0.72 | (0.43) |  | 0.07 | (0.05) |  |  |  |  |  |  |  |  |  |  |
| 7 | 0.63 | (0.40) |  | 0.05 | (0.04) |  |  |  |  |  |  |  |  |  |  |
| CAMSIS |  |  |  |  |  | -0.03 | (0.01) | \*\* | -0.00 | (0.00) |  |  |  |  |  |
| RGSC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  | (.) | (.) |  |  |  | -0.67 | (0.78) |  | -0.06 | (0.05) |
| 2 |  |  |  |  |  |  |  |  |  |  | Ref. | (.) |  | (.) | (.) |
| 3NM |  |  |  |  |  |  |  |  |  |  | 0.44 | (0.38) |  | 0.06 | (0.05) |
| 3M |  |  |  |  |  |  |  |  |  |  | 0.75 | (0.29) | \* | 0.06 | (0.03) |
| 4 |  |  |  |  |  |  |  |  |  |  | 0.76 | (0.36) | \* | 0.07 | (0.04) |
| 5 |  |  |  |  |  |  |  |  |  |  | 0.80 | (0.52) |  | 0.08 | (0.07) |
| Intercept | -1.48 | (0.32) | \*\* | (.) | (.) | 0.30 | (0.43) |  |  |  | -1.39 | (0.26) | \*\*\* |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Unemployment & Out of Labour Force |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Five or More O’levels | -3.18 | (1.04) | \*\* | -0.04 | (0.01) | -3.09 | (1.04) | \*\* | -0.04 | (0.01) | -3.18 | (1.04) | \*\* | -0.04 | (0.01) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Male | 1.03 | (0.48) | \* | 0.02 | (0.01) | 0.98 | (0.48) | \* | 0.02 | (0.01) | 1.02 | (0.48) | \* | 0.02 | (0.01) |
| Housing Tenure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Don't Own Home | 0.26 | (0.54) |  | 0.00 | (0.01) | 0.23 | (0.52) |  | 0.00 | (0.01) | 0.44 | (0.54) |  | 0.01 | (0.01) |
| NS-SEC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.1 | -13.07 | (1070.37) |  | -0.01 | (0.01) | (.) | (.) |  |  |  | (.) | (.) |  |  |  |
| 1.2 | 1.64 | (1.26) |  | 0.05 | (0.04) |  |  |  |  |  |  |  |  |  |  |
| 2 | Ref. | (.) |  | (.) | (.) |  |  |  |  |  |  |  |  |  |  |
| 3 | -12.79 | (759.94) |  | -0.01 | (0.01) |  |  |  |  |  |  |  |  |  |  |
| 4 | 2.42 | (1.13) | \* | 0.06 | (0.03) |  |  |  |  |  |  |  |  |  |  |
| 5 | 1.71 | (1.14) |  | 0.02 | (0.02) |  |  |  |  |  |  |  |  |  |  |
| 6 | 1.60 | (1.16) |  | 0.02 | (0.02) |  |  |  |  |  |  |  |  |  |  |
| 7 | 1.35 | (1.15) |  | 0.02 | (0.02) |  |  |  |  |  |  |  |  |  |  |
| CAMSIS |  |  |  |  |  | -0.03 | (0.02) |  | -0.00 | (0.00) |  |  |  |  |  |
| RGSC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |  | 2.57 | (1.27) | \* | 0.07 | (0.05) |
| 2 |  |  |  |  |  |  |  |  |  |  | Ref. | (.) |  | (.) | (.) |
| 3NM |  |  |  |  |  |  |  |  |  |  | -12.40 | (737.60) |  | -0.01 | (0.01) |
| 3M |  |  |  |  |  |  |  |  |  |  | 2.63 | (1.05) | \* | 0.05 | (0.01) |
| 4 |  |  |  |  |  |  |  |  |  |  | 1.44 | (1.25) |  | 0.01 | (0.01) |
| 5 |  |  |  |  |  |  |  |  |  |  | 1.80 | (1.47) |  | 0.02 | (0.03) |
| Intercept | -4.23 | (1.05) | \*\*\* | (.) |  | -1.43 | (0.92) |  |  |  | -4.79 | (1.06) | \*\*\* |  |  |
| Number of observations | 723 | | | | | 723 | | | | | 723 | | | | |
| McFadden’s R2 | 0.12 | | | | | 0.10 | | | | | 0.11 | | | | |
| McFadden’s Pseudo R2 | 0.03 | | | | | 0.05 | | | | | 0.04 | | | | |
| Cox-Snell Pseudo R2 | 0.20 | | | | | 0.18 | | | | | 0.20 | | | | |
| Nagelkerke Pseudo R2 | 0.24 | | | | | 0.20 | | | | | 0.23 | | | | |
| AIC | 1319.08 | | | | | 1309.34 | | | | | 1312.82 | | | | |
| BIC | 1470.33 | | | | | 1378.09 | | | | | 1436.57 | | | | |
| \*\*\* p<.001, \*\* p<.01, \* p<.05 Data Source: BCS [Birth-Age 30]  Note: Complete Records Analysis for NS-SEC, CAMSIS, RGSC | | | | | | | | | | | | | | | |

### Discussion and Conclusions

## Missing Data in the BCS

There are 1,616 individuals identified in the BCS who indicated some form of economic activity within the 21-sub-sample sweep. With all variables added to the model, there are 958 observations with missing data on at least one of the variables included for analysis – the model itself is 42 per cent complete, according to Table XXXX. Of the missingness amongst the variables, 29 were missing in economic activity, 805 were missing at educational attainment, 85 were missing at housing tenure, 0 were missing at sex, and 251 were missing at RGSC. The most considerable missingness can be attributed to the educational attainment variable. This is primarily because of a failure of the BCS survey to ask all participants to answer the relevant educational attainment questions – and a lack of follow-up.

Patterns of missing data are presented in Table XXXX. Within the BCS sample, 42 per cent have complete records on all variables, 36 per cent are missing values at educational attainment, and a further 5 per cent were missing at both educational attainment and RGSC. Finally, 4 per cent were missing at solely RGSC. All other missingness is at 3 per cent or lower.

Educational attainment is the only variable within the model that takes data from individuals post-16 years of age. This is important considering the development of the BCS as a survey…

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| N | Percent Complete (%) | Educational Attainment | Economic Activity | Housing Tenure | RGSC | Sex |
| 723 | 44 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 645 | 39 |  | ✓ | ✓ | ✓ | ✓ |
| 84 | 5 |  | ✓ | ✓ |  | ✓ |
| 60 | 4 | ✓ | ✓ | ✓ |  | ✓ |
| Total = 1645 |

|  |  |  |
| --- | --- | --- |
| Outcome Variable: Economic Activity | Obs=. | Obs<. |
| Economic Activity | 29 | 1616 |
| Educational Attainment | 805 | 840 |
| Housing Tenure | 85 | 1560 |
| Sex | 0 | 1645 |
| RGSC | 251 | 1394 |

Given that a complete records analysis can only be undertaken if data is confidently considered to be MCAR, the patterns of missingness related to this model suggest that data may be MAR; educational attainment has already been discussed, but looking more closely at the distribution of other variables within the model suggests missingness may have an impact upon the substantive interpretation of results. Sex, housing tenure, and RGSC…

A graph showing the number of numbers

Description automatically generated with medium confidenceA graph of different colored lines

Description automatically generated with medium confidenceA graph of a number of numbers

Description automatically generated with medium confidenceA graph showing different colored lines

Description automatically generated with medium confidence

Table 1.15 Comparison of Missingness across four models.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CRA RGSC | | | Average Marginal Effects | | All Educational Attainment Missingness=0 | | | Average Marginal Effects | | All Educational Attainment Missingness=1 | | | Average Marginal Effects | | Imputed RGSC | | | Average Marginal Effects | |
| Economic Activity | Coef. | S.E | Sig. | Prob. | S.E | Coef. | S.E | Sig. | Prob. | S.E | Coef. | S.E | Sig. | Prob. | S.E | Coef. | S.E | Sig. | Prob. | S.E |
| Employment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Five or More O’levels | -1.38 | (0.24) | \*\*\* | -0.12 | (0.03) | -1.91 | (0.22) | \*\*\* | -0.17 | (0.02) | 0.11 | (0.16) |  | 0.01 | (0.03) | -1.34 | (0.23) | \*\*\* | -0.10 | (0.04) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Male | 0.30 | (0.22) |  | 0.02 | (0.03) | 0.61 | (0.15) | \*\*\* | 0.07 | (0.02) | 0.54 | (0.14) | \*\*\* | 0.07 | (0.02) | 0.64 | (0.14) | \*\*\* | 0.07 | (0.02) |
| Housing Tenure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Don't Own Home | 0.30 | (0.26) |  | 0.03 | (0.03) | 0.54 | (0.16) | \*\* | 0.04 | (0.03) | 0.78 | (0.16) | \*\*\* | 0.07 | (0.03) | 0.58 | (0.16) | \*\*\* | 0.06 | (0.03) |
| RGSC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | -0.20 | (0.58) |  | -0.02 | (0.06) | -0.19 | (0.44) |  | 0.01 | (0.07) | -0.29 | (0.42) |  | -0.01 | (0.06) | -0.17 | (0.43) |  | 0.01 | (0.07) |
| 2 | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | Ref. | (.) |  | (.) | (.) |
| 3NM | -0.19 | (0.41) |  | -0.03 | (0.04) | 0.02 | (0.29) |  | -0.00 | (0.04) | 0.11 | (0.27) |  | 0.01 | (0.04) | 0.08 | (0.29) |  | 0.01 | (0.04) |
| 3M | 0.67 | (0.27) | \* | 0.06 | (0.04) | 0.81 | (0.20) | \*\*\* | 0.07 | (0.03) | 0.97 | (0.19) | \*\*\* | 0.10 | (0.03) | 0.88 | (0.20) | \*\*\* | 0.08 | (0.03) |
| 4 | 0.68 | (0.35) | \* | 0.07 | (0.05) | 0.54 | (0.24) | \* | 0.05 | (0.04) | 0.81 | (0.23) | \*\*\* | 0.09 | (0.04) | 0.62 | (0.25) | \* | 0.07 | (0.04) |
| 5 | 0.40 | (0.54) |  | 0.02 | (0.07) | 0.40 | (0.34) |  | -0.01 | (0.05) | 0.64 | (0.33) |  | 0.02 | (0.05) | 0.49 | (0.35) |  | 0.00 | (0.05) |
| Intercept | -1.32 | (0.25) | \*\*\* |  |  | -1.05 | (0.18) | \*\*\* |  |  | -1.71 | (0.20) | \*\*\* |  |  | -1.06 | (0.19) | \*\*\* |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| School | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Training & Apprenticeships |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Five or More O’levels | -1.85 | (0.28) | \*\*\* | -0.17 | (0.03) | -2.42 | (0.26) | \*\*\* | -0.24 | (0.02) | 0.14 | (0.15) |  | 0.02 | (0.03) | -2.03 | (0.26) | \*\*\* | -0.22 | (0.03) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Male | 0.27 | (0.22) |  | 0.02 | (0.03) | 0.43 | (0.15) | \*\* | 0.02 | (0.02) | 0.35 | (0.14) | \* | 0.02 | (0.02) | 0.52 | (0.14) | \*\*\* | 0.03 | (0.02) |
| Housing Tenure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Don't Own Home | 0.35 | (0.26) |  | 0.03 | (0.03) | 0.59 | (0.16) | \*\*\* | 0.06 | (0.03) | 0.86 | (0.15) | \*\*\* | 0.10 | (0.03) | 0.54 | (0.16) | \*\* | 0.04 | (0.03) |
| RGSC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | -0.67 | (0.78) |  | -0.06 | (0.05) | -1.17 | (0.64) |  | -0.14 | (0.05) | -1.29 | (0.62) | \* | -0.13 | (0.04) | -1.13 | (0.64) | \*\* | -0.13 | (0.05) |
| 2 | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | Ref. | (.) |  | (.) | (.) |
| 3NM | 0.44 | (0.38) |  | 0.06 | (0.05) | 0.16 | (0.28) |  | 0.03 | (0.04) | 0.26 | (0.26) |  | 0.04 | (0.04) | 0.19 | (0.28) |  | 0.03 | (0.04) |
| 3M | 0.75 | (0.29) | \* | 0.06 | (0.03) | 0.82 | (0.20) | \*\*\* | 0.07 | (0.03) | 1.00 | (0.19) | \*\*\* | 0.11 | (0.03) | 0.84 | (0.21) | \*\*\* | 0.07 | (0.03) |
| 4 | 0.76 | (0.36) | \* | 0.07 | (0.04) | 0.50 | (0.24) | \* | 0.04 | (0.04) | 0.79 | (0.23) | \*\*\* | 0.09 | (0.04) | 0.54 | (0.25) | \* | 0.05 | (0.04) |
| 5 | 0.80 | (0.52) |  | 0.08 | (0.07) | 0.83 | (0.32) | \*\* | 0.10 | (0.05) | 1.10 | (0.30) | \*\*\* | 0.15 | (0.05) | 0.90 | (0.35) | \*\* | 0.11 | (0.06) |
| Intercept | -1.39 | (0.26) | \*\*\* |  |  | -0.89 | (0.18) | \*\*\* |  |  | -1.63 | (0.20) | \*\*\* |  |  | -0.79 | (0.19) | \*\*\* | (.) | (.) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Unemployment & Out of Labour Force |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Educational Attainment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than five O’levels | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Five or More O’levels | -3.18 | (1.04) | \*\* | -0.04 | (0.01) | -3.50 | (1.02) | \*\*\* | -0.05 | (0.01) | -0.22 | (0.30) |  | -0.01 | (0.01) | -3.32 | (1.08) | \*\* | -0.06 | (0.01) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Male | 1.02 | (0.48) | \* | 0.02 | (0.01) | 0.80 | (0.29) | \*\* | 0.02 | (0.01) | 0.74 | (0.29) | \*\* | 0.02 | (0.01) | 0.69 | (0.26) | \*\* | 0.01 | (0.01) |
| Housing Tenure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own Home | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| Don't Own Home | 0.44 | (0.54) |  | 0.01 | (0.01) | 0.55 | (0.31) |  | 0.01 | (0.01) | 0.88 | (0.30) | \*\* | 0.02 | (0.01) | 0.68 | (0.29) | \* | 0.01 | (0.01) |
| RGSC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | 2.57 | (1.27) | \* | 0.07 | (0.05) | 0.59 | (0.84) |  | 0.03 | (0.04) | 0.46 | (0.82) |  | 0.02 | (0.03) | 0.64 | (0.86) |  | 0.04 | (0.05) |
| 2 | Ref. | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) | (.) | (.) |  | (.) | (.) |
| 3NM | -12.40 | (737.60) |  | -0.01 | (0.01) | -1.18 | (1.09) |  | -0.02 | (0.01) | -1.09 | (1.08) |  | -0.02 | (0.01) | -1.21 | (1.09) |  | -0.02 | (0.01) |
| 3M | 2.63 | (1.05) | \* | 0.05 | (0.01) | 1.24 | (0.44) | \*\* | 0.03 | (0.01) | 1.45 | (0.44) | \*\*\* | 0.03 | (0.01) | 1.32 | (0.46) | \*\* | 0.03 | (0.01) |
| 4 | 1.44 | (1.25) |  | 0.01 | (0.01) | 0.55 | (0.55) |  | 0.01 | (0.02) | 0.86 | (0.54) |  | 0.01 | (0.02) | 0.59 | (0.56) |  | 0.01 | (0.02) |
| 5 | 1.80 | (1.47) |  | 0.02 | (0.03) | 1.42 | (0.59) | \* | 0.04 | (0.03) | 1.73 | (0.58) | \*\* | 0.05 |  | 1.50 | (0.62) | \* | 0.05 | (0.03) |
| Intercept | -4.79 | (1.06) | \*\*\* |  |  | -3.16 | (0.43) | \*\*\* |  |  | -3.75 | (0.46) | \*\*\* |  |  | -2.88 | (0.43) | \*\*\* | (.) | (.) |
| Number of observations | 723 | | | | | 1368 | | | | | 1368 | | | | | 1645 | | | | |
| Average RVI |  | | | | |  | | | | |  | | | | | 0.33 | | | | |
| Largest |  | | | | |  | | | | |  | | | | | 0.62 | | | | |
| \*\*\* p<.001, \*\* p<.01, \* p<.05 Data Source: BCS [Birth-Age 30]  Note: Comparison of Missingness across four models | | | | | | | | | | | | | | | | | | | | |

# Appendix:

Table A.1 Goodness-of-fit summaries for explanatory variables and Economic Activity (CAMSIS)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome Variable: Economic Activity | Deviance | Deviance (from Null) | d. f. (from Null) | McFadden’s Adjusted Pseudo R2 | AIC | BIC |
| Null Model | 1418.18 | - | - | - | 1424.18 | 1437.93 |
| Null Model + Educational Attainment | 1305.16 | 113.02 | 3 | 0.08 | 1317.16 | 1344.66 |
| Null Model + Sex | 1414.68 | 3.5 | 3 | 0.00 | 1426.68 | 1454.18 |
| Null Model + Tenure | 1403.27 | 14.91 | 3 | 0.01 | 1415.27 | 1442.77 |
| Null Model + CAMSIS | 1377.94 | 40.24 | 3 | 0.03 | 1389.94 | 1417.44 |

Table A.2 Model building goodness-of-fit summaries for multiple logistic regression model of Economic Activity (CAMSIS)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome Variable: Economic Activity | Deviance | Deviance (from Previous) | d.f. (from Previous) | McFadden’s Adjusted Pseudo R2 | AIC | BIC |
| Null Model | 1418.18 | - | - | - | 1424.18 | 1437.93 |
| Null Model + Educational Attainment | 1305.16 | 113.02 | 3 | 0.08 | 1317.16 | 1344.66 |
| Null Model + Educational Attainment + Sex | 1299.29 | 5.87 | 3 | 0.08 | 1317.29 | 1358.54 |
| Null Model + Educational Attainment + Sex + Tenure | 1294.22 | 5.07 | 3 | 0.09 | 1318.22 | 1373.23 |
| Null Model + Educational Attainment + Sex + Tenure + CAMSIS | 1279.34 | 14.88 | 3 | 0.10 | 1309.34 | 1378.09 |

Table A.3 Goodness-of-fit summaries for explanatory variables and Economic Activity (RGSC)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome Variable: Economic Activity | Deviance | Deviance (from Null) | d.f. (from Null) | McFadden’s Adjusted Pseudo R2 | AIC | BIC |
| Null Model | 1418.18 | - | - | - | 1424.18 | 1437.93 |
| Null Model + Educational Attainment | 1305.16 | 113.02 | 3 | 0.08 | 1317.16 | 1344.66 |
| Null Model + Sex | 1414.68 | 3.5 | 3 | 0.00 | 1426.68 | 1454.18 |
| Null Model + Tenure | 1403.27 | 14.91 | 3 | 0.01 | 1415.27 | 1442.77 |
| Null Model + RGSC | 1362.61 | 55.57 | 15 | 0.04 | 1398.61 | 1481.11 |

Table A.4 Model building goodness-of-fit summaries for multiple logistic regression model of Economic Activity (RGSC)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome Variable: Economic Activity | Deviance | Deviance (from Previous) | d.f. (from Previous) | McFadden’s Adjusted Pseudo R2 | AIC | BIC |
| Null Model | 1418.18 | - | - | - | 1424.18 | 1437.93 |
| Null Model + Educational Attainment | 1305.16 | 113.02 | 3 | 0.08 | 1317.16 | 1344.66 |
| Null Model + Educational Attainment + Sex | 1299.29 | 5.87 | 3 | 0.08 | 1317.29 | 1358.54 |
| Null Model + Educational Attainment + Sex + Tenure | 1294.22 | 5.07 | 3 | 0.09 | 1318.22 | 1373.23 |
| Null Model + Educational Attainment + Sex + Tenure + RGSC | 1258.82 | 34.40 | 15 | 0.11 | 1312.82 | 1436.57 |

# References:

Alcott, B. (2013) ‘Predicting departure from British education: Identifying those most at risk through discrete time hazard modelling’, *Widening Participation and Lifelong Learning*, 15(4), pp. 46–64. Available at: https://doi.org/10.5456/WPLL.15.4.46.

Anders, J. and Dorsett, R. (2017) ‘What young English people do once they reach school-leaving age: A cross-cohort comparison for the last 30 years’, *Longitudinal and Life Course Studies*, 8(1). Available at: https://doi.org/10.14301/llcs.v8i1.399.

Beck, U. (2014) *The brave new world of work*. John Wiley & Sons.

Bergman, M.M. and Joye, D. (2001) ‘Comparing Social Stratification Schemas: CAMSIS, CSP-CH, Goldthorpe, ISCO-88, Treiman, and Wright’, *Cambridge studies in Social research*, p. 53.

Blanden, J. and Machin, S. (2017) ‘Home Ownership and Social Mobility’, *CEP Discussion Paper* [Preprint].

Boero, G. *et al.* (2020) ‘HOW DOES THE RETURN TO A DEGREE VARY BY CLASS OF AWARD?’, *Higher Education Statistics Agency* [Preprint].

Breen, R. (2022) ‘The stubborn persistence of educational inequality’, *IFS Deaton Review* [Preprint].

Bukodi, E. (2009) ‘Education, First Occupation and Later Occupational Attainment: Cross-cohort Changes among Men and Women in Britain’, *CLS Cohort Studies*, 4.

Bukodi, E., Bourne, M. and Betthäuser, B. (2017) ‘Wastage of talent?’, *Advances in Life Course Research*, 34, pp. 34–42. Available at: https://doi.org/10.1016/j.alcr.2017.09.003.

Bukodi, E. and Goldthorpe, J.H. (2009) ‘Class Origins, Education and Occupational Attainment: Cross-cohort Changes among Men in Britain’, *CLS Cohort Studies*, 3.

Bukodi, E. and Goldthorpe, J.H. (2011) ‘Social class returns to higher education: chances of access to the professional and managerial salariat for men in three British birth cohorts’, *Longitudinal and Life Course Studies*, 2(2). Available at: https://doi.org/10.14301/llcs.v2i2.122.

Bynner, J. *et al.* (2002) ‘Young people’s changing routes to independence’, *Joseph Rowntree Foundation* [Preprint].

Bynner, J. (2005) ‘Rethinking the Youth Phase of the Life-course: The Case for Emerging Adulthood?’, *Journal of Youth Studies*, 8(4), pp. 367–384. Available at: https://doi.org/10.1080/13676260500431628.

Bynner, J. (2017) ‘1970 British Cohort Study (BCS70) Twenty one-year Sample Survey’, *CLS Cohort Studies* [Preprint].

Bynner, J. and Ferri, E. (2003) *Changing Britain, Changing Lives*. Institute of Education Press.

Bynner, J., Ferri, E. and Shepherd, P. (2019) *Twenty-something in the 1990s: Getting on, getting by, getting nowhere*. Routledge.

Dodgeon, B. (2002) ‘Longitudinal Linkage in BCS70: Rationalising Case Identifiers’, *CLS Cohort Studies* [Preprint].

Dolton, P., Galinda-Rueda, F. and Makepeace, G. (2004) ‘The Long Term Effects of Government Sponsored Training’, 20.

Droy, L., Goodwin, J. and O’connor, H. (2019) ‘Liminality, Marginalisation and Low-Skilled Work: Mapping long-term labour market difficulty following participation in the 1980s government-sponsored youth training schemes (YTS)’, *Occasional Papers* [Preprint]. Available at: https://doi.org/10.13140/RG.2.2.28494.92486.

Elliott, J. and Shepherd, P. (2006) ‘Cohort Profile: 1970 British Birth Cohort (BCS70)’, *International Journal of Epidemiology*, 35(4), pp. 836–843. Available at: https://doi.org/10.1093/ije/dyl174.

Gayle, V. and Lambert, P.S. (2009) ‘Logistic Regression Models in Sociological Research’, *DAMES Node, Technical Paper* [Preprint].

Goodwin, J. *et al.* (2020) ‘Returning to YTS: the long-term impact of youth training scheme participation’, *Journal of Youth Studies*, 23(1), pp. 28–43. Available at: https://doi.org/10.1080/13676261.2019.1710484.

Gregg, P. (2012) ‘Occupational Coding for the National Child Development Study (1969, 1991-2008) and the 1970 British Cohort Study (1980, 2000-2008).’, *CLS Cohort Studies* [Preprint]. Available at: https://doi.org/10.5255/UKDA-SN-7023-1.

Hamnett, C., McDowell, L. and Sarre, P. (1989) *Restructuring Britain: The changing social structure*. SAGE.

Hancock, M. and Peters, A. (2021) ‘1970 British Cohort Study, Activity Histories (1986 - 2016)’, *UCL Centre for Longitudinal Studies* [Preprint].

HomeOwners Alliance (2012) ‘The death of a dream: the crisis in homeownership in the UK’. HomeOwners Alliance Report.

Lekfuangfu, W.N. and Lordan, G. (2022) ‘Documenting occupational sorting by gender in the UK across three cohorts: does a grand convergence rely on societal movements?’, *Empirical Economics* [Preprint]. Available at: https://doi.org/10.1007/s00181-022-02314-5.

Leuze, K. (2010) *Smooth Path or Long and Winding Road? How Institutions Shape the Transition from Higher Education to Work*. Budrich UniPress. Available at: https://doi.org/10.3224/94075542.

Martin, P., Schoon, I. and Ross, A. (2008) ‘Beyond Transitions: Applying Optimal Matching Analysis to Life Course Research’, *International Journal of Social Research Methodology*, 11(3), pp. 179–199. Available at: https://doi.org/10.1080/13645570701622025.

Parsons, S., Green, F. and Wiggins, D. (2016) ‘Higher Education and Occupational Returns: do returns vary according to students’ social origins?’, *Centre for Longitudinal Studies* [Preprint].

Pearson qualifications (2023) *About O levels*. Available at: https://qualifications.pearson.com/en/support/support-topics/understanding-our-qualifications/our-qualifications-explained/about-o-levels.html (Accessed: 8 May 2023).

Plewis, I. (2004) *National Child Development Study and 1970 British Cohort Study technical report: changes in the NCDS and BCS70 populations and samples over time*. London: Centre for Longitudinal Studies, Bedford Group for Lifecourse and Statistical Studies, Institute of Education, University of London.

*Robbins Report* (1963). Available at: http://www.educationengland.org.uk/documents/robbins/robbins1963.html (Accessed: 28 November 2022).

Saunders, P. (2002) ‘Reflections on the meritocracy debate in Britain: a response to Richard Breen and John Goldthorpe’, *The British Journal of Sociology*, 53(4), pp. 559–574. Available at: https://doi.org/10.1080/0007131022000021489.

Saunders, P. (2003) *Social Theory and the Urban Question*. Routledge.

Saunders, P. (2021) *A Nation of Home Owners*. Routledge.

Schoon, I. (2007) ‘Adaptations to changing times: Agency in context’, *International Journal of Psychology*, 42(2), pp. 94–101. Available at: https://doi.org/10.1080/00207590600991252.

Schoon, I., Martin, P. and Ross, A. (2007) ‘Career transitions in times of social change. His and her story’, *Journal of Vocational Behavior*, 70(1), pp. 78–96. Available at: https://doi.org/10.1016/j.jvb.2006.04.009.

University College London (2022) ‘1970 British Cohort Study: Activity Histories 1986-2016’, *Centre for Longitudinal Studies* [Preprint]. Available at: https://doi.org/10.5255/UKDA-SN-6943-4.

Wallace, C. and Cross, M. (1990) *Youth in Transition: the sociology of youth and youth policy*. Psychology Press.

1. Former President of the European Commission speaking about the dramatic change of British society in the Guardian. [↑](#footnote-ref-1)
2. Other includes those respondents that cannot be accurately traced through any of the aforementioned categories. [↑](#footnote-ref-2)
3. Percentages are based on the participants divided by total cohort. [↑](#footnote-ref-3)
4. The reason sweep 3 has higher participant numbers than sweep 2 etc is due to the way tracking and sampling was handled. Across the BCS, difference organisations took control over this aspect of the survey. [↑](#footnote-ref-4)
5. Age 26 was the first time the cohort member themselves were in complete control of answering the survey itself [↑](#footnote-ref-5)