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Family, school and jobs: intergenerational social mobility in Next Steps

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PhD Thesis
School of Education
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2022

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Acknowledgements

I would like to thank my supervisors, Professor Stephen Gorard and Dr Nadia Siddiqui, for their consistent guidance, help and encouragement during this journey. Their support has given me much strength and means a lot to me.

Special thanks go to the fantastic colleagues at the Centre for Longitudinal Studies (CLS), UCL, including, but not only, Aida Sanchez and Sarab Rihal, who helped me with my data linkage.

I would also like to thank David Barnes, who has very patiently helped me improve the language of this thesis.

Finally, I am grateful to my family and my friends, who are the source of my courage and strength.

List of Abbreviations

ASC	Annual Schools Census. The official education dataset with rich information on all schools in England, including school intakes
BAME	Black, Asian and Minority Ethnic, a term generally used in the UK to refer to the collective non-white population
BCS	Birth Cohort Study
BIS	Department for Business, Innovation and Skills
CA	Contextualised Admissions
CAMSIS	Cambridge Social Interaction and Stratification Scale
D	Dissimilarity Index
DfE	Department for Education, the main government department responsible for children's services and education in England
DfEE	Department for Education and Employment
DfES	Department for Education and Skills
EAL	English as an Additional Language
EMA	Education Maintenance Allowance. It was terminated in England at the end of the 2010/2011 academic year but it is still available in Northern Ireland, Scotland and Wales
ERA88	The Education Reform Act 1988
ES	effect size
ESRC	Economic and Social Research Council
FE	Further Education. The term refers to any study after secondary education that is not part of higher education, i.e. not part of an undergraduate or graduate degree
FRS	Family Resources Survey
FSM	Free School Meals. Eligibility for FSM is widely used as an indicator of family deprivation
GCE	General Certificate of Education, a qualification that was discontinued in the 1980s
GCSE	General Certificate of Secondary Education, the standard qualifications for pupils aged 16
GRT	Gypsy Roma Traveller
GS	Gorard Segregation Index
HE	Higher Education, a term referring to education at a university or a college
HEI	Higher Education Institution, typically a university or college of higher education

HESA	Higher Education Statistics Agency
HLE	Home Learning Environment
IDACI	Income Deprivation Affecting Children Index
ISCO	International Standard Classification of Occupations
KS	Key Stage
LAC	Looked-after children
LFS	Labour Force Survey
LSYPE	Longitudinal Study of Young People in England
MCS	Millennium Cohort Study
NEET	Not in Education, Employment or Training
NBC	National Birth Cohort
NCDS	National Child Development Study
NPD	National Pupil Database, an official administrative record of the schools, background characteristics and education attainment of all pupils in state-funded schools in England.
NS-SEC	National Statistics Socio-Economic Classification
NW	Non-white
OECD	Organisation for Economic Co-operation and Development
OED	Origins, Education and Destinations
OFFA	Office for Fair Access
OfS	Office for Students
Ofsted	Office for Standards in Education, Children's Services and Skills
ONS	Office for National Statistics
PLASC	Pupil Level Annual Schools Census
PP	Pupil Premium
PRU	Pupil Referral Unit
PSU	Primary Sampling Unit
RCT	Randomised Controlled Trial
RQ	Research Question
SD	Standard Deviation
SEC	Socio-economic Classification
SEG	Registrar General's Social Class and Socio-economic Group
SEN	Special Educational Needs

SES	Socio-economic Status
SLASC	School Level Annual Schools Census
SR	Segregation Ratio
SPA	Social Policy Association
STEM	Science, Technology, Engineering and Mathematics
TIMSS	Third International Mathematics and Science Study
UCAS	University and College Admissions Service

Abstract

Young people's higher education (HE) participation, and early access to labour markets, in the UK and other developed countries, are stratified according to their socio-economic origins and prior educational attainment. Such background factors are difficult to change in an individual's lifetime, they are presumably not the only determinants of stratified outcomes, and anyway they could be mediated by peer influence and the issue of who goes to school with whom. This new study examines the relationships between a wide range of such social and economic factors relating to birth characteristics, family background, secondary schooling characteristics, and post-16 destinations, and it explores the possible reasons behind their links to HE and labour market outcomes.

At the core of the study is an innovative combination of the large-scale nationally representative longitudinal Next Steps survey dataset linked to the robust administrative National Pupil Database (NPD) for England. In order to investigate the degree of social justice and equity in education, the study tracks the life course of a cohort of 5,192 state-school-educated young people in England from age 13 to age 25, to build a comprehensive picture of the journeys of these young people entering the labour market in their early adulthood. Analytical methods used include cross-tabulations, effect sizes, correlations and regression models. The main outcomes of interest are HE participation, and labour market outcomes as indicated by employment status and professional occupation status.

The findings show a complex but relatively clear picture, providing some confirmatory and some new evidence on the correlates of intergenerational social mobility in a large cohort of people who are currently in their early 30s. Disadvantaged young people are consistently under-represented in HE participation and the labour market, especially in professional occupations. Bivariate analyses show that HE opportunities and labour market outcomes are systematically unbalanced between different socio-economic groups of young people, suggesting that destinations are strongly stratified by social origins. All of the factors considered in this study are independently associated with post-16 outcomes when analysed separately.

Regression models reveal that, once birth characteristics are controlled for, the most important predictor of HE entry is prior educational attainment. This is followed by parental and pupil

aspirations, parental occupation and education, material ownership at home, positive schooling experiences, and geographical location.

In terms of employment status, doing an apprenticeship is the most powerful predictor of being employed at age 25 (although this may be skewed by the small number of young people still in formal education at that age). This is followed by prior educational attainment, material ownership at home, and prior HE entry.

The relationship between the predictors and having a professional occupation status is slightly different. Regression analysis demonstrates that the key predictors of having a professional job are prior educational attainment, HE participation, parental and pupil aspirations, and positive schooling experiences. However, unlike generic employment status, evidence shows that having done an apprenticeship does not contribute to higher chances of landing a professional job.

These findings collectively offer a core message in terms of fair access to life opportunities; the most important barriers to access to HE and professional occupations are stratified prior educational attainment and poverty-related factors at home.

More crucially, the study also makes the first attempt to explore the level of segregation by background characteristics that is experienced at school as a potential factor in intergenerational social mobility. It is, to our knowledge, the only study to date which examines whether and to what extent who goes to school with whom might play a role in these outcomes beyond school. Bivariate analyses show that the clustering of pupils of similarly poorer socio-economic backgrounds at school is consistently linked to lower chances of HE participation and poorer labour market outcomes. Regression analyses further suggest that the level of between-school segregation an individual experiences plays a small role in all post-16 pathways, over and above that which can be explained by individual factors.

In the light of these results, it appears that life destinations are still patterned by background inequality in modern England. However, there are promising signs that policy interventions – including creating a more socially mixed school intake, providing more financial support for low-income families such as travel bursaries, continuing and improving contextualised assessment in both university admissions and recruitment processes, and investing more in

public transport in deprived areas – can help to improve fair access to HE and the labour market. These interventions can bring other long-term benefits such as life satisfaction too. Perhaps, instead of advocating or focusing on promoting social mobility, policymakers should devote more energy to and invest more money in tackling social inequality and improving equity in education and life opportunities. If this were to be done effectively, then social mobility could, presumably, look after itself.

Chapter 1 Introduction

This thesis starts with discussion of social mobility research in the UK context, and the motivation for this new study. The chapter then discusses the purpose and significance of the study, explaining why it is important in terms of its theoretical and empirical contributions. Next, it presents the research topic and the research questions. Finally, it summarises the structure of the following chapters.

1.1 Background and motivation

This study emerged from an interest in the link between social origins and educational and labour-market outcomes, with a wide range of potential socio-economic factors which might play a role in post-16 trajectories. The study focuses on whether and how the level of socio-economic status (SES) segregation that young people experienced at school might be a potential factor predicting post-16 outcomes - a recently emerged educational research topic and a factor which has not been fully explored in the previous origins-destinations studies.

There are two related research fields which have attracted interest in education studies: the “political arithmetic tradition of origins and destinations” and “school effectiveness and improvement” (Gorard, 2012, p. 77). This study was driven by an interest in the former area. More specifically, the study focuses on intergenerational social mobility, a term used to refer to the link between social origins and destinations. Back in 1980, Halsey, Heath and Ridge (1980) presented their seminal work *Origins and Destinations*, which examined the differential educational outcomes in terms of the socio-economic background of a cohort of men living in England and Wales in 1972. Decades later, the fundamental question of social mobility that Halsey, Heath and Ridge (1980) worked on – how and why social origins matter in life trajectories – still remains important and has become one of the most contested areas in sociological research. The basic concept of social mobility is related to understanding how individual progress (or not) in relation to others in the society.

Social mobility is an important field in sociology, and policy and has remained much disputed, occupying political debate in the UK and further afield for decades. It has become a mainstream issue in both politics and the media in the UK, especially in recent years. In the social context, there has been growing public concern about social justice and social mobility. In 2010, with the aim of assessing progress in improving social mobility in the UK and promoting it in

England, the Child Poverty Commission (renamed the Social Mobility and Child Poverty Commission from 2012 to 2016, and now renamed the Social Mobility Commission) was established as an advisory non-departmental public body by the Child Poverty Act 2010. This was a result of closer political attention to social mobility and a government commitment to tackle social mobility problems across the country.

A greater level of social mobility is generally perceived as desirable on grounds of equality of opportunities and social justice (Marcenaro-Guierrez, Micklewright, & Vignoles, 2014). The increasing attention in academia, the media, politics and public debate to social mobility is partly due to the possibility of social mobility serving as a mechanism to address political concerns relating to social justice. What is perhaps most significant about improving social mobility is that it can increase the equity of individual life chances, which is one of the key objectives of public and education policies in any society. From a social justice perspective, greater social mobility could mean narrowing socio-economic disparities in various areas including education and the labour market and building a fairer and more meritocratic society.

Previous research, political debates and media coverage have long raised concerns about the association between social origins and individual life chances, with Higher Education (HE) participation and labour market outcomes being important indicators. One of the most well-established findings in education studies worldwide is that students' average educational attainment is stratified by their social class backgrounds (Gorard, 2018). There is also research evidence showing the same pattern in HE participation (e.g. Anders et al., 2017; Feinstein & Vignoles, 2004; Gorard et al., 2007; Neve, Feraz, & Nata, 2017; Triventi, 2011) and occupational outcomes (e.g. Breen, 2004; Iannelli, 2013; Marcenaro-Guierrez, Micklewright, & Vignoles, 2014; Parsons et al. 2016). In the UK context, despite two major HE expansions in the 1960s and 1990s, unbalanced HE participation still exists (Boliver, 2011). Students from disadvantaged family backgrounds have been persistently under-represented in HE, especially in the most competitive UK universities (Broecke, 2015; Harrison, 2011) and in certain economically rewarding subjects such as some Science, Technology, Engineering and Mathematics (STEM) ones (e.g. medical and dental sciences), which are more valued in the labour market and tend to lead to professional occupations (Boliver, 2015; Bolton, 2010; Broecke, 2015; DfE, 2016a; Parsons et al., 2016). One of the reasons why students from disadvantaged family backgrounds are less likely to participate in HE is that their prior

schooling attainment is on average lower than that of their peers (Chowdry et al., 2013; Gorard et al., 2007).

In response to this origins-destinations link, one policy example to help promote social mobility was widening participation in higher education (HE) (DfES, 2006a) by reducing inequalities in HE access. It attempted to give more individuals, especially disadvantaged ones, the opportunity to benefit from the potential occupational and economic returns from a university degree (Walker & Zhu, 2011). The more recent contextualised admissions (CA) policy encourages universities to use contextual data on prospective students' socio-economic backgrounds to inform decision-making on admissions (OFFA, 2015). Barriers to fair access to universities might depress other long-term life chances such as occupational opportunities for disadvantaged young people, especially opportunities to get a professional occupation. Viewed in this light, policies aiming at widening access to HE and other life opportunities, especially for students from lower socio-economic backgrounds, are important and could be rewarding.

Given the well-established pattern of stratification of life outcomes by socio-economic background, social scientists have long been and are still conducting extensive research on the potential factors which might play a role in this origins-destinations link. It has often been argued that education plays an intermediary role in social mobility (Breen, 2004; Goldthorpe, 2016; Marshall, Swift, & Robert, 1997; Iannelli & Paterson, 2007) or even serve as “a vehicle for professionalisation” (Cardano, Costa, & Demaria, 2004; Deary et al., 2005; Iannelli & Paterson, 2005; Nettle, 2003). However, some research shows a direct link between origins and destinations which is not accounted for by educational attainment (Bukodi & Goldthorpe, 2011; Devine & Li, 2013; Gutierrez, Micklewright, & Vignoles, 2015), suggesting that there might also be non-education-related factors underpinning this residual direct origins-destinations link. Research on social mobility in the UK shows a mixed picture of the interaction between social origins, other socio-economic factors and life destinations. While some scholars argue that social mobility in Britain takes place on a largely meritocratic basis (e.g. Nettle, 2003; Saunders, 2002; Krzyżanowska & Mascie-Taylor, 2013), others hold the view that Britain is still far from a meritocratic society (Breen & Goldthorpe, 1999, 2001; Iannelli, 2013; Iannelli & Paterson, 2007).

The accumulation of evidence in social science research, including replication and re-analysis, can be important to keep researchers “honest” (Gorard, 2012). Both the importance of social mobility in the UK and long-held controversial opinions regarding it provide a challenging research context in itself and call for a re-examination of the factors relating to social mobility in the UK context. This is important in terms of policy and practice, and it can potentially contribute to our current understanding of social mobility or even to building a new picture of this political issue.

By approaching social mobility through a social justice lens, this new study is motivated to re-examine the extent to which young people’s starting points may predict where they end up in life, and to explore the factors which might strengthen or weaken the link between family origins and post-16 destinations, i.e. HE participation, and labour market outcomes following graduation. Early career destinations can be important for future employment trajectories (Smith & White, 2017). This is important for the promotion of fair access to HE and other life opportunities. Although there is an extensive literature on social mobility, very few studies have analysed a wide range of factors (to be discussed further in Chapter 4) relating to both HE and labour market outcomes simultaneously. This study, therefore, includes a wide variety of biological, socio-economic, cultural, psychological, educational, regional and economic-activity-related factors simultaneously in its analysis.

Among the social, economic, educational and biological factors relating to social mobility explored in previous research (e.g. Andrews & Leigh, 2009; Breen & Goldthorpe, 2001; Gall et al., 2010; Goldthorpe, 2016; Hart, Davey Smith, & Blane, 1998a, b), one potentially important early factor – the level of socio-economic segregation experienced at school – seems to have been largely ignored in origins-destinations research. This is partly because between school segregation (to be introduced and explained in more detail in Chapter 5) is a relatively new concept in UK sociological literature, although economic and ethnic segregation between schools has become an important research area especially in the last 20 years both in the UK and worldwide (Elacqua, 2012; Gorard, 2016b; Logan, Minca, & Adar, 2012). Who goes to school with whom is generally believed to be important because of the assumption that there is a peer effect on educational attainment (Gorard & Smith, 2010). However, this assumption is questionable given the lack of evidence of a peer effect accounting for substantial variation in attainment between schools (Gorard, 2006).

Pupils are stratified in schools, by non-academic factors such as residential segregation. This leads to the concept of ‘school segregation,’ which is a kind of clustering in which children of similar socio-economic backgrounds are segregated into particular schools (Gorard, 2018). Secondary schooling is a crucial stage in education which every pupil in this country is expected to experience (since it is legally compulsory in England) – an initial stage towards obtaining further qualifications and getting a job. Secondary education can play an important role in post-16 trajectories. In practice, some students attend schools which are more clustered in terms of disadvantaged student background while others go to schools which are more mixed, and yet others attend schools with very few disadvantaged students. This means that some students attend schools with more peers with similar backgrounds while others have classmates from more diversified backgrounds. As a result, their learning experiences can be different and the subsequent trajectories associated with or influenced by these experiences might also differ. Going to an aggregated school can be different from going to a segregated school, especially when taking differences in pre-school socio-economic backgrounds into consideration. The importance of the question does not merely lie in who goes to school with whom; what is also important is the potential continuing influence such clustering and the associated school experiences might have on young people’s trajectories beyond school.

A distinction needs to be made between the link between individuals’ backgrounds and their attainment, and the school cluster effect on attainment. As discussed earlier, the former refers to school attainment being linked to individual background. The latter, as suggested by the name, refers to effects of individual background factors aggregated at the school level on attainment when pupils with similar background characteristics are clustered within the same schools. It has been well established in studies on school effectiveness that school outcomes, in the form of public examination scores, are strongly related to school intakes in terms of students’ socio-economic characteristics (Gorard, 2000b).

Between-school segregation of disadvantage is a widespread issue not only in the UK but around the world. Disproportionate intakes of students by their individual backgrounds in schools is of great concern worldwide (Belfi et al., 2014). School-level segregation can have long-term impacts on individual and societal outcomes (Morris, 2016). The stratification of students by SES in schools has been shown to be linked to lower overall educational attainment (Danhier & Martin, 2014; Mickelson, Bottia, & Lambert, 2013) because it leads to school attainment depending more on pupils’ socio-economic backgrounds (Parker et al., 2016). More

between-school stratification has also been shown to be associated with poorer attitudes and aspirations (Burgess, Wilson, & Lupton, 2005; Gorard & Smith, 2010) and life opportunities beyond school (Johnson, 2011). Ideally pupils' educational opportunities and outcomes should not be stratified by background characteristics such as family income and ethnicity, which are beyond the pupils' control (Levin, 1990; Roemer, 1998). Nor should they be affected by the social composition of schools, again based on factors beyond their control. This implies a need for a full evaluation of the potential role of school segregation in the long-established link between backgrounds and destinations.

In previous research on the relationship between school segregation and life outcomes, there are few studies investigating the links between school segregation and individual post-16 outcomes beyond school. Most of this literature on segregation focuses on outcomes at school such as educational attainment (e.g. Mendolia, Paloyo, & Walker 2016; Willms, 2010) or school attendance and dropping out (e.g. Vinas-Forcade et al., 2021), partly due to data availability. Additionally, even among the very few studies which cover some post-16 outcomes such as adult earnings, most do not take a full range of family background characteristics into account (e.g. Johnson, 2011), perhaps because there have been few datasets available to fully explore this issue. The lack of full evidence on the potential role of school segregation in social mobility motivated this new study to focus on school level-segregation as one of the main factors to examine in the origins-destinations link.

This study takes a step further by probing into the extent to which the level of SES segregation experienced at school is associated with young people's post-16 trajectories and wider outcomes beyond secondary education. An important premise of the study is that the level of segregation that young people experience at school may serve as an important potential factor explaining either upward or downward social mobility. The study, therefore, looks at segregation at the school level particularly from the perspective of equity in education. By definition, equity refers to the distribution of goods and resources which are necessary for each individual (Deutsch, 1975). It is commonly used as a synonym for 'fairness,' and involves judging why and how something is (un)fair (Gorard & Smith, 2010). Equity in education, accordingly, "considers the social justice ramifications of education in relation to the fairness, justness and impartiality of its distribution at all levels or educational sub-sectors" (UNESCO, 2018, p.17). Basically, equity in education puts emphasis on individual educational needs and the resources required according to students' specific circumstances. Equity can be a means

and a necessary precondition for the achievement of equality, and is an important aspect of the education system. Educational equity has become one of the core issues in the United Nation's international development agenda (2015), suggesting an important role in achieving fairness in the education system, and that fair access to education may have a potential positive impact on pupils' life trajectories.

1.2 Purpose and significance of the study

The purpose of this new research is to provide fresh in-depth insights into social mobility in the UK, particularly by charting HE and occupational outcomes in the light of a wide range of predictors. The study is designed to reveal an up-to-date picture of the link between young people's socio-economic backgrounds and post-16 outcomes in early adulthood. It also aims to extend existing social mobility studies by examining the potential intermediary role of school segregation – a largely unexplored but important educational factor in the origins-destinations literature – in HE and labour market opportunities. Whether the composition of school intakes plays a role in enhancing or alleviating the relation between social origins and life chances is a very important issue for the equity of the education system, especially in the context of quasi-market policies in UK education. This can also throw light on how schools need to help disadvantaged students to overcome the potential barriers to fair access to HE and the labour market and how they can perform their potential role as engines of social mobility.

Improving social mobility, if it is to be achieved, would require efforts to be made by a wide range of stakeholders, including the government, local authorities, policymakers, schools and employers. This study pays particular attention to exploring the potential barriers that prevent young people, especially those with deprived social backgrounds, from participating in HE and achieving success in the labour market. It hopes to find out the most effective ways to address the potential obstacles that economically disadvantaged young people might face on entry to HE and the labour market. The barriers to entry into professions is an area which many social mobility studies have focused on (Ashley et al., 2015), so one important outcome of interest in this study is young people's professional occupation status. The ultimate aim is to provide practical and policy suggestions to unlock social mobility and to equalise HE, youth employment and career opportunities in the professional occupations for young people from different socio-economic origins. This is one key to the current government's levelling up agenda (The Economist, August, 2020).

This study matters for several reasons. First, following White (2017), the inspiration for this study emerged from practical concerns. Thus, this study makes an empirical contribution. Debates on social mobility are prominent in academic, political and media commentary, and continue to play an important role in influencing public policy and education reforms. It is important to build on our understanding and current knowledge of social mobility, particularly in terms of our understanding of the socio-economic factors (birth characteristics, socio-economic factors, parental behaviour, attitudes and aspirations, pupil attitudes and aspirations, secondary school characteristics and economic activities) linked to social mobility in the current social context. This would mean that (1) policymakers can be aware of whether policies targeted at improving social mobility are producing results in the right direction and whether any changes need to be made, and (2) social justice issues, including equity in education, are consistently highlighted and improved.

Second, the study fills a research gap. It adds new contributions to origins-destinations studies by examining the potential intermediary role of school-level segregation for post-16 trajectories. At the time this project was begun, mainstream research on social mobility had not considered school segregation as a potential factor relating to social mobility, and school segregation remains largely unexplored in this area. Most analysis to date has not explored any clustering effects, of who students attend school with, on post-16 opportunities. The question of who gets a positional advantage in secondary schooling in terms of school segregation and how this relates to HE and labour market opportunities matters. The limited amount of existing research points to a need for studies including this area to be undertaken. This study innovatively fills this gap and adds to the existing body of work by conducting a new analysis of social mobility, particularly by considering segregation ratios in school intakes – a different but complementary perspective. This brings it an element of ‘originality,’ as White (2017) states. It aims to show evidence of variations in HE participation and labour market outcomes of young people in schools with similar intakes and of those from schools with different levels of segregation. This can draw attention to necessary education system reforms. It is hoped that this study will lead researchers to consider school segregation in social mobility research.

Third, it makes a theoretical contribution. One of the important elements in social mobility theories is the potential role of education. For example, a popular liberal approach emphasises the “OED (origins, education, and destinations) triangle,” (Goldthorpe, 2016). This study

improves on this theory and demonstrates how between-school segregation, as an element of the education system and a potential outcome of education reforms, can be applied in the social mobility context and it therefore adds to relevant theoretical knowledge. It also adds to the evidence base in the relevant policy and research literature.

Fourth, it also makes a contribution in terms of research methods, in four ways. First, compared to previous data linkage practice which links two or more original datasets, this study pioneers a new data linkage practice – linking longitudinal cohort study data to school segregation data created from original robust national administrative data (Siddiqui & Shao, 2021). This data linkage is novel and provides evidence and reference for potential research on the wider impact of school segregation. This innovative data linkage also enables future research projects to investigate the social composition of schools and other potential predictors of post-16 trajectories. It also serves as an example showing the level of feasibility and reliability of data linkage as an alternative research method to examine life trajectories relating to educational factors at the school level. It is hoped that this study will serve as a springboard for development of further research methods and contribute to the political arithmetic in any country. Second, previous studies on occupational mobility, especially those considering professional occupations, have not typically explored rich life-course data (Wakeling & Savage, 2015). The nature of this study – tracking the life trajectories of a cohort of young people to investigate in depth the potential underlying factors associated with their post-16 pathways – requires a longitudinal life-course approach. Third, some social mobility studies have small samples (e.g. Crawford et al., 2016). Through data linkage, this study achieves a relatively larger sample size compared to many previous social mobility studies, providing a possible solution to improving sample size for research relying on secondary data. Fourth, this study also contributes to research methods in how it carefully treats missing data. Little research has dealt with missing data with caution and investigated the potential impact of missing data on the results. Many research reports even omit the missing cases and do not mention how missing data are dealt with (Gorard, 2021). This study handles missing data with caution. It not only explores the features of missing cases but also examines the potential outcomes of cases with missing data (see Chapters 7 and 8 for detailed information).

Fifth, it makes a contribution to education policy. The features of the sample analysed in this study are distinctive compared to other cohorts used in most of the previous social mobility studies. The sample used in this study were born decades after the 1944 Education Act and

shortly after the 1988 Education Reform Act (ERA, 1988), which increased the rights of parents to choose schools for their children (Gorard, Taylor, & Fitz, 2003). As a result, it significantly increased choice and diversity in education and restructured the education system. Therefore, the data are able to tell more about young people growing up in the recent policy environment. When the subjects attended secondary school – about 14 years after the reform – they experienced a relatively mature education system with greater school choice.

The 1944 Education Act formally introduced the policy of secondary education for all, providing an initial framework for education reform and serving as a starting point for transforming the educational and further economic landscape. Floud (1954) pointed out that if the social changes in the distribution of educational opportunities that the 1944 Act promised materialised, significant changes “both in the social hierarchy of occupations and in the degree of mobility within and between occupations” (p. 123) could be achieved. Then ‘Circular 10/65 The organisation of secondary education,’ which was issued on 12 July 1965, stated the government’s intention to “eliminate separatism in secondary education” (Department of Education and Science, 1965, p. 1). Two decades later, the UK ERA88 brought market elements into public policy provision, envisaging an extension of parental choice and an increase in diversity within the education system. A crucial part of this policy framework was the introduction of dynamic market elements – such as parental choice of schools, competition between schools and diversity within schools – across the UK’s national education system, leading further to long-term market effects in the public education system.

This new policy initiative provides an interesting policy context in itself. What was perhaps most significant in the ERA88 was the significantly increased school choice for parents. It also offered a significant extension of the existing education system and education policy, encouraging a reconsideration and development of our evolving knowledge of issues related to school choice and the characteristics of school student composition. Related to this policy reform, previous research has raised concerns about how market forces in education might potentially influence access to and opportunities in education, especially for economically disadvantaged students (Morris, 2016).

One important outcome of the ERA88 and its subsequent amending legislation is a potential restructuring of the social composition of schools. For better or for worse – fairly or otherwise – the resulting between-school segregation represents a significant element in the national

education system that may have created a different picture of social mobility in the UK since the 1980s. A comprehensive analysis of data on a cohort affected by ERA88 has potential to shed light on the social issue of whether and how an increase in school choice and its effect on school intakes are linked to differences in HE participation and labour market opportunities for various groups of young people. This study analyses the most up-to-date longitudinal dataset collecting information on a cohort of students who have experienced the secondary school system with market elements. This provides a new picture of education and social mobility in the novel context of choice policies in education. From the new perspective of social mobility, this study provides policymakers with a way to assess the potential long-term impact of choice policies in British education on social mobility, particularly in terms of school structure, and forms a useful reference point for a deeper understanding of the societal outcomes of education market initiatives.

1.3 Research topic and research questions

Within the broader area of social mobility, the research interest of this study especially lies in differences in HE participation and labour market outcomes among different socio-economic groups of young people in terms of a wide range of factors both at home and at school, especially the level of SES segregation young people experienced at school.

By taking a detailed longitudinal approach, this study examines the educational and occupational mobility of young people in England by the age of 25 using large-scale longitudinal data. The research topic focuses on two dimensions of social mobility: (1) intergenerational social mobility, measured in terms of the relationships between family origins and post-16 outcomes; and (2) the potential role of various socio-economic factors in post-16 destinations. What this study captures is the story of the life trajectories of young people from secondary schooling to early adulthood.

Broadly, the research has the following three main objectives:

- to provide up-to-date evidence on key predictors of HE participation and early occupational statuses in Britain, covering factors from social origins to education;
- to examine whether, and the extent to which, clustering similar students in schools plays a role in social mobility;

- to provide context-specific potential explanations of the key factors relating to social mobility.

The first objective focuses on the individual level of personal, background and educational factors and the second one relates very much to background characteristics aggregating at the school level. The third objective draws on the first two objectives and seeks a rationale for the findings. The overarching research question which forms the centre of this project is: ‘How is socio-economic background linked to post-16 destinations and what factors might play a role in this link?’

The specific research questions addressed are as follows:

1. How do school attainment, HE participation, HE degree outcomes and labour market outcomes vary between different socio-economic groups of young people?
2. Is the level of SES (socio-economic status) segregation experienced at school linked to an individual’s post-16 destination once their birth and background characteristics are taken into account? If so, what role does school segregation play in post-16 trajectories?
3. What factors are important predictors of HE participation? How does HE participation link to birth characteristics, socio-economic background and other socio-economic factors?
4. What factors are important predictors of labour market outcomes? How do young people’s labour market outcomes link to birth characteristics, socio-economic background and other socio-economic factors?
5. What are the deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers?

1.4 Structure of the thesis

The remainder of this thesis is structured in four parts:

- A review of the social mobility literature, including a discussion on school segregation and its measurement;

- The design and methods used in the study;
- Findings and discussions relevant to each research question;
- Conclusions, policy implications, study limitations and future work.

Following this introductory chapter, the first part (literature) consists of five chapters (2, 3, 4, 5 and 6) which explore theories, research and policy in relation to social mobility in the UK context. Specifically, Chapter 2 starts with the conceptual background – class. It introduces the concept and definitions of class in general and discusses the main controversies and debates on related theories. It then compares commonly used class schemes, including their advantages and disadvantages. Based on this comparison, it defines the measurement of class used in the study. Chapter 3 addresses the theoretical framework of the study – social mobility. It starts with an introduction to definitions and measures of social mobility. This is followed by a discussion of the debates on social mobility, including whether and why social mobility matters and the limitations of social mobility. Next, it discusses the international context of social mobility. It then sets the national context of social mobility by introducing its history in Britain, including the growing literature and debates on its contemporary trends. Finally, it reviews debates on the main policies which have been devised and implemented to improve social mobility in the UK. After mapping the broader field, Chapter 4 focuses on factors relating to social mobility. It reviews the existing literature on the relationship between birth characteristics, family background, school factors and life outcomes. First, it presents research evidence and debates on the link between origins and destinations. It then reviews theories, existing research and debates on the role of education, particularly schooling factors and higher education, in intergenerational social mobility.

What the literature lacks is research on the role of school segregation in social mobility. Chapter 5, therefore, specifically focuses on school segregation. It starts with an introduction to the concept and background of between-school segregation. It then discusses its causes and trends in the UK. This is followed by a discussion of why school segregation is important from the perspective of equity. Finally, it discusses the longstanding debate on the measurement of segregation, including a detailed comparison of commonly used segregation indices along with their advantages and disadvantages. This leads to the rationale for the segregation index chosen for this study.

The last part (Chapter 6) of the literature review sets the scene for the research methods parts. It focuses on the main datasets used in previous social mobility research, including an introduction to the characteristics of longitudinal and administrative data along with data linkage practice.

After discussing theories and previous empirical evidence, the methods part (Chapters 7 and 8) describes the research design and methodological decisions. It provides a detailed description of the data sources, the data quality and the methods adopted to address the research questions. It also explains how school segregation indices are calculated from the data and how the independent variables in the regression analysis were established. The choice of the instruments employed in this study is also justified, including the choice of datasets, the modelling strategy, the statistical techniques in each step and the strategies to deal with missing data.

Part three (findings) consists of Chapters 9, 10, 11 and 12, providing the findings in response to each of the RQs and discussion of the key analytical results. Chapter 9 presents a full picture of the sample characteristics in different life stages in order to set the scene for the data analyses. It also shows the stability of and changes in some characteristics over the years in order to provide a wider picture of the intragenerational social mobility of the families sampled. Chapter 10 presents the patterns of differential educational attainment and post-16 outcomes for the various socio-economic groups of young people. Possible explanations of the patterns are also discussed. The analysis in this chapter thus addresses the first RQ. Chapter 11 brings in school segregation and presents the results on the relationship between school-level segregation, disadvantage and post-16 outcomes. It then reports the results from regression models showing the potential role of school segregation in post-16 trajectories. This chapter addresses the second RQ. Chapter 12 presents results obtained from multi-stage logistic regression models to reveal the most significant predictors of post-16 destinations and systematic relationships between the young people's post-16 pathways and these potential factors. In general, the findings on the potential factors are presented in life order in order to build a clear picture of individuals' post-16 pathways from the social mobility perspective. This is followed by a cumulative explanation of each of the key predictors identified in the UK policy context. This chapter also pays particular attention to disadvantaged young people, a key sub-group the study focuses on, and reviews outcome gaps between the disadvantaged and their peers. This chapter, therefore, answers the third, fourth and fifth RQs.

After presenting the results from the various detailed statistical analyses, Chapter 13 (conclusion) constitutes the final part of the thesis. It draws together the findings, shows how they contribute to the wider social mobility literature and discusses them further in the wider research and policy context. It provides recommendations based on the implications of the analysis and concludes with a discussion of ideas for policy (and practice). It also acknowledges some limitations of the study and consequently makes recommendations for future research in this area.

Chapter 2 Conceptual background: class

The idea of social (class) mobility is based on the concept of class. This chapter, therefore, starts with a discussion of class, a key theoretical concept used in this study. It introduces different definitions of class and discusses how class is related to social mobility. It also discusses debates on whether class matters and reviews different measures of class, along with their strengths and limitations.

2.1 Defining class

Occupational or social class is an important concept in the idea of social mobility (to be introduced in section 3.1) (Goldthorpe, 2016). It is arguably one of the most contested sociological concepts. The concept is as complex as it is wide-ranging and can be related to different dimensions. It has a long history and has evolved over time but remains controversial in the social sciences. Historically and theoretically, different concepts have been used to define class depending on different dimensions, such as economic, social or cultural. Different terms, most commonly ‘occupational’, ‘social’ and ‘socio-economic’ class, are often used interchangeably in studies on class.

Two important traditions regarding the concept of class are Marxist and Weberian theories of class. Karl Marx (1818-1883) viewed society as being mired in class conflict and defined class in terms of individuals’ economic situations and relationships with the means of production (Rummel, 1977). Put simply, Marx viewed class from a purely economic perspective and according to his theory there are two main classes in society: the bourgeoisie, who are the owners of means of production (e.g. property), and the proletariat, who are labourers. Thus, Marx’s definition of class can be understood as grouping people who share the same relationships with the means of production (Haralambos, 1985; Giddens, 1971). Karl Weber (1864-1920) was influenced by Marx’s ideas on class but he viewed class from a more socio-economic perspective and regarded the concept as having three components: wealth, prestige and power (Weber, 1978). For Weber, there are four main classes in society: the upper class, white-collar workers, the petite bourgeoisie and the manual working class (Giddens, 1971). Weber’s definition of class, therefore, can be understood as grouping people in the same situation in terms of their wealth, prestige and power (Weber, Gerth, & Mills, 1958). In both the Marxist and Weberian traditions of social theory, class is defined in terms of social relations and it centres on people’s economically-defined life chances (Wright, 2003).

Class has been reconceptualised since Marx and Weber. For John Goldthorpe (1935-), class analysis is firmly centred on economic life chances shaped by employment relations (Goldthorpe, 1987; 1990). Pierre Bourdieu (1930-2002) expanded the idea of life chances explained by class and included cultural and social capital, such as knowledge and education, which are non-economic aspects of life opportunities (Bourdieu, 1984). In Bourdieu's conception, class is related not only to economic inequalities but also to the interaction between the economic, social and cultural aspects of individuals' lives. (Crompton, 2008; Savage, 2010). Class is therefore multi-dimensional and involves economic phenomena, social reproduction and cultural distinctions (Devine, 2004). Similarly, Ball (2002) views class as involving an identity and a lifestyle.

All economic practices are embedded in specific social contexts (Granovetter, 1985). Like almost all terms and theories in sociology, class needs to be viewed in an evolving social context, and must be recast to adjust to social development.

2.2 Does class matter?

In contemporary sociology, some scholars argue that the importance of class is declining because of the patterns of social, economic and political change in modern society (e.g. Giddens, 1994; Giddens, 1998; Clark & Lipset, 1991; Parkin, 1979), particularly changes in relations in the workplace (Giddens, 1990). Other sociologists hold the view that the concept of class hardly does any useful work in sociology (e.g. Pahl, 1989), or even stridently proclaim "the death of class" (e.g. Pakulski & Waters, 1996). In response, Goldthorpe (2002) argues that class remains a useful and important tool for analysing social structures and supports this position with evidence from Gallie et al. (1998) that negative life outcomes such as economic insecurity, negative job satisfaction and poor life satisfaction are related to people being in lower occupational classes. Goldthorpe and Marshall's 1992 article 'The promising future of class analysis: A response to recent critiques' also emphasises the importance of class analysis in studying class mobility and class-based inequalities and actions and its contribution in revealing the persistence of class-based inequalities and class-differentiated patterns of social behaviour (1992). Other scholars also value the usefulness of class (e.g. Marshall, 1997; Wright, 1997) and indicate a renewed interest in the phenomenon given the global accentuation of social inequalities (e.g. Bennett et al., 2008; Dorling, 2011). There are also voices in the

media echoing the value of class as a tool to understand everyday life opportunities (Hutton, 2010).

This study considers class in a balanced way. On the one hand, patterns of class evolve depending on different social contexts, with class identification in modern times being looser than in the past. On the other hand, there is a persistent significance of class. Inequality in the distribution of social and economic resources still exists and can be partly explained by class relations. From the research perspective, class can be an important analytical tool in the sense that divisions among social and economic classes can play a role in individuals' life chances (Scott, 2002). For example, some studies of voting behaviour show a class division in people's political positions (e.g. Evans & Norris, 1999; Goldthorpe, 1999; Hout, Manza, & Brooks, 1999; Svallfors, 1999; Muller, 1999). From an analytical point of view, class matters because it can be objectively linked to life chances in research on social (in)equality, which is closely related to resources and opportunities. Therefore, class cannot be simply ignored but one must also be aware of its changing meaning and a possible limitation of the aspects of individuals' lives that class affects.

2.3 Defining measures of class

Class is one of the most commonly adopted variables in social science research (White, 2017). Depending on different concepts and understandings of class and the changing social context, class can be measured using different indicators. For example, on the economic dimension class can be measured using income or occupation. On the political dimension, it can be measured using status or power. In cultural terms, it can be measured using levels of education or lifestyle. And so on. All of these possible dimensions can also be interwoven. Among these dimensions, the economic one is normally regarded as the most sociologically significant. This is mainly because an individual's economic position can be an important source of social status and it is also likely to have a cultural influence, on educational opportunities for example.

Class is generally perceived to exist in Britain and the reasons for this are historical, connected to the power attributed to wealth and birth in the past. The social structure of Britain has been historically influenced by the concept of class (Biressi & Nunn, 2013). In Britain, class status has traditionally been categorised as upper class, middle class and working class. According to the definitions in the Cambridge English Dictionary, upper class refers to those who are

positioned in the highest social rank, enjoy certain privileges and are usually rich; middle class is defined as being well-educated and having reasonably well-paid jobs, such as doctors, lawyers and teachers, and being neither poor nor very rich; and working class traditionally refers to those who work as manual labourers and who earn little money. This traditional class hierarchy is largely based on economic measurements of social status, income and jobs. However, it ignores classes of benefits.

However, the passage of time requires us to rethink class. The BBC's Great British Class Survey was launched on 26 January 2011 to redevelop knowledge of social class in Britain. It included social and cultural elements to measure class in Britain and develop a multi-dimensional model of class differentiation (Savage et al., 2013). The new seven-class model, as the survey named it, divides classes in the contemporary UK into the following seven categories: elite, established middle class, technical middle class, new affluent workers, traditional working class, emergent service workers and the precariat (Savage et al., 2013; see Appendix 1 for more detailed information on this new class scheme). It measures class as a combination of economic, cultural and social capital, including people's occupations, education, social networks, geographical profiles and political attitudes.

The official measure of class which has become widely accepted in the UK is occupation. This is partly based on Goldthorpe's (2016) conception of class position being determined by employment relations and the sociological view that occupation is central to social stratification and social inequalities (Wright, 2005). This is, however, challenged by arguments that class measured using occupation does not effectively capture the social and cultural factors in class divisions (e.g. Savage et al., 2013). Nevertheless, occupation is an important and useful indicator of class because it provides a scale that largely measures the economic dimension of class but also gives some indication of the social and cultural aspects of individual lives, such as power, education and lifestyle. In fact, Goldthorpe's understanding of class informs the main social classification – the National Statistics Socio-Economic Classification (NS-SEC) – that has been used in British official statistics since 2001. NS-SEC class is also used in the Next Steps survey, which is the main analytical dataset used in this study. Although occupation is not the only possible criterion for analysing social stratification, or might not be sufficiently adequate as an index of social class position, it is a particularly useful single indicator because (1) in practice, information on occupations can be relatively easily obtained, or at least more easily than accurate income figures, or measures of culture; (2) it reflects the influences of

various social factors linked to socio-economic status and educational background and is a criterion indicating individuals' social status which people are normally ready to use (Moser & Hall, 1954); and (3) in the sociological context, it can be reasonably assumed that since occupation plays a dominant role in people's lives and is very time-consuming, it is in terms of occupational prestige that people tend to evaluate one another (Ford, 1969). For all these reasons, this study adopts occupation and employment status as a general measure of class. The next section introduces and discusses the most commonly used class measurement schemes in a wider international setting.

2.3.1 Social stratification schemes

Not only in the UK but also around the world, occupational structure is regarded as the foundation of the stratification systems in contemporary industrial societies (Goldthorpe, 2007; Rose & Harrison, 2010). Data on occupations are routinely collected in censuses and official social surveys. As a result, a plethora of stratification schemes have been developed which are used in sociological research, most notably in social mobility analysis. Most contemporary approaches to stratification and social mobility analysis use occupation as the primary criterion to define social position (Bergman & Joye, 2005). This raises a question that has been widely explored in the literature: how can the characteristics of occupations and the people involved in them be best summarised to measure social class? (e.g. Treiman, 1977; Goldthorpe, 2007; Hauser & Warren, 1997; Jonsson et al., 2009; Oesch, 2006; Rose & Harrison, 2010). Various class stratification schemes have been devised. These schemes are both complex and disputed. In the social stratification literature, the most common and popular international stratification schemes in use nowadays are the following five: John Goldthorpe's Class Scheme (Erikson & Goldthorpe, 1992), the International Standard Classification of Occupation (ISCO-88) (International Labour Office, 1990), the Cambridge Social Interaction and Stratification Scale (CAMSIS) (Lambert & Prandy, 2008), the Wright Class Structure (Western & Wright, 1994) and Treiman's Prestige Scale (Ganzeboom & Treiman, 1992; 1996).

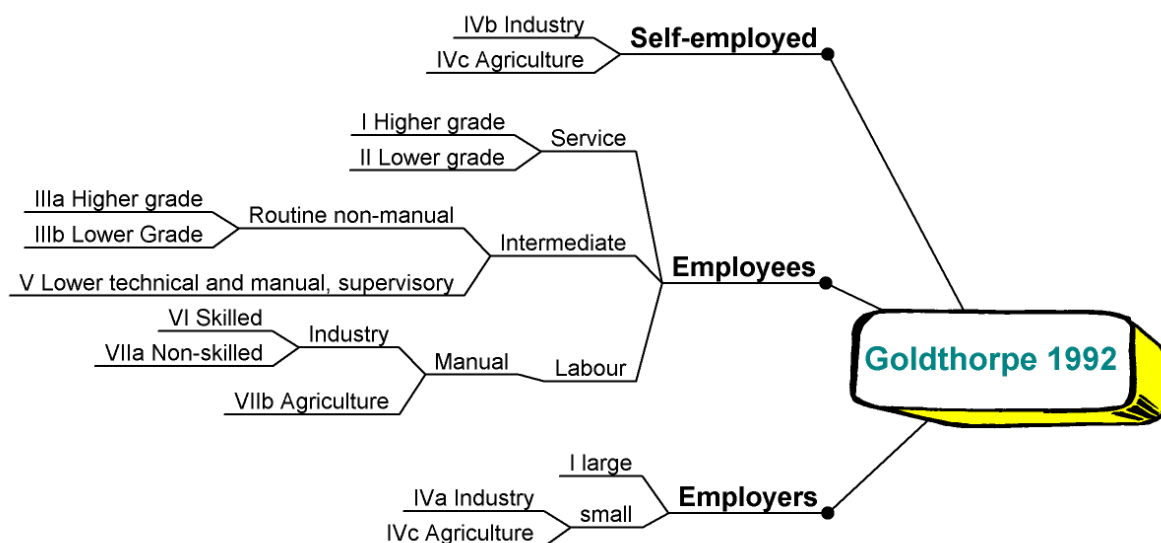
Fundamentally, although they vary in their theoretical and methodological construction, these broadly acknowledged and widely adopted stratification schemes are largely based on classifications of occupations and all of them either focus on or include occupational relations. It is necessary to point out here that these are not the only stratification schemes in use; they are just ones which are widely used in contemporary international research and employ occupational categories as the main stratifying indicator. The following sections discuss the

key features and the theoretical backgrounds of these five class stratification schemes and elaborate on the strengths and limitations of each.

2.3.1.1 John Goldthorpe's Class Scheme

John Goldthorpe's Class Scheme (also called the Nuffield class scheme and which is used as the basis for occupational classification in the present study) is influenced by the idea in Marxist theory that social class is determined by the relations of production and by Weber's 'three-component theory of stratification,' which is generally known as 'Weberian stratification.' In the latter, class, status and power are the three independent factors that determine the hierarchy of social classes (also see section 2.1 and Marshall, Rose, Newby, & Vogler, 1988; Weber, 1978 for detailed elaboration). Having gone through many incarnations since the late 1970s, this scheme centres on employment relations and is based on the idea that an industrial society produces a variety of occupations which can be categorised by the relations between them (Bergman & Joye, 2005, p. 9). The latest version of it, the 'Erikson-Goldthorpe scheme,' consists of four quasi-nested classifications of 11 classes and fundamentally relies on a tripartite thematic division between employers, self-employed workers and employees and is for use in comparative mobility analysis (Erikson & Goldthorpe, 1992). Figure 2.1 shows the subdivisions of Goldthorpe's thematic tripartite class scheme.

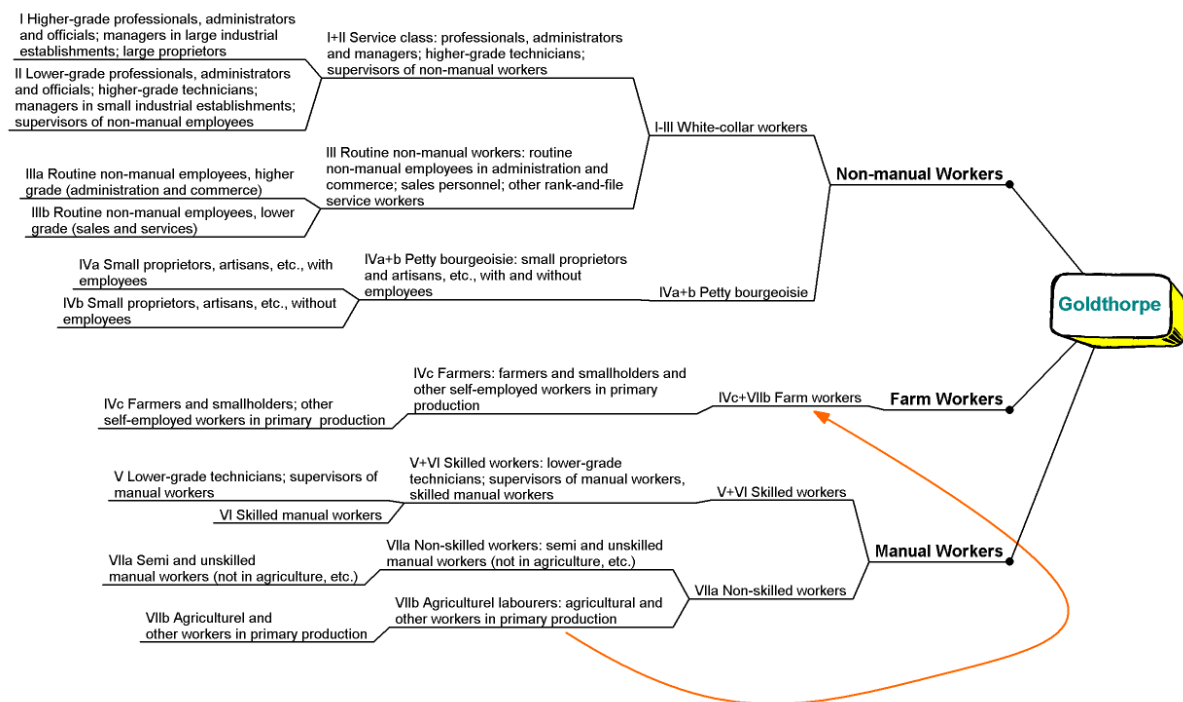
Figure 2.1: Thematic illustration of John Goldthorpe's Class Scheme, (1992)



Source: Bergman & Joye, (2005)

Figure 2.2 shows the full 11-class version of Goldthorpe's class scheme.

Figure 2.2 John Goldthorpe's Class Scheme



Source: Erikson & Goldthorpe, (1992, p.38-39)

Strengths and limitations

Goldthorpe's class scheme is conceptually clear, it is based on three relatively simple class themes (employers, self-employed workers and employees) and, unlike many other occupation-based class scales, its class structure is fluid, suggesting the possibility of both intra- and inter-class mobility without fixed class borders. Additionally, as a deductive class scheme, it measures characteristics of employment relations which define class relationships reasonably well and therefore has relatively strong criterion validity (McGovern et al., 2007).

However, like almost all the other class measurement scales, it has its limitations. First, it is less useful in explicating cultural identities (Savage, 2000), a limitation recognised by Goldthorpe himself (Chan & Goldthorpe, 2007). Similarly, as some feminist critics have pointed out, there is a risk that by relying on occupation as the only measure of class it ignores the complex way that class operates both culturally and symbolically (Crompton, 2008; Skeggs, 2004). Second, by abstracting class from measures of income it does not capture the

growing income variation within occupations (Jenkins, 2011; Savage et al., 2013). Third, from an empirical perspective there is the possibility that in a social hierarchy a specific occupation in one of the classes may be related to a different social position in terms of prestige, income, etc. (Bergman & Joye, 2005). For example, in Goldthorpe's scheme a supreme-court judge is categorised in the same class as a supervisor in a fast-food restaurant despite them having different social positions in terms of prestige, income and authority, etc. (Bergman & Joye, 2005). This challenges Goldthorpe's claim of homogeneity within the classes.

Overall, however, Goldthorpe's Class Scheme has been influential in defining the official class structure in the UK and represents a 'gold standard' in the official measurement of class. It was codified in the UK's NS-SEC, which categorises people into seven classes based on their occupation and employment status. NS-SEC distinguishes people who are employed on a labour contract, i.e. those in routine or semi-routine occupations, from people who are employed on a service contract, i.e. those in professional and managerial occupations (Savage et al., 2013). In 2001, NS-SEC replaced the two socio-economic classifications (SECs) which were formerly used in official statistics in the UK: the Registrar General's Social Class and Socio-economic Groups (SEG) (Rose & Pevalin, 2005). The rationale for adopting Goldthorpe's class scheme as the basis for NS-SEC is that it is conceptually clear, internationally accepted and reasonably validated as a measure and predictor of health and educational outcomes (The Office for National Statistics (ONS), 2005). NS-SEC is now commonly used by government agencies and researchers (White, 2017).

NS-SEC is an occupation-based classification and it is constructed to measure employment relations and occupation statuses. It differentiates among different positions in the labour market in terms of employment relations and its conceptual basis is that these relations are key to identifying individual socio-economic positions in modern societies and explaining variations in both social behaviour and other social phenomena (ONS, 2005). Within the NS-SEC conceptual model, it is possible to have different class versions depending on the analytical purpose and the quality of the data (for detailed information on the NS-SEC categories, refer to ONS, 2005). Table 2.1 presents eight-, five- and three-class versions of NS-SEC.

Table 2.1 Eight-, five- and three-class versions of NS-SEC

Eight-, five- and three-class versions		
eight classes	five classes	three classes*
1 Higher managerial and professional occupations 1.1 Large employers and higher managerial occupations 1.2 Higher professional occupations	1 Managerial and professional occupations	1 Managerial and professional occupations
2 Lower managerial and professional occupations		
3 Intermediate occupations	2 Intermediate occupations	2 Intermediate occupations
4 Small employers and own account workers	3 Small employers and own account workers	
5 Lower supervisory and technical occupations	4 Lower supervisory and technical occupations	3 Routine and manual occupations
6 Semi-routine occupations	5 Semi-routine and routine occupations	
7 Routine occupations	† -----	† -----
8 Never worked and long-term unemployed	Never worked and long-term unemployed	Never worked and long-term unemployed

Source: ONS, (2005)

2.3.1.2 The International Standard Classification of Occupation (ISCO-88)

ISCO-88 was developed to facilitate comparisons of occupational data at the international level and is widely used as an occupational classification standard (Bergman & Joye, 2005). It classifies occupations into major groups, sub-major groups, minor groups, unit groups and lastly jobs, with each group being subdivided at each level. The classification criteria are occupation-related tasks and duties and specific job skills (International Labour Office, 1990; Elias, 1997a; Bergman & Joye, 2005).

Table 2.2 shows the major groups and the corresponding skill levels in ISCO-88.

Table 2.2 Major groups and the corresponding skill levels in ISCO-88

<i>Code</i>	<i>Major Groups</i>	<i>Skill Level</i>
1	Legislators, senior officials, and managers	n/a
2	Professionals	4th
3	Technicians and associate professionals	3rd
4	Clerks	2nd
5	Service workers and shop and market sales workers	2nd
6	Skilled agricultural and fishery workers	2nd
7	Craft and related trades workers	2nd
8	Plant and machine operators and assemblers	2nd
9	Elementary occupations	1st
0	Armed forces	n/a

Source: International Labour Office, (1990)

The latest version of ISCO-88 emphasises four skill levels which are linked to formal education and informal training as important classification criteria (Bergman & Joye, 2005). Table 2.3 presents the links between the skill levels and educational qualifications.

Table 2.3 The links between skill levels in ISCO-88 and educational qualifications

<i>Skill Level</i>	<i>Education Qualification</i>
First Skill Level	Primary Education (approximately 5 years)
Second Skill Level	Secondary Education (between 5 and 7 years)
Third Skill Level	Tertiary Education (between 3 and 4 years): not leading to a university degree
Fourth Skill Level	Tertiary Education (between 3 and 6 years): Leading to a university degree or equivalent

Source: International Labour Office, (1990)

Strengths and limitations

ISCO-88 provides a standardised classification system for studying and comparing occupational structures in different nations and over time, and is a convenient social stratification scheme. Use of it results in a considerable reduction in costs relating to the classification and coding of occupations (Elias, 1997a). Criticisms of it mainly relate to coding

inaccuracy resulting from the classification being poorly constructed, ambiguity in the coding rules (Elias, 1997b) and a high likelihood of bias due to coding errors when coding at more detailed levels (Bergman & Joye, 2005). Bergman and Joye (2005) further cast doubt on whether the tasks and qualifications relating to each occupational code are constant across national contexts.

2.3.1.3 The Cambridge Social Interaction and Stratification Scale (CAMSIS)

The Cambridge class stratification scale was devised in the early 1970s. At a later stage it was redesigned in a more general form as the CAMSIS. Like Goldthorpe's Class Scheme, the CAMSIS has been adopted in social mobility studies. Unlike the categorical approach used in Goldthorpe's Class Scheme, the CAMSIS considers social inequality as a continuous measure to be a better approach to measuring social stratification. As its name indicates, the CAMSIS approach is based on the assumption that individuals engage in social, cultural, economic and political interactions in their relationship networks. These social networks continually reproduce social structures along with the hierarchical inequalities within them (Bergman & Joye, 2005).

The original Cambridge scale was based on friendship, which is considered the central form of social interaction (Stewart, Prandy, & Blackburn, 1973; 1980). In practice, analysing data on friendship networks can be expensive, while data on married couples or partners are commonly available from many large-scale official surveys (Bergman & Joye, 2005). This raises the question of whether cohabitation patterns can be considered friendship network patterns. Various studies have found a general trend that partners are likely to be chosen from the same social networks as friends (e.g. Mitchell & Critchley, 1985; Prandy & Jones, 2001; Kalmijn, 1998), suggesting the possibility of using cohabitation patterns as indicators of social network patterns as they are more cost-friendly in practical data analysis.

Besides social networks, another assumption behind the CAMSIS is that occupational groups are still the single most important indicators of social stratification, a view shared with almost all the other stratification measures (Blackburn & Prandy, 1997). The basic units in the construction of the CAMSIS are the detailed titles of occupations, and occupational groups defined on the CAMSIS scale differentiate among statuses within the employment categories (Lambert & Griffiths, 2018). Unlike many other measurement scales, the CAMSIS takes into

consideration gender differences in the same occupation, along with the possible implications for men's and women's social positions (Lambert & Prandy, 2008).

Strengths and limitations

Overall, the CAMSIS is both theoretically sound and methodologically clear. Lambert (2013) summarises two of its main advantages. First, its social interaction distance analysis approach makes it possible to conduct extended empirical examinations of occupational inequality in social history. Second, it offers an important theoretical explanation of why social interaction patterns are intertwined with social inequality patterns. However, as Bergman and Joye (2005) point out, the CAMSIS also has its limitations. For example, the CAMSIS stratification scores for each occupation are nationally specific, i.e. the scores are calculated separately for each population. This makes the CAMSIS scale sensitive to the idiosyncrasies of the sample population. In addition, it lags behind other stratification schemes in terms of cross-national validation and so is less well-established.

2.3.1.4 The Wright Class Structure

In an extension of the Marxist idea of class, Wright (1998) regards classes as “positions within the social relations of production derived from these relations of exploitation” (p.13). Therefore, the Wright class structure focuses on materialist exploitation between classes and assets which are used as exploitation tools. In addition, Wright suggests two assets – organisational assets and skills which are bureaucratically controlled – that are common in modern capitalist societies (Wright, 1997). As Bergman and Joye (2005) point out, the inclusion of these two assets stratifies wage labourers and contains ideas of a Weberian nature.

There are two revised versions of the Wright scheme: Wright II class structure and Wright III class structure. Version III is a simplified version of Wright II. Wright's class scheme (Wright II) is based on three social dimensions – property, expertise and authority – and it explains social structure using 12 classes (which were later simplified into 7 classes in Wright III) indicating locations among class relations (Western & Wright, 1994). Table 2.4 illustrates the Wright II class structure. The 12 classes are three owner classes (class 1-3) and nine wage labour classes (class 4-9). Within these classes, classes 1, 3 and 12 are Marxist classes while the other classes are formed through complicated class relations in which people can be both exploiting and exploited (Bergman & Joye, 2005).

Table 2.4 Wright II Class Structure

Owners		Wage Laborers		
1 bourgeoisie	4 expert managers	7 semicredentialed Nonmanagers	10 uncredentialed Managers	+
2 small employers	5 expert supervisors	8 semicredentialed Supervisors	11 uncredentialed Supervisors	Management Assets
3 petty bourgeoisie	6 expert nonmanagers	9 semicredentialed Workers	12 proletariat	-
	+		-	Skill/Credentialed Assets

Source: Western & Wright, (1994)

Table 2.5 presents the Wright III class structure. This simple version allows a wider application in empirical international datasets.

Table 2.5 Wright III Class Structure

Owners		Employees		
employers	petty bourgeoisie	manager-experts	professionals	Experts
			semi-professionals	Semi- Experts
		managers	workers	Nonexperts
Managers	Nonmanagers	Managers and Supervisors	Nonmanagers	

Source: Western & Wright, (1994)

Strengths and limitations

Wright's class schemes provide an example of the application of post-Marxist class theory in social class studies. However, the dividing lines between the classes remain ambiguous and the Wright classes may be too narrow to cope with the wider range of classes in modern societies (Bergman & Joye, 2005).

2.3.1.5 Treiman's Prestige Scale

As its name indicates, Treiman's Prestige Scale emphasises occupational 'prestige.' It uses the International Standard Classification of Occupations (ISCO). Treiman followed the ISCO scheme and created 509 distinct occupational titles. He then derived generic prestige scores for

each occupation within the ISCO level by standardising all the scores and averaged the results of prestige evaluations across 53 countries (for detailed information, see Treiman, 1976; for the latest version, see Ganzeboom & Treiman, 1996).

Basically, Treiman's stratification model positions individuals within a social structure based on occupational prestige ratings and creates a hierarchy of prestige according to occupations (Bergman & Joye, 2005). Its main assumptions are that the prestige attributed to an occupation is related to privilege and power, and that it is invariant across different social and cultural groupings in all modern societies (Treiman, 1976).

Strengths and limitations

Treiman's Prestige Scale measures social stratification by occupation and particularly focuses on occupational prestige, which allows for consideration of the specific experiences and attitudes that prestige might imply. The scale has a relatively high level of measurement validity. It models a prestige hierarchy based on levels of esteem associated with occupations, and the prestige ranking scores have been shown to be strongly linked to the socio-economic circumstances of individuals in the occupations (Connelly, Gayle, & Lambert, 2016).

Bergman and Joye (2005) summarise the weaknesses of Treiman's Prestige Scale both theoretically and empirically. The main limitations are as follows. First, Treiman claims that a single universal prestige scale is able to reflect social stratification. However, in practice this subjectively attributed prestige is presented differently for different occupations. Second, the universality of occupational prestige is unnecessary and even unsustainable both theoretically and empirically in the sense that, if Treiman's argument that prestige is a reflection of power and privilege is valid, then whether the prestige of occupations differs or not does not matter because it is the power and privilege which are the ultimate interest. Third, the causal chain in Treiman's propositions is over-complex. For example, privilege might have an impact on power but little impact on prestige. Fourth, one can also argue that prestige does not sufficiently reflect power and privilege. Even if it does, rather than measuring prestige, measuring privilege and power directly would be more accurate. Fifth, Treiman did not make it clear which criteria he used to make his list of occupations, and he gave insufficient explanation of his regrouping of ISCO occupational groups. Lastly, Treiman's claim of invariability of occupational prestige across different social settings and groups has been challenged by counterevidence in Coxon

and Jones's studies which shows variations in Treiman's occupational prestige ratings across certain groups (1978; 1979).

2.3.2 Conclusion

In conclusion, all of the contemporary social stratification schemes included in this section are based largely on occupation as the measure of class. They differ in their understanding of how the diversification of occupations is related to class stratification. ISCO-88 focuses on the tasks, duties and skills related to occupational groups, while Goldthorpe and Wright focus on employment relations, with Wright's class structure putting more emphasis on the nature of exploitation in class relations. Both Goldthorpe and Wright regard class structure as static and distinct. In contrast, both Treiman's and the CAMSIS scales are more continuous and the class structures they define are more dynamic. Treiman's Prestige Scale differs from Goldthorpe's and Wright's schemes in the way that it focuses on subjective attributed prestige. Meanwhile, the CAMSIS includes both social networks and differences in employment status.

Because of the unique strengths of John Goldthorpe's class scheme in the contemporary social context and it being widely used in UK official datasets, as has been discussed, this study adopts this class scheme to measure social mobility. More specifically, it uses the eight-class version of NS-SEC.

2.4 Conclusion

The conceptualisation and measurement of class are well established, yet create a complex and disputed area of sociology. This chapter has presented the main concepts and definitions of class and their links to social mobility. It has also discussed the importance of class as an analytical tool and has justified this study's adoption of NS-SEC derived from John Goldthorpe's class scheme in its analysis. The next chapter then moves on to social mobility. It particularly focuses on the conceptualisation and measurement of social mobility, debates on its importance and limitations, and its broader national and international context.

Chapter 3 Social mobility: Definition, measures, debates and context

After introducing definitions and measures of social class, which is an important concept closely related to social mobility, this chapter begins to focus on social mobility itself. It first explores the different concepts used to define it, different types of it and different measures of it. It then discusses debates on social mobility, including on its importance and limitations. Finally, it discusses the international context of social mobility and reviews the literature on social mobility trends in modern British history.

3.1 Defining social mobility

Class can be dynamic and be seen as a trajectory (Ball, 2002). The idea of social mobility implies social class being considered a relational concept which is contextualised within the class hierarchy in the whole of society. In other words, class can be mobile, moving up or down. Class structure, therefore, forms an important social context for the study of social mobility (Goldthorpe, 2016).

Broadly and theoretically, social mobility is an important concept in sociology and can be defined in different terms, such as occupational, geographical or cultural ones (Davies, 1970). Most commonly in social science research, it means people changing from one social class to a different one (Aldridge, 2003; Glass, 1954; Sorokin, 1927; Lipset & Bendix, 1959; Wood, 2011). The notion of social mobility assumes that society is arranged in a hierarchy of individuals or groups of individuals with different social status (Glass, 1954) and accepts the idea of social stratification. The theory further assumes that people in society can be stratified into different socio-economic strata according to typical and practical criteria, such as occupation, income and education, and the derived social and political power. Thus social mobility refers to the process of movement or potential movement of people between different social classes, along with the advantages and disadvantages that such changes bring in terms of social factors such as income and job (in)security, etc. (Aldridge, 2003). Social mobility studies investigate the extent of this movement by people of different social origins (Glass, 1954).

There are different types of social mobility. The next sections define four main types of social mobility: absolute social mobility, relative social mobility, intergenerational social mobility and intragenerational social mobility.

3.1.1 Absolute vs relative social mobility

Social mobility can be defined in absolute and relative terms and a distinction needs to be drawn between the two. Absolute mobility is the extent to which the overall living standards of people in society as a whole changed and it is social progress in terms of factors such as job opportunities and education across generations. It indicates “the extent to which ... stable social collectivities are formed” (Miles, 1999, p. 6). On the other hand, relative mobility, sometimes referred to as social fluidity (Nunn et al., 2007), captures the chances of individuals of different class origins moving to different class destinations (Goldthorpe, 2016). It compares the mobility prospects of one social group to those of other social groups at the same point in time and relates to equality/inequality of life chances for people from different social classes.

3.1.2 Intergenerational vs intragenerational social mobility

Social mobility can be viewed as occurring both between and within generations, which leads to two important types of social mobility: intergenerational and intragenerational. Intergenerational social mobility refers to movement between social classes from one generation to another, i.e. it happens when adult children’s social class changes compared to that of their parents (Erikson & Goldthorpe, 2002; Hadjar & Samuel, 2015). For example, a plumber’s child who becomes a doctor, or vice versa, is intergenerationally socially mobile. Intragenerational social mobility, on the other hand, refers to a change of social class over time during an individual’s life course (Hadjar & Samuel, 2015; Plewis & Bartley, 2014). For example, an individual who started working as a manual worker and several years later becomes an engineer, or vice versa, is intragenerationally socially mobile.

3.2 Defining measures of social mobility

Social mobility is mostly measured through changes in social class, either using economic changes such as in levels of income or in status such as in socio-economic status (SES) and occupational status (Goldthorpe & Mills, 2008). Among the wide range of these possible criteria for social stratification, one important measure of social mobility in mainstream studies is change of occupation, either upwards or downwards and either over the course of individuals’ lifetimes (intragenerational) or within families across generations (intergenerational). Two important enquires into social mobility (Glass & Hall, 1954; Blau & Duncan, 1967) both use occupation as the measure of social status or life achievement.

Following these mainstream social mobility studies, this study adopts changes in occupation, more specifically John Goldthorpe's Class Schema, to measure social mobility.

3.3 Debates on social mobility: its importance and limitations

Why does social mobility matter?

As was discussed above, the concept of social mobility has various dimensions. It can be understood in either absolute or relative terms, and between or within generations. It can be measured with a wide range of life outcomes such as income levels and occupations. Broadly speaking, social mobility remains a controversial issue and there have consistently been debates on the subject, regarding both its importance and limitations.

Both theoretically and empirically, to a large extent social mobility is considered important. Theoretically, from the perspective of social class (as was discussed in Chapter 2), Goldthorpe and Llewellyn (1987) regard mobility as a source of class structure and an important indicator of class relations. Similarly, Giddens (1973) explains the consequences of social mobility using the idea of class structure (see Giddens, 1973 for further explanation) and suggests that a low rate of social mobility is consistent with a high level of class solidarity and high mobility means a more flexible class structure. More specifically, Giddens (1973) shows the important role that mobility opportunities play in the formation of class solidarity and argues that any restrictions on social mobility in the labour market, either intergenerationally or within individuals' lifetimes, confine people to their original occupational categories and as a consequence facilitate the formation of social classes. Such social class solidarity can be harmful to both the efficiency and equity of human capital. In fact, some studies have shown that high social mobility enhances the relationship between education and individual ability, thus tending to increase both the efficiency and equity of human productivity (Maoz & Moav, 1999; Lloyd-Ellis, 2000).

Empirically, social mobility is largely viewed in relative terms (see section 3.1.1) and it is of high political and social concern, especially its role in social fairness. Countries with (relatively) high levels of social mobility are considered to put their citizens on a more meritocratic footing regardless of their social origins (World Economic Forum, 2020). For example, in a country with a high level of social mobility a child born into poverty can have the same chances of earning a high income in adulthood as a child from a high-income family. As Miles (1999) points out, social mobility and the lack of it have raised concerns in the

political and social fields for a long time. A lack of social mobility can mean children born into disadvantaged families tending to have more barriers to success than those born into rich families. A report from the World Economic Forum (2020) further points out that a low level of social mobility can be both a cause and a result of social inequality. This point is echoed by Hanley (2016, p. 136), who states that social mobility “is presented as both the central problem of class inequality and its solution.” Low social mobility can also relate to broader social problems. For example, the abovementioned report from the World Economic Forum shows that a lack of social mobility is related to key social challenges such as low wages, unequal access to education and training opportunities, and a lack of social protection (World Economic Forum, 2020).

Especially in recent years, social mobility has become a mainstream political and media concern in the UK. As “the creation of a fairer society through social mobility is high on the political agenda in the United Kingdom” (Brown, 2013, p. 678), social mobility is considered an important policy theme (Hoskins & Barker, 2014). It is closely related to the intergenerational transmission of advantages such as wealth, and equality in individuals’ educational, social and economic opportunities during their lives. Viewed from this social justice point of view, some scholars argue for the importance of social mobility, which lies in its relationship with social justice and meritocracy in society as in a certain sense it determines the extent to which life chances depend on social origins (Sorokin, 1927) and to which differences in individuals’ social achievement depend on background characteristics (Boudon, 1974). This implies that trends in social mobility patterns lie behind trends in inequality of social structure, including progress towards fair access to life opportunities (Lambert, Prandy & Bottero, 2007). Mainstream studies on social mobility in recent years have focused on occupational or income mobility (Mach, 1986; Goldthorpe & Mills, 2008). A recent increasing tendency of inequality in labour market outcomes in the UK, which is shown by some of these studies, has raised great concerns about equality of opportunity in UK policy debates (Keep & Mayhew, 2014).

Besides social justice, social mobility has further implications for broader social and individual issues such as economic growth, social stability, social cohesion and even individual happiness (Aldridge, 2003; World Economic Forum, 2020). For example, some scholars argue that social mobility is important from a human capital point of view, and accordingly underline the negative impact of a low level of social mobility on overall economic growth in society. Human

capital is largely considered the driving force of economic growth and an important aspect of economic well-being, and prevention of the best allocation of talents can limit the growth of productivity in society (World Economic Forum, 2019; Van der Weide, et al., 2021). This can be caused by low social mobility and the inequality of opportunities associated with it (World Economic Forum, 2019), which can cause some human potential to be unrealised or wasted and a misallocation of human resources, as talented individuals with disadvantaged backgrounds may be excluded from some life opportunities (Van der Weide, et al., 2021). Take the United Kingdom (UK), for instance. A recent impact analysis estimates that low social mobility would cost the UK economy £1.3 trillion in lost GDP over the next 40 years (Sutton Trust, 2010). It also estimates that a modest increase in social mobility in the UK can lead to 2-4% annual GDP growth (Sutton Trust, 2010). Therefore, from a broader economic point of view, social mobility can act as a key lever to increase the rate of economic growth in a country, and intragenerational inequality associated with a lack of class mobility might even inhibit economic growth (Aiyar & Ebeke, 2019; Breen, 1997). In contrast, enhanced social mobility can help to turn a country's economic growth into a virtuous circle (World Economic Forum, 2020). The economic growth brought by high social mobility might benefit individual happiness as well. A recent analysis shows that social mobility measures are positively related with world happiness index measures, implying that high social mobility can increase individuals' life satisfaction in general (World Economic Forum, 2020).

Regarding the direction of social mobility, it can be 'upward' or 'downward.' People can find themselves better or worse off (mainly economically) than their parents and grandparents or within their lifetime (World Economic Forum, 2020). Upward social mobility is generally considered both possible and desirable. It is also believed that upward mobility is linked to better health and more general wellbeing of society as a whole, including population happiness and equity and equality of life chances (Aldridge, 2003; Wilkinson & Pickett, 2009). Particularly when more better-paid job opportunities are created as a result of economic growth, being able to move upward socially increases people's chances of taking up these job opportunities. Regarding the distribution of social status in society, Elder (1965) argues that if individuals gain advantages as a result of their own personal efforts, then they deserve them and the distribution of social status can be considered fair. Social mobility can therefore lead to a meritocratic society. In such a society, anyone, regardless of social origin, can achieve upward social mobility through their efforts, while those who make no effort might either have a stable status or downward personal mobility. There are two premises behind this: (1) the

social hierarchy can be flexible; and (2) the allocation of social statuses is based on relevant individual attributes. This idea is worth pursuing because it helps to increase motivations and aspirations for mobility.

Limitations of social mobility

While there are clearly benefits from improving social mobility, debates also arise around the limitations of social mobility, including some downsides and certain social problems that it cannot solve.

The idea of individuals being socially mobile either upwardly or downwardly, as discussed above, further leads to debates around the limitations of social mobility. Regarding upward mobility, studies show a more complex picture. On the one hand, the moral benefits that upward social mobility brings such as helping people move out of poverty and rewarding people according to their merits make for a fairer society. Especially for disadvantaged individuals, upward mobility can be viewed as a means to achieve life success. On the other hand, feminist work on working-class women's upward mobility (Lawler, 2000; Walkerdine & Lucey, 1989) suggests a more ambivalent picture of upward mobility from a more emotional perspective. As Reay (2017) discusses, for working-class people, striving for equality with more privileged peers can mean inequality between upwardly mobile individuals and the communities they and their parents belonged to. This implies a possibility that there are some individuals who might prefer to be non-mobile for various reasons, such as a sense of class belonging or a desire to do the same or similar job as their parents. From a more ethical point of view, Calder (2016) points out that there can be tension between the promotion of more equal life opportunities and respect for family relationships. This challenges the widely accepted view that individuals' upward mobility is always a good thing.

Although upward social mobility can be beneficial to life satisfaction, especially from an economic point of view, as mentioned in the previous section this does not apply to all individuals in society. From a more philosophical point of view, social mobility can also involve dislocation, as in some situations people migrate to different places to be richer but also find themselves isolated from their friends and family, and as a consequence they might not necessarily feel happier (BBC, 2011). This highlights the dilemma that for some individuals material success might be achieved at the cost of happiness. From a psychological point of view, while downward mobility has been found to be related to depression and lower quality

of life (Präg, Fritsch & Richards, 2022), some studies reveal that there can be psychological downsides to upward mobility as well. For example, a study interviewing 110 male participants in the 1958 National Child Development Study at the age of 46 reveals that men who had moved upward tend to have more mental issues such as being dependent on alcohol, feeling more socially isolated and living with more uncertainty (British Psychological Society, 2018). Similarly, Kessin (1971, p. 1) investigates the psychological consequences of intergenerational social mobility and finds that “[r]espondents moving upward two or more socioeconomic levels have significantly lower Community Integration scores and significantly higher Manifest Anxiety and Psychosomatic Symptom scores.” Similar mental issues such as anxiety, stress and encountering difficulty in adjusting to a new life as a consequence of individual upward mobility are also found in other studies (e.g. Janowitz, 1956; Tumin, 1967; Kessin, 1971).

Besides the philosophical and psychological downsides that individual upward mobility might bring, there are some other limitations of upward mobility. Although on the one hand it can be argued that perhaps the most important benefit of social mobility is not individuals being upwardly mobile in itself but more that there are fair life opportunities. This is more about whether individuals have a reason to believe in a better future and have the chance to achieve upward mobility if they want to and make the necessary effort. On the other hand, for those who attempt to socially mobilise themselves to be economically well-off, there is also the view that over-emphasising upward mobility runs the risk of setting up some people for disappointment if in reality people are not rewarded for their merits (BBC, 2011). In reality, upward mobility chances for disadvantaged people can be relatively few; moving up happens more to middle-class children than their working-class peers (Lareau, 2003). Hoskins and Barker (2014) similarly argue that in real life upward mobility is more likely to happen for those with pre-existing advantages and can also mean replacing one elite with another. This does not bring social justice for the majority of the population. They also point out that another more desirable type of upward social mobility happens when the economy expands and the social gradient becomes less steep. However, historic evidence shows that this scenario is less attainable at a time when social inequality is increasing (Hoskins & Barker, 2014).

Besides upward mobility, from a more humanitarian point of view, some scholars also point out that social mobility also means that there are people moving in a downward direction, which casts doubt on whether more social mobility will necessarily make for a more content society (e.g. Taylor, 2009).

Another limitation of social mobility that has been discussed lies in the definition of social mobility itself. Calder (2016) points out that promoting social mobility by definition means making individuals' socio-economic backgrounds matter less in predicting their life outcomes. However, as Cameron (2015a) points out, there is a "naturalness" in families: the "wish to pass something on to your children is the most basic, human and natural instinct there is." Therefore, not allowing families to transmit social advantages to the next generation seems unrealistic. Furthermore, in his famous *A theory of justice*, Rawls (1971) discusses many social-justice-related issues and holds the view that family is one type of social institution to which the principles of justice should apply. Core factors in theories of justice are both the nature and the scope of individual human rights. From a social justice point of view, to a large degree social mobility raises the question of the extent to which parents have the rights to raise and educate their children (Calder, 2016). Brighouse (2002) adds weight to this argument, implying that such intergenerational transmission of advantages can be both within families' human rights and inevitable:

[a]s long as children are raised in families, we know that their prospects will be profoundly affected by their family circumstances and conditions – this is by factors which do not flow from their level of talent or willingness to exert effort (Brighouse, 2002, p. 6).

In a certain sense, parents do have the right to confer advantage on their children (Calder, 2016). Social mobility alone, therefore, cannot solve the problem of social immobility. Instead, the key solution should be reducing inequality of outcomes (Calder, 2016; The Conversation 2016). A balance is needed between promoting social mobility and the nature of intergenerational social mobility (i.e. the entitlement of parents to pass on some kind of privilege to their children). Viewed in this sense, Calder (2016) argues for ethical limits to the intergenerational transmission of family privilege and a certain amount of leverage that families should be allowed to transmit advantage to their children. Calder (2016, p. 112) therefore considers social mobility as "an upshot of social justice – of a society where everyone is treated fairly – rather than a route to it." This point is echoed by Goldthorpe (2012), who argues that unless the class-related inequalities in people's situations are largely reduced, trying to increase equality of life opportunities through greater equality of social mobility chances

can be ineffective. Considering this limitation, the idea of social mobility might need a fundamental rethink.

3.4 The international context of social mobility

Before discussing social mobility patterns in contemporary Britain, this section discusses the international context of social mobility and creates a global map of social mobility. As this thesis is about intergenerational social mobility, this section specifically focuses on intergenerational social mobility rates in countries worldwide.

In the global context of rising inequality, the World Economic Forum launched ‘The Global Social Mobility Report 2020’ to assess social mobility patterns in 82 economies worldwide. Its Global Social Mobility Index (GSMI) assesses the performance of countries in five important dimensions of social mobility – health, education, technology, work, and protection and institutions, and measures the degree of “equally shared opportunities,” regardless of socio-economic status, gender and other origin-related factors (World Economic Forum, 2020, p. 5). A country with greater social mobility is one the citizens of which have more equally shared opportunities, i.e. the impact of socio-economic background on life chances is relatively small. The “Great Gatsby Curve” in the report is a graphic which shows the relationship between the Gini coefficient (a measure of economic inequality) and intergenerational income elasticity (the extent to which income is predicted by parents’ income). It shows that the level of income inequality in a country is directly inversely related to its score on the social mobility index, which means that higher income inequality leads to lower social mobility (World Economic Forum, 2020). The GSMI shows that there are big divides between countries in terms of their overall levels of social mobility. Socio-economic mobility gaps are especially large between developing countries and developed countries.

The recent report ‘Intergenerational Mobility around the World’ by the World Bank shows similar patterns. Using an international database of intergenerational social mobility in the area of education in 153 countries, it finds that both absolute mobility in education – the proportion of individuals with a higher level of education than their parents – and relative mobility in education – the extent to which individuals’ years of schooling are independent of those of their parents – are on average higher in developed countries than in developing ones (Van der Weide, et al., 2021). Van der Weide, et al. (2021) suggest that a key explanation of this pattern

may be that developed countries with higher national income tend to invest more public funding in public interventions to compensate individuals for disadvantages. A good example is that developed countries provide high-quality state education for their citizens with disadvantaged backgrounds and improve their aspirations.

Accordingly, citizens in most of the Nordic countries – Denmark, Norway, Finland, Sweden and Iceland – where there are low levels of income inequality, enjoy a high level of life chance equality. More specifically, the high GSMI scores by these five countries indicate that their citizens have access to high-quality healthcare, education and technology, and enjoy both quality and equity in education and opportunities for lifelong learning. At the same time, their countries provide them with fair work opportunities, good working conditions, social protection, inclusive institutions and efficient public services. In addition to these characteristics of high social mobility countries measured by the GSMI, studies also show that countries with a high level of social mobility tend to have relatively low levels of residential segregation, a high-quality state school system, strong social networks, strong family structures (Chetty et al., 2014; Connolly et al., 2021; Corak, 2021) and high levels of tax revenue and government spending on education (Van der Weide, et al., 2021).

While the above five Nordic economies constitute the top five among the 82 countries assessed by the Global Social Mobility Index, the United Kingdom (UK) ranks 21st and the United States 27th. Although the UK performs relatively well in social mobility in the global context, it still lags behind the Nordic countries in terms of equality of life chances. For example, reflecting income mobility across generations, in Denmark it takes on average two generations for an individual from a low-income family to approach median-level income, while the number jumps to five generations in the United Kingdom (World Economic Forum, 2020). For the remaining countries, in general European and North American countries perform better than others. For example, Germany ranks 11th, France ranks 12th and Canada ranks 14th. There are also some East Asian and Pacific countries which perform relatively well, such as Japan (15th) Australia (16th) and Singapore (20th). Israel (ranking 33rd) is the best performing country in the Middle East and North Africa. In contrast, countries in South Asia, sub-Saharan Africa, Latin America and the Caribbean have relatively low social mobility. For example, Mexico ranks 58th, Brazil 60th, India 76th, South Africa 77th and Pakistan 79th.

Besides the GSMI, which measures social mobility in a wide range of countries, there are also a number of empirical comparative studies on social mobility patterns in different countries (Black & Devereux, 2011; Corak, 2013). The majority of these studies, however, focus on high-income countries in the developed world, including the US, Canada and some European countries such as the UK, Germany and the Scandinavian countries.

In the UK, for example, a recent burgeoning literature focuses on intergenerational social mobility and assesses its level in the UK by comparing income between generations in the international context. There are, however, controversial opinions on social mobility in the UK compared with that in other developed countries. One influential claim about the social mobility trend in the UK based on a cross-country comparison of intergenerational mobility is made by Blanden, Gregg and Machin (2005). Their paper entitled 'Intergenerational Mobility in Europe and North America: Report for the Sutton Trust' compares intergenerational mobility across eight countries (Britain, the US, West Germany, Canada, Norway, Denmark, Sweden and Finland) and presents the well-known claims that "[i]ntergenerational comparisons indicate that intergenerational mobility in Britain is of the same order of magnitude as in the US, but that these countries are substantially less mobile than Canada and the Nordic countries" (p. 2) and "[i]ntergenerational mobility fell markedly over time in Britain, with there being less mobility for a cohort of people born in 1970 compared to a cohort born in 1958" (p. 2). These claims were made based on analyses of the two main birth cohort studies: The National Child Development Study 1958 (NCDS 1958) and the Birth Cohort Study 1970 (BCS 1970). However, despite the important impact this paper has had, on closer inspection both these claims are questionable. For example, in his paper entitled 'A re-consideration of rates of "social mobility" in Britain: or why research impact is not always a good thing,' Gorard (2008a) casts doubts on Blanden et al.'s (2005) conclusions through a reconsideration of the same results. Specifically, Gorard (2008a) provides a robust critique of the validity of this research and justifiably points out a major problem: the research compares data on a cohort born in Britain in 1970 with a cohort born in Norway in 1958, i.e. it uses the wrong year in the comparison and these are two unrelated groups of children (for other critical points, see Gorard (2008a) for further elaboration).

On the one hand, possibly partly influenced by Blanden et al.'s (2005) claim, which has had a large impact on policymakers especially in recent years, reports by the Social Mobility Commission also consistently claim (partially mistakenly) that there remains a low level of

social mobility in the UK with little improvement being made in the UK (e.g. Social Mobility and Child Poverty Commission, 2014a, b; Social Mobility Commission, 2019a, b). On the other hand, contrary to the prevailing view that social mobility is decreasing in the UK, which is a result of some invalid findings (e.g. Blanden, Gregg & Macmillan, 2013; Corak, 2013; Crawford et al., 2011), some other studies analysing data from cohort-study resources show a more positive picture of the social mobility trend in the UK. For example, Goldthorpe and Jackson (2007) employ cross-cohort analyses to assess mobility in terms of intergenerational class and find no evidence that absolute mobility is falling in contemporary Britain. They also find that relative mobility shows essentially consistent stability – a finding which is consistent with some other scholars’ results (e.g. Aldridge, 2001, 2003). Comparing the social mobility trend in Britain with other countries by analysing the British National Child Development Study (NCDS1958), a study by Jantti et al. (2006) comes to the conclusion that “the United Kingdom bears a closer resemblance to the Nordic countries than to the United States” (p. 2), which is different to Blanden et al.’s (2005) claim but confirms the results of the GSMI rankings discussed earlier. Similarly, analysing the same dataset, Krzyżanowska and Mascie-Taylor (2013) also suggest that to a large extent social mobility in Britain relies more on meritocratic principles compared to other countries.

3.5 Setting the national context: the history of social mobility in contemporary Britain

After a discussion on the international context of social mobility, this section focuses on social mobility in Britain, as this is the national context of this study.

Research on social mobility in Britain enjoys a long history. Over the course of the nineteenth century, the limited research shows a steady increase in both relative mobility rates (Miles, 1993, 1999; Prandy & Bottero, 2000a, b) and absolute mobility rates (Miles, 1993; 1999), suggesting a gradual improvement towards greater social openness (Kaelble, 2001). The period from the end of the Second World War until the early 21st century saw social mobility, especially the trends and patterns in class mobility, established as one of the major areas in sociological research, mainly in terms of hierarchies of prestige, socio-economic status or class structure. Among the leading sociological studies on mobility (e.g. Bottomore, 1965; Giddens, 1973; Hope, 1981; Miller, 1960; Parkin, 1971; Payne, 1987; Westergaard & Resler, 1975), there were two landmark pieces of work in the twentieth century that should not be ignored. One is David Glass and his colleagues’ pioneering empirical project *Social Mobility in Britain* (1954), conducted at the London School of Economics by analysing the life histories of a

national sample of 3914 male respondents (3497 in England and Wales and 417 in Scotland) who were born in or before 1929 (for detailed information on the birth dates, see Glass and Hall, 1954, p. 181) as representatives of the adult population of Great Britain in 1949 (Glass, 1954, p. 7) immediately after the Second World War. The other is John Goldthorpe's 1972 Oxford Mobility Study, using data based on interviews with four 'quasi-cohorts' of men who were born in four 10-year periods (1908-1947) starting from a premise that is similar to Glass's: "a freely declared commitment to a genuinely open society" (Miles, 1999, p. 7). Briefly, Glass's analysis depicts a broad view of social mobility in Britain in terms of intergenerational changes in occupational achievement from the 1920s to the 1950s, (Glass, 1954). The main finding is that there was a significant association between the social status of fathers and sons (Glass & Hall, 1954). Goldthorpe's (1987) celebrated work, however, suggests a slightly different picture: there was a steady increase in upward mobility in the middle decades of the twentieth century which was directly related to a clear pattern of rising rates of movement in which men from working-class roots 'upgraded' to the service class. Fundamentally, to some extent Goldthorpe's work indicates that there was a so-called 'golden age' of social mobility in the 1950s and the 1960s.

Whether the UK is a meritocratic country with equal opportunities or an immobile hierarchical society is an issue which, on the one hand, lies at the forefront of current research on social mobility but which, on the other hand, still remains a controversial and disputed area given the different views and findings of studies (e.g. Breen & Jonsson, 2005; Goldthorpe & Jackson, 2007; Goldthorpe & Mills, 2008; Gorard, 2008a). Reviewing research on the trends in patterns of intergenerational social mobility in modern Britain, some studies find that social mobility is persistently increasing (e.g. Lambert, Prandy, & Bottero, 2007), some claim a downward trend in social mobility (e.g. Blanden, Gregg, & Machin, 2005) and others indicate stability (e.g. Goldthorpe & Mills, 2004). Table 3.1 provides a summary of different findings on trends in patterns of intergenerational social mobility in modern Britain.

Table 3.1 Selected mainstream study findings on social mobility trends in modern Britain

	<i>Indicator measures; trend analysis technique; data source</i>
<u>Stability in social mobility</u>	
Glass (1954)	Status categories (7); age cohorts; 1949 survey
Richardson (1977)	Manual/non-manual (2); periods; 1949 and 1970 surveys
Goldthorpe (1980/6)	EGP class (7/11); age cohorts; 1972, 1983 surveys
Marshall et al. (1988)	EGP class (3); age cohorts; 1984 survey
MacDonald and Ridge (1988)	EGP class (7; periods; 1964, 1974 and 1983 surveys
Wong (1994)	EGP class (6); periods; as Ganzeboom et al. 1989
Breen and Goldthorpe (2001)	EGP class (7); periods; 1981 and 1996 surveys
Gershuny (2002b)	Gini coefficient (see paper); periods; 1991-1999 panel survey
Breen (2003)	EGP class (7); periods; 1973 and 1996 surveys, Northern Ireland
Breen and Luijkx (2004)	EGP class (7); periods; 1973-6, 1979-1984; 1987-1992 surveys
Goldthorpe and Mills (2004)	EGP class (9/3); periods; 1973-6, 1979-1984; 1987-1992 surveys
Ermisch and Nicoletti (2005)	Income and HGS; periods; 1991-2003 panel survey
Iannelli and Paterson (2006)	EGP class (7); age cohorts; 2001 survey, Scotland
<u>Increasing social mobility</u>	
Ganzeboom et al. (1989)	EGP (6); periods; 6 surveys 1951-1986
Heath et al. (1992)	EGP (3); periods; 2 surveys 1973 and 1985
Mitch (1993) [†]	RGSC (5); periods; marriage register datasets 1839-43, 1869-73
Jonsson and Mills (1993)	EGP (7); periods; 5 surveys 1964-1987
Noble (1995)	Manual/non-manual (2); periods; 1949, 1972, 1984 surveys
Miles (1999) [†]	RGSC (5); periods; marriage registers 1839-1914
Prandy and Bottero (2000a) [†]	CAMSIS scales; periods; 1800-1938 genealogical study
Heath and Payne (2000)	EGP (6); periods; 6 surveys 1964-1997
Payne and Roberts (2002)	EGP class (3); periods; 1972, 1983, 1987, 1992 and 1997 surveys
Gershuny (2002a)	EGP class(3); periods; 1991-99 panel survey
Ermisch and Francesconi (2004)	Income and HGS; periods; 1991-2002 panel survey
<u>Declining social mobility</u>	
MacDonald and Ridge (1988)	As above – describe unconfirmed trend to increased closure
Payne and Roberts (2002)	As above – observe decline between 1992 and 1997 only
Gershuny (2002a)	Human capital index (see paper); periods; 1991-99 panel survey
Blanden et al. (2004, 5)	Income; periods; 1991 and 1999 surveys
<u>Notes:</u> - Social classifications: CAMSIS – see Prandy and Lambert (2003); HGS – see Goldthorpe and Hope (1974); EGP – as Goldthorpe (1980); RGSC – Registrar General's Social Class scheme, see Rose and Pevalin (2003); Wright – see Wright (1985); (n) indicates number of class categories used. - Trend analysis technique: age cohorts = comparison uses difference between older and younger age groups; periods = comparison uses differences between similar age groups from multiple time points. - Surveys: random sample surveys unless indicated (†)	

Source: Lambert, Prandy, & Bottero (2007)

In social mobility studies on the UK there is also a tendency to centre on equality of access to the labour market. For example, a recent study by Keep and Mayhew (2014) suggests an inequality of earnings and labour market opportunities in the UK, which has raised great concerns about fair access to the labour market in policy debate. Similarly, a recent report from the Social Mobility and Child Poverty Commission (2015) states a tendency that at the entry level elite firms remain greatly dominated by those from privileged family backgrounds. These

findings imply that although the UK might be doing better at improving social mobility than some other developed countries, stratification of life opportunities by background characteristics still remains persistent and strong.

3.6 Policy context: debates on social mobility policies in Britain

Perhaps compared to many other concepts in sociology, social mobility is more of an ‘empirical’ concept. What the considerable debates on social mobility bring to practice is a discussion of how to implement social mobility policies effectively, which is also a key ultimate aim of this study. This section, therefore, discusses mainstream policies aiming to increase social mobility and improve social mobility-related issues such as social justice, with a specific focus on their effectiveness and how they can be implemented in a more effective and fair way to achieve the policy aims.

Along with unlocking social mobility as an item at the top of the political agenda, there are numerous ongoing policies including school improvement policies and the current government’s ‘levelling up’ policy (The Economist, May, 2021). Most of these policies attempt to help disadvantaged people get fair access to life opportunities and improve social justice in and through education. Among the major policy attempts, the ‘widening participation in HE policy’ and the ‘pupil premium fund policy’ may be the two most important and promising approaches. They are used as examples here to show that some social mobility policies can be promising, but they need to be evidence-based and rigorously evaluated.

Widening participation in HE: Contextualised admissions

Like many other countries, the UK attempts to promote fair access to HE for all socio-economic groups (Gorard, 2018) and the widening participation agenda has been in progress for more than five decades (Connell-Smith & Hubble, 2018). The main aim of the widening participation policy is to promote take-up of HE opportunities among under-represented groups and remove barriers for disadvantaged students against HE entry (Connell-Smith & Hubble, 2018; BIS, 2010). The main widening access approaches include financial support such as universities offering remission and bursaries for tuition fees (OFFA, 2017a) and scholarships for disadvantaged students (BIS, 2011), expanding university places (Gorard et al., 2007), universities more directly sponsoring and supporting state schools (DfE, 2016), universities publishing transparent data on admissions by student background (BIS, 2016; The Higher Education and Research Act, 2017), distributing funds to Higher Education Institutions (HEIs)

according to the number of disadvantaged students enrolled (the National Collaborative Outreach Programme), raising pre-university attainment for disadvantaged students (OFFA, 2017b) and most recently a contextualised approach to HE admissions (Boliver, Gorard, & Siddiqui, 2016; 2021).

Having reviewed these major policy attempts, Gorard (2018) points out that most of the approaches have not been robustly evaluated. He and his colleagues, however, using evidence from analysis of the National Pupil Database (NPD), do suggest that the contextualised admissions (CA) policies are both necessary (Boliver, Gorard, & Siddiqui, 2021) and promising (Boliver, Gorard, & Siddiqui, 2017). This is especially true when the Office for Students (OfS) has recently set more ambitious targets to eliminate the poverty gap in entering higher-tariff universities (the most academically selective and competitive universities) in England (OfS, 2019). CA policies have recently been increasingly promoted and adopted by many universities (Gorard, 2018; Fair Education Alliance, 2018). The CA strategy involves universities using contextual data about student candidates' socio-economic backgrounds to inform decision-making on undergraduate admissions (OFFA, 2015), usually reducing the entry requirements for applicants from disadvantaged family backgrounds (Boliver, Gorard, & Siddiqui, 2021). The main rationale for the CA approach is that "equal examination grades do not necessarily represent equal potential" (Schwartz, p. 5) and "the school attainment of disadvantaged learners often does not reflect their full potential" (CoWA, 2016, p. 10).

Viewed in this light, CA represents an important means of achieving not only wider access but also fair access (Boliver, Gorard, & Siddiqui, 2021). It is "positive discrimination" within the current education system (Clayton, 2012). All these views in favour of CA are supported by evidence from Boliver, Gorard, and Siddiqui (2021)'s NPD data analysis that it is possible to lower the admission requirements for contextually disadvantaged candidates without risking their chances of succeeding at university, which was a major concern before the adoption of CA. There is one crucial premise for the effectiveness of CA policies: the indicators adopted to identify contextualised disadvantaged students must be "true indicators of disadvantage" and therefore be "accurate, appropriate and complete" (Gorard, 2018, p. 149). The indicators used to date are, however, either of little practical use or risk leading to more bias (Gorard, 2018), partly because they have been chosen simply based on their availability without considering their quality (SPA, 2016). For example, one of most commonly used indicators is POLAR, which is an area-level measure and is based on neighbourhood characteristics. However, the

use of POLAR actually runs a high risk of giving misleading and unjust information on disadvantaged individuals and should therefore not be adopted (Gorard, 2018). One possibility is that applicants who are the most disadvantaged do not live in the most disadvantaged regions (for a detailed explanation of the possible damage that the use of POLAR can cause, see Gorard, 2018; for evidence that the use of POLAR is problematic, see Boliver, Gorard, & Siddiqui, 2021).

Having reviewed all the potential contextual indicators at the individual level, school level and neighbourhood level, Boliver, Gorard and Siddiqui (2021) suggest that “the use of administratively verified individual level metrics to identify contextually disadvantaged learners, most notably receipt of free school meals and low household income” (p. 7) is the most valid and reliable (for details of the analysis of accuracy, reliability and completeness of the main indicators, refer to Gorard, 2018; Gorard et al., 2017). Free school meals (FSM) is a reasonably valid indicator of relative poverty (Gorard, 2018). It also has the advantage of being an administrative measure (Gorard, 2000b). Moreover, there is also research showing that one of the most powerful factors which might damage educational prospects is not absolute poverty but relative poverty as a result of inequality (Wilkinson, 2005).

Besides choosing the most suitable contextual indicators, Gorard (2018) also suggests a further possible approach to widening participation policies – a centrally modelled approach in which all the explanatory and socio-economic background factors available can be used as the context to establish a national model for each academic qualification level. He also points out that CA approaches should not be used to replace work on weakening the influence of early disadvantage on educational attainment (Gorard, 2018).

The Pupil Premium (PP) policy

The Pupil Premium (PP) policy was introduced in April 2011 by the coalition government (Gorard, Siddiqui, & See, 2021). PP is extra funding allocated to publicly funded schools in England to “help improve outcomes for disadvantaged children and other pupils who need extra support” (Gov.UK, 2021a) and to narrow the poverty gap in attainment (DfE, 2015b). Another aim is to improve social mobility, including helping disadvantaged children to get access to higher ranking universities (DfE, 2015b). A further important aim of the PP policy is to help reduce socio-economic segregation between schools (Freedman & Horner, 2008; Gov.UK, 2010; the concept of segregation between schools is further introduced and discussed

in Chapter 5). The PP policy is an important policy context for the young people during the early stage of their schooling in terms of their social mobility journeys.

Back in 2010, when announcing the PP policy initiative to the House of Commons, the then Chancellor George Osborne stated:

We will also introduce a new £2.5 billion pupil premium, which supports the education of disadvantaged children and will provide a real incentive for good schools to take pupils from poorer backgrounds. That pupil premium is at the heart of the coalition agreement, and at the heart of our commitment to reform, fairness and economic growth (Jarrett & Long, 2014, p. 3).

Regarding the allocation of PP funding, it is given to schools per pupil recorded as ‘Ever 6 FSM’ (pupils who have been eligible for FSM in the previous six years). The amount of the PP to date (for the year 2021 to 2022) is £1,300 per school per annum for each disadvantaged primary school pupil, and the figure is £955 for secondary school pupils (Gov.UK, 2021b). The funding is also available for looked-after children (LAC), i.e. pupils who are or have been in care, with the current amount being £2,345 per pupil. As Gorard and See (2013) point out, as a school policy in England, the vision and aim of the PP policy itself are meaningful. Unlike some commentators’ remarks that the PP is ineffective, and the funding should be spent in other ways such as for general school funds (Allen, 2018) or for teacher recruitment, development and retention (Staufenberg, 2019), Gorard and See (2013) argue that the policy actually has the potential of a significant and beneficial impact if schools are clear on the appropriate evidence-informed approaches to improving educational attainment for the defined disadvantaged group. This, however, does not mean that the implementation of the PP policy is effective. In fact, there is little work done to evaluate its long-term impacts on attainment gaps (Hanushek et al., 2019). As a result, its effectiveness has seldom been robustly assessed (Gorard, Siddiqui, & See, 2021). The only evaluation of the impact of the PP policy on changes in segregation between schools so far has been done by Gorard and colleagues, whose new school-level analysis suggests that the PP policy may be working in reducing school segregation and therefore should continue (Gorard, Siddiqui, & See, 2021).

In practice, the use of the PP is assessed, monitored and scrutinised by Ofsted (the Office for Standards in Education, Children’s Services and Skills), a school inspection regime. In 2014,

Ofsted amended the inspection framework by putting a greater focus on monitoring the process of schools improving educational attainment for the disadvantaged pupils who attract the PP (DfE, 2015b). To evaluate schools' performance in narrowing PP gaps, a 'pupil premium attainment gap' has been formalised (Ofsted, 2015), which is calculated as the difference in percentage points between the percentage of PP pupils and that of non-PP pupils obtaining five GCSEs at grade A*-C or equivalent, including English and maths, in each school (Gov.UK, 2014). However, some scholars have pointed out problems with the calculation and use of these formalised PP attainment gaps, such as emphasising standardised examination results over other school outcomes (Goodman & Burton, 2012), not taking the approximately 4% of state-school children with unknown FSM-eligibility status into account (Gorard, 2012b) and the possible inadequacy of real attainment gaps being explained by the simple difference in percentage points (Gorard, 2000).

More importantly, there is a more fundamental problem with the unfairness of the PP gap calculation. Similar to the effectiveness of the indicators used for CA policies discussed earlier, having carefully reviewed the PP approaches and by analysing NPD data, Gorard (2016a) reveals a clear gradient of pupils who are eligible for FSM in terms of special educational needs (SEN), English as an additional language (EAL) and the qualification outcome at age 16. This is robust evidence showing that the currently adopted calculation of the PP gap is unfair because it ignores variation within the FSM-eligibility category. Gorard (2016a) further explains this by the threshold nature of FSM-eligibility, which means that some children who are eligible for FSM will be poorer than some other FSM-eligible pupils and therefore can be eligible every year while some pupils can be at or close to the FSM-eligibility threshold and therefore can move in and out of FSM-eligibility over their school careers. This phenomenon further implies that the absolute level of poverty of these PP pupils actually varies, and their linked attainment can also vary significantly according to their different levels of poverty. This finding poses a crucial challenge to the evaluation of the PP policy and suggests that simply measuring the PP gap can be unfair and insecure. This judgement is consistent with the ideas of some other scholars who have also pointed out the big differences between pupils who have been entitled to FSM throughout their school years and those who have moved in and out of eligibility (e.g. Noden & West, 2009; Treadaway, 2014).

Gorard's analysis of NPD data (Gorard, 2016a), along with his other research on how trajectories of disadvantage explain educational attainment (Gorard & Siddiqui, 2019), has

provided important implications for how the PP funding needs to be appropriately allocated to schools: “it would make more sense to allocate the pupil premium primarily on the basis of pupils eligible for FSM at the time of allocation, and then to update this every year throughout their school career” (Gorard, 2016a, p. 7). Partly based on this evidence, the Social Mobility Commission has called for the use of the length of time that a pupil has been eligible for FSM for PP allocation (Social Mobility Commission, 2019b).

3.7 Conclusion

In sum, like the concept of class, the conceptualisation and measurement of social mobility are also complex and disputed areas in sociology. There remain unsettled debates on both the importance and limitations of social mobility. Perhaps as some have rightfully pointed out, the real importance of social mobility, particularly on the political agenda, lies in its close association with social justice. However, there have also been different opinions on whether upward individual social mobility is always desirable, as some strong advocates of social mobility have claimed. In the international context, there is also a debate on whether the UK is doing well on social mobility. Several valid independent analyses have consistently shown that although the UK is not doing as well as the Nordic countries in terms of equality of life outcomes and social justice, overall it performs well in the broader international context. To further improve the UK’s performance, effective policies are key. Among all the major social mobility policies, CA policies and the PP policy are both necessary and promising. However, the relevant indicators they use need to be revised and more robust evaluations of their impacts need to be made.

While this chapter has focused on social mobility as a broad context, the following chapter moves on to more detailed elements of social mobility. It reviews research on the relationships between key factors relating to social mobility as identified in the literature and the relevant evidence so far.

Chapter 4 Literature on the relationship between social origin, family background, education, other socio-economic factors and life outcomes

After reviewing debates on the importance and limitations of social mobility, the international context of social mobility and its current place in the UK, this chapter goes into more detail on literature about factors relating to social mobility. It especially focuses on literature on origin-destination relationships and the key socio-economic factors which have a potential role to play in international social mobility.

Narrowing the occupational gap between young people from lower socio-economic backgrounds and those with privileged family origins to equalise life opportunities necessitates a comprehensive review and understanding of the links between backgrounds and destinations, and the potential factors which may either be barriers preventing disadvantaged children from accessing HE and high-value jobs or play positive roles in improving individuals' HE opportunities and occupational statuses compared to their parents' situations.

There is extensive literature on the relationship between social origin, family background, education, other socio-economic factors and life outcomes. These influential factors may interweave with each other and the associated relationships can be multifaceted and complex. Previous research has long focused on a wide range of (1) social variables (e.g. Breen & Goldthorpe, 2001; Saunders, 1997, 2002); (2) economic variables (e.g. Andrews & Leigh, 2009); (3) educational variables (e.g. Forrest et al., 2011; Goldthorpe, 2016); and (4) biological variables (Gall et al., 2010; Hart, Davey Smith, & Blane, 1998a, b; Lasker & Mascie-Taylor, 1989; Mascie-Taylor, 1984) as predictors of life outcomes. A variety of potential factors, including social, cultural, educational and physical ones especially in early life, have been shown to be important elements relating to individual life chances both in the education system and later in the labour market (Mcintosh & Munk, 2009). Among all the potential factors, it has often been argued that family origin and education are closely linked to individual's socio-economic statuses (SES) in later life.

In general, research has identified class origin and education as strong predictors of status in later life (for some of the relevant research, see Deary et al., 2005; Forrest et al., 2011; Jaeger & Holm, 2003; Krzyżanowska & Mascie-Taylor, 2013; Lampard, 2007; Nettle, 2003; Sorjonen et al., 2011; Von Stumm et al., 2010). This chapter summarises the literature on these factors since the 1960s. The chapter consists of two main parts: one explores the origin-destination

link by reporting on the continuing contentious debate on the extent to which individuals' life outcomes are shaped by their social origins; and the other examines important factors identified in the literature which might play a role in international social mobility. It starts with the relevant literature on the link between social origin and destination, including debates on this link and possible explanations of it. It then specifically focuses on the potential role of education in this origin-destination link, i.e. individuals' chances and the direction of intergenerational social mobility. This is followed by a discussion of some other potential factors which might have potential impacts on intergenerational social mobility. The chapter explores this literature to identify possible explanations of the different patterns revealed.

4.1 Origins and destinations: the literature on the relationship between social origin, family background and life outcomes

Family origin has long been considered one of the important factors which are likely to make a difference to young people's subsequent life trajectories. A seminal study on social origins and life chances in the UK is *Origins and Destinations* by Halsey, Heath and Ridge (1980), which demonstrates the important role of family and social class in both school and subsequent labour outcomes. Consistently, Goldthorpe's (2016) work on 'class structure' also shows that social class position can be a key factor predicting individuals' socio-economic status later in life.

The literature on the relationship between origins and destinations (Halsey, Heath, & Ridge, 1980) has been continually extended (e.g. Boliver & Swift, 2011; Chan & Boliver, 2013; Goldthorpe & Jackson, 2007; Goldthorpe & Mills, 2008; Gorard, 2008a). There has also been a continuing contentious debate on the extent to which individuals' life outcomes are shaped by their social origins. A variety of studies have investigated this correlation of socio-economic status across generations, with a large contribution made by British birth cohort studies (e.g. Goldthorpe & Mills, 2008; Gorard, 2008a; Sullivan et al., 2014).

As the idea of 'social origin' has been extended to include consideration of various potential stratifying factors relating to educational and lifelong outcomes, including sex and ethnicity (Gorard & Selwyn, 2005), this section reviews three important aspects of family origin: (1) birth characteristics, including ethnicity, sex and birth order; (2) family background, referring

to cultural and economic resources at home; and (3) family characteristics, including family structure and family size.

Birth characteristics: Ethnicity, sex and birth order

Social mobility research normally takes ethnicity, sex and birth order into consideration as birth characteristics. The relevant literature shows a complex picture of the variation in life outcomes of different ethnic, sex and birth-order groups.

In the UK context, the majority of the population are white, with other ethnic groups being categorised as black, Asian and minority ethnic (BAME) groups. Studies suggest that children's educational outcomes tend to be stratified by ethnicity, with patterns varying between different stages of schooling. While some minority ethnic groups tend to be disadvantaged in education (DfES, 2006b; Gorard, 2018; Strand, 2007), including in post-compulsory education (DfEE, 1995), there is also particular concern about the school underperformance of white British boys from working class backgrounds (Demie & Lewis, 2011; DfE, 2015a, 2015b; Social Mobility Commission, 2016) and their HE participation rates (Crawford et al., 2016), especially in recent years. In general, these attainment differences by ethnicity are relatively stable both in terms of annual snapshots and over the school stages (Gorard, 2018). However, the picture is more complex post-16. For example, some data analysis shows that although black pupils consistently have lower average attainment, they are more likely to continue to Key Stage 5 (Gorard, 2018).

The pattern of pupils with minority ethnic origins being educationally disadvantaged can partly be explained by economic reasons. Some minority ethnic groups such as black pupils are more likely to come from lower income families or Gypsy Roma Traveller (GRT) families. For example, Hawthorn and McGowan (2009) explore the reasons for negative impacts on educational attainment experienced by asylum seekers and they find that financial disadvantage and frequent school moves can cause curricular inconsistency. They further note that these disadvantages may extend beyond school to the labour market, as language barriers may stop the children of asylum seekers accessing career advice and most jobs.

However, economic factors might not be the only explanation for this ethnic gap, although the economic reasons associated with ethnic groups tend to make the most difference. For instance, Strand (2011) analyses data from the Longitudinal Study of Young People in England

(LSYPE1, also known as Next Steps) and finds evidence that “Indian and Bangladeshi pupils achieve more highly than would be expected given their maternal educational qualifications” (p. 214). This, to some extent, suggests that the ethnic gap might also be partly explained by other factors such as cultural educational values (Caplan, Choy, & Whitmore, 1991; Francis & Archer, 2005; Modood, 2003), role models (Fordham & Ogbu, 1986) and teacher expectations (Gillborn, 1990). Although some patterns found in the UK, such as the underachievement of black pupils, are also found in some other countries, including the US (Morgan & Farkas, 2016), differential outcomes by ethnicity can vary from country to country depending on different social structures.

Although males and females are, as can be expected, very similar in most socio-economic respects such as ethnicity and family background, research consistently shows a student sex gap in educational attainment in general. There is a commonly noted trend that girls consistently perform better than boys in school examinations (Social Mobility Commission, 2016). Additionally, boys are more likely to be labelled as having special educational needs (SEN) than girls (Gorard, 2018), implying that boys are more likely to find school challenging. In fact, this pattern applies in almost all countries (Gorard, 2018). This sex gap in education widens over the school career (David, Weiner, & Arnot, 1997) and continues beyond compulsory schooling, with girls being found more likely to continue in post-16 education (Gorard, 2018; Social Mobility Commission, 2016).

This differential attainment by student sex can possibly be explained by a change in the examination system and teacher assessment, which favour girls to some extent (for a more detailed explanation, see Gorard, 2018). However, some analyses also show that this gender gap does not apply to the uptake of STEM subjects. Analysis of National Pupil Database (NPD) data suggests that girls underperform relative to boys in STEM A levels (Social Mobility Commission, 2016). This gender difference in STEM subject take-up is also identified by Codioli (2015) using Next Steps data. This difference, however, is more likely to be a result of subject choice patterned by sex rather than individual performance at school.

Besides ethnicity and sex, research also suggests a link between birth order and life outcomes. In child development studies, birth order is identified as an important environmental factor (Berger & Felsenthal-Berger, 2009). Some studies have found that compared to later-born siblings, firstborns are more likely to have better health outcomes (Modin, 2002), desirable

social skills such as outgoingness (Steelman & Powell, 1985) and self-confidence (Rohde et al., 2003), and motivation to be successful (Healey & Ellis, 2007). However, regarding individual performance at school the results are inconsistent. While some research has found evidence that firstborns tend to achieve better in school examinations than later-borns (Fergusson, Horwood, & Boden, 2006; Kantarevic & Mechoulam, 2005), other studies show no evidence of this pattern (Ha & Tam, 2011; Steelman & Powell, 1985). Examining intergenerational class mobility, Krzyżanowska and Mascie-Taylor's (2013) analysis of the British National Child Development Study (NCDS) finds that first-born children have better chances of being upwardly mobile compared to later-born children. However, this birth order effect becomes non-significant in their multivariate analysis.

Family background: Cultural and economic resources at home

There is a recent tendency for studies on family-origin inequalities to focus on cultural and economic resources at home as indicators of family background. Cultural resources are normally proxied by factors such as the presence of books in the home (e.g. De Graaf et al., 2000; Elliott, 2007; Schütz, Ursprung, & Wößmann, 2008; Sullivan, 2001) and parental education (e.g. Sullivan et al., 2014), while economic resources include factors such as household income and the material advantages associated with it, including possessions such as computers and mobile phones, and home ownership (e.g. Sullivan et al., 2014).

A considerable number of studies have further confirmed the established links between family origins and children's education outcomes, which leads to the concept of "socio-economic achievement gaps," as termed by Sutherland, Llie and Vignoles (2015, p. 12). Among all the background-related factors examined, family income, social class (commonly indicated by the parents' occupation), and parental education are consistently identified as the most influential. For example, in the UK context, studies have established a strong link between family income and children's educational attainment (e.g. Chevalier et al., 2005; Ermisch & Francesconi, 2001; Feinstein & Symons, 1999; Schütz, Ursprung, & Wößmann, 2008).

Department for Education (DfE) statistics also consistently show that children's attainment is positively related to family income (e.g. DfE, 2015c; DfE, 2017). According to the 2015 DfE statistical working paper 'Measuring disadvantaged pupils' attainment gaps over time,' during the three-year period from 2011/12 to 2013/14, disadvantaged pupils (defined as those on FSM at any point during the last 6 years, or those having been in care continuously for at least 6

months) were about 27% less likely to achieve 5 or more A*-C GCSE grades including GCSE English and Mathematics than other pupils (DfE, 2015c). More recent DfE statistics show that the attainment gap between the poorest students in receipt of FSM and those with a high family income of £78k or above is as high as 47% (DfE, 2017). This poverty gap tends to widen over time, as studies show poorer children make negative attainment progress at school compared to their richer peers (e.g. Rutkowski et al., 2018).

In fact, this pattern of differential educational attainment by social class and family income proves to be a worldwide phenomenon (Gorard, 2018). For example, in Italy parental education has been found to be closely related to children's chances of entering graduate education (Argentin & Triventi, 2011). Meanwhile, some studies also suggest a link between parental education and children's educational outcomes (e.g. Chevalier, 2004; Chevalier et al., 2005; Ermisch & Pronzato, 2010; Sullivan, Ketende, & Joshi, 2013), including the chances of getting a degree (e.g. Sullivan, et al., 2014). Triventi (2011) provides further empirical evidence that even for young people with relatively homogenous academic abilities and motivations, parental education is still closely linked to tertiary education qualifications.

This important link between family origin and education outcome is innovatively extended to the area of participation in lifelong learning by Gorard and Selwyn (2005). In their reports on the lifelong learning engagement of adults in the UK, they discover that compared to those from families with non-working fathers, respondents from families with fathers working in services are more likely to continue with their education and to have formal learning in later life (Gorard & Selwyn, 2005).

This pattern by inequality is also shown to be persistently further reflected in HE participation (Anders et al., 2017; Bynner, 1992; Macleod & Lambe, 2006; Marsh & Blackburn, 1992; Sargent & Aldridge, 2002) and individuals' occupational statuses (Parsons et al. 2016), largely because educational achievement is normally seen in job recruitment as evidence of ability (Shaw et al. 2006) and that candidates can be trainable (Banks et al., 1992). There is a burgeoning body of literature probing into the role of family background in HE chances. A good example is that, reviewing evidence on the relation between student backgrounds and educational outcomes and opportunities, Gorard et al. (2007) show that there is a strong patterning of inequalities in participation in HE according to family origin.

Similarly, Sullivan et al. (2014) use statistics from the 1970 British Cohort Study (BCS70) to evaluate the role of social origins in educational outcomes. They show that a privileged family background is powerfully predictive of gaining a university degree, especially a degree from a high-status university. Although since 1997 an increasing proportion of working-class students have gone on to pursue HE (Independent Commission on Fees, 2015), this pattern by socio-economic status still persists. Especially when it comes to elite universities, there still remains a large class gap. For example, working-class students account for as few as 1 in 20 enrolments in elite Russell Group universities, an association of 24 public research-intensive universities in the UK (Jerrim, 2013). This is also supported by a survey report published in *Varsity*, the oldest of Cambridge University's main student newspapers, which found that 40% of Cambridge University students had a family member who went to Oxbridge (Woodward & Ward, 2000).

This pattern also applies to other countries. For example, research shows that in the United States family background is positively related to the chances of attending prestigious universities even after ability is taken into account (Davies & Guppy, 1997). Other studies have also consistently found similar patterns in France (Givord & Goux, 2007), Sweden, Finland and Germany (Ambler & Neathery, 1999; Duru-Bellat, Kieffer, & Reimer, 2008). In fact, some large-scale studies have shown that these inequalities in access to HE are long-term and rooted in family history (Glass, 1954; Gorard, Rees, & Fevre, 1999).

Furthermore, socio-economic disparities are reflected in university outcomes as well. According to a recent study (Crawford et al., 2016), those from lower socio-economic backgrounds are more likely to have worse end-of-first-year exam performance, more likely to drop out, and less likely to achieve high degree classes of a first or 2:1 than their richer peers. Regarding graduate earnings, studies consistently show that students from lower status and income families tend to earn less than those from higher status and income families (e.g. Britton et al., 2016; Crawford et al., 2016; Laurison & Friedman, 2016).

Besides previous educational outcomes, there are some other possible explanations of gaps in life chances. Take occupational chances for example. Research shows that students from lower socio-economic family backgrounds are on average under-represented in more academic subjects or those which lead to professional jobs (Connor et al., 2001; Gorard et al., 2017; Smith & White, 2011). This can be a possible explanation of the low performance in the labour

market of this disadvantaged group – they simply have lower chances of studying a subject/course which offers better job prospects, especially in prestigious jobs and professions. Another possibility relates to parental choice in children's education. Research shows that parental background is also linked to their child's secondary school track choice and therefore there is a possibility that working-class parents might choose a lower track education for their child and suggest early entry in the labour market for their child (Dustmann, 2004).

There is evidence showing that family background may even have a potential impact on young people's initial educational or work transitions. For example, Crawford et al. (2011) use three datasets – the Longitudinal Study of Young People in England (LSYPE), the Labour Force Survey (LFS) and the British Household Panel Survey (BHPS) – to examine young people's initial school-to-work transitions at age 16/17 and 18/19 by socio-economic background. They find a strongly persistent pattern that pupils from advantaged family backgrounds are more likely to either continue post-compulsory education or get a job than to be NEET (not in education, employment or training).

Family characteristics: Family structure and family size

Recent studies on the origin-destination link do not limit their focus to the economic and cultural factors mentioned above but extend the range to include other background-related factors such as family structure and family size. For example, data from the Department for Education and Skills (DfES) (2006) show that nearly 70% of pupils who live with both parents achieve five good GCSE grades (A-C), but the figure falls to around 45% for those from single-parent families (Nunn et al., 2007). This suggests that single-parent status is a risk factor in children's academic development and school outcomes. This pattern of under-achievement by children from single-parent families is also a worldwide phenomenon (Elliott, 2007).

Findings on the relationship between family size and life outcomes have been more widely reported. The number of siblings is shown to be related to various outcomes such as education attainment, health outcomes and social status in later life. For example, some studies show that children from larger families tend to achieve less at school (Blake, 1989; Booth & Kee, 2009; Bradley & Taylor, 2004; Sen & Clemente, 2010), partly because they are more likely to grow up in over-crowded accommodation (Blane, Davey Smith, & Hart, 1999), and therefore with limited living and study space at home. Besides this possible explanation, in a review of UK academic literature, Johnson and Kossykh (2008) suggest that large families tend to have a

negative impact on children's educational attainment because parents are likely to invest less time for each child. Similar research shows that 'sibsize' can also be related to chances of class mobility. Some longitudinal data analyses have revealed that children from smaller families are more likely to be upwardly mobile (Blane, Davey Smith, & Hart, 1999; Tomasson, 1966; Van Bavel et al., 2011).

Debates on the origin-destination link

The link between origins and destinations reviewed above sheds lights on the ideology of 'parentocracy,' i.e. the social phenomenon that "a child's education is increasingly dependent upon the wealth and wishes of parents, rather than the ability and efforts of pupils" (Brown, 1990, p. 66). 'Parentocracy' is in line with Goldthorpe's (2016)'s idea of 'class structure,' in which social class position can be a key factor predicting individuals' life chances. This idea of emphasising the role of social origin in destinations has dominated debates on policy, especially on UK education system policy in the late twentieth century. There are also further debates on whether social status and economic success are more determined by family background or one's own ability and efforts.

Among studies which investigate the relationship between origins and labour market outcomes (e.g. Caspi et al., 1998; Hinchliffe, 1987; Sullivan et al., 2014), Bond and Saunders (1999) argue that individual ability and motivation have the strongest influence on occupational achievement and factors such as family background and parental support play much weaker roles. Similar results have also been suggested by studies conducted by Saunders (1997, 2002) and Nettle (2003). However, one could also equally argue that ability and motivation can be influenced by family characteristics such as parental aspirations and help and therefore cannot necessarily be considered independent variables. For example, Breen and Goldthorpe (1999, 2001) analyse data from the *1958 National Child Development Study (NCDS1958)* and find that in order to reach a higher class level, individuals from lower social class backgrounds have to demonstrate more merit than those who come from family backgrounds with higher class status. Similarly, some studies show that social origins are significantly related to life chances even when educational achievement is accounted for (e.g. Demie & Lewis, 2010).

Besides ability and effort, the meritocracy theory also supports the importance of IQ in upward social mobility. A number of studies have identified childhood IQ as an important factor contributing to upward mobility (e.g. Forrest et al., 2011; Sorjonen et al., 2011), thus providing

some evidence supporting this theory. For example, analysing data from the Newcastle Thousand Families 1947 birth cohort, Forrest et al. (2011) find that childhood IQ is closely linked to upward social mobility between the ages of 25 and 49-51. Meanwhile, some scholars argue that IQ has generic heritability (Herrnstein & Murray, 1994; Selzam et al., 2016) and early cognitive ability is associated with socioeconomic status (SES) (Ginsburg & Pappas, 2004), partly because of factors relating to childhood diet (Wallace, 2005) and cultural resources at home (Thienpont & Verleye, 2004). However, there is also a hopeful finding that education can help improve IQ (Ritchie & Tucker-Drob, 2017) and schooling can help improve pupils' literacy and numeracy abilities, which are important abilities in job recruitment (Chiswick, Lee, & Miller, 2003).

Possible explanations of the origin-destination link

The gaps in educational attainment between better-off and less well-off children are mainly reflected in two areas: cognitive development and education qualifications. A recent analysis conducted by the Social Mobility and Child Poverty Commission (2014) suggests that, compared to their more affluent peers, those from low-income households tend to underperform in terms of both cognitive attainment and gaining qualifications. It further suggests that in the UK gaps in cognitive development between rich and poor children open up when they start school and further widen over the following school years (Social Mobility and Child Poverty Commission, 2014).

The main family-background-related factors that potentially influence children's cognitive development are examined and identified in the literature as differential family support. For example, case studies interviewing working-class parents in Reay's (2017) research encapsulate class inequalities in terms of parents' financial and cultural support for children, as working-class parents lack the material resources and/or educational knowledge/experiences to give their children extra help with their cognitive development.

In general, working-class children in England tend to have poorer educational facilities compared to more privileged students (Massey & Fischer, 2006). Furthermore, Reay (2017) points out the possibility that working-class parents can neither afford to pay for private tuition for their children nor have the expertise or confidence to teach their children themselves. Meanwhile, official statistics and studies shows that private tutoring has been the norm for children from middle-class backgrounds (Department of Education, 2000; Lucey & Reay,

2002). Willis (1977) also reveals a phenomenon relating to class culture: middle-class pupils tend to get the training and schooling that would prepare them for ‘middle-class occupations.’

A recent report entitled ‘Down with summer holidays’ examines the issue of social mobility in terms of children’s cognitive development from an interesting perspective – lengthy summer holidays (The Economist, August, 2018). The report points out some advantages that well-off children have during the summer holidays that can possibly give them a leg-up over their disadvantaged peers, such as attending pricey summer camps to learn extra-curricular knowledge and skills, and doing summer jobs gained through parental networks. Getting and securing a good career can be related to “wider opportunities,” including “work experience, extra-curricular activities, and career advice” (Social Mobility and Child Poverty Commission, 2014, p. i).

This view that long summer holidays may have effects on social mobility is in line with consistent findings from analyses of reading achievement using different sets of data, which show that during the summer break students from higher-income families have their learning rate increased while their peers from low-income households suffer more from ‘summer learning loss,’ a term which refers to children returning to school having forgotten or lost some of their academic knowledge and skills during the summer holidays (Cooper et al., 1996; Entwisle & Alexander, 1992, 1994; Heyns, 1978). Benson and Borman (2010) suggest that these gaps in summer learning rates can further account for the achievement gap between rich and poor children.

Furthermore, disadvantages in social origins potentially have cumulative effects on individual life-time social mobility. Disadvantage in educational attainment at school, which can possibly be a reflection of socio-economic disadvantage, can potentially be translated into further disadvantage in participation and achievement in HE, for example less chance of access to HE, and later disadvantage in the labour market. Evidence shows that school attainment is to some extent stratified by socio-economic background (Chowdry et al., 2010), and that prior secondary school attainment is the main predictor of access to HE (Gorard et al., 2007).

This implies there are cumulative effects, as is reflected in a recent analysis which shows that in the UK HE sector inequalities in access to HE remain, with those from disadvantaged socio-economic groups greatly under-represented in UK HE institutions, especially the most

prestigious ones (Gorard, Siddiqui, & Boliver, 2017). There can also be ‘identity’ reasons for this HE gap. For example, some research shows that some students from lower socio-economic backgrounds might not have a sense of “belonging” in HE and therefore either put less effort into studying (Crawford et al., 2016) or decide not to follow the HE route.

Another possible explanation for this attainment gap can be the ‘home learning environment (HLE),’ a factor relating to family background. HLE is “a term used to encompass a range of factors in homes shown to be conducive to a child’s learning” (Social Mobility Commission, 2016, p. 1) such as the type of house tenure and material resources at home. There is research evidence showing that the HLE can be related to pupils’ subsequent educational attainment (e.g. Chevalier et al., 2005; Grisay, 1997; Strand, 2007). For example, the availability of books at home can positively contribute to children’s academic development (De Graaf et al., 2000). Meanwhile, household poverty is shown to be related to a series of associated problems such as poor living conditions and insecurity, which can be detrimental to children’s academic development and aspirations (Smith, 2005).

As for occupational gaps, interestingly, studies which suggest a strong relation between family origins and occupational achievement, and particularly that lower socio-economic groups tend to achieve less well in the labour market, explain this phenomenon in different ways. For example, higher status employers value ‘soft skills,’ such as confidence during job interviews (Crawford et al., 2016), and accordingly tend to recruit self-confident students with middle-class backgrounds (Purcell, Morley, & Rowley, 2002). As the working class tends to be a popular focus in research on inequality by social class (e.g. Jackson & Marsden, 1966; Reay, 2017), some studies explain this established link by working-class students lacking certain characteristics. For instance, working-class students tend to lack the confidence that they are qualified for particular professional jobs (Hills, 2003) and are less likely to seek opportunities to improve their employability (Blasko, 2002).

When it comes to intergenerational transmission of advantage and disadvantage, rich children tend to have multiple advantages while the less well-off are more likely to be further disadvantaged in the transition from education to employment (Social Mobility and Child Poverty Commission, 2014). Viewed in this light, two key potential explanatory elements are identified within the broader literature as non-cognitive skills and parental help with obtaining internships or similar work experience. First, employability goes beyond educational

qualifications to what Carneiro, Crawford and Goodman (2007) have called “non-cognitive (social) skills” (p. 1), the characteristics of which are potentially influenced by family characteristics. For example, analysing data from the National Child Development Survey (NCDS), Carneiro et al. (2007) show that (1) non-cognitive (social) skills play an important role in labour market success; (2) in terms of family background, children from professional and non-manual households gain significantly greater social skills compared to those from manual families; (3) there is a positive correlation between the home learning environment and children’s development of social skills; and (4) non-cognitive skills are strong predictors of labour market outcomes. Second, parental help in supporting and/or securing work experience such as internships for their offspring might potentially give rich young people an advantage over their peers in the job market. Parental help with employment opportunities can be achieved through social connections and networks, advice and financial support.

In terms of connections and networks, which can be regarded as parental social resources, some studies from different perspectives imply that social networks and family contacts might potentially play an effective role in enhancing intergenerational socio-economic advantage in the labour market (Bathmaker et al., 2016; Goldthorpe, 2016; Holzer, 1988; Ioannides & Loury, 2004; Loury, 1977, 2006), a phenomenon known as ‘nepotism’ or ‘cronyism.’ Some evidence on the intergenerational transmission of employment shows a ‘social gradient’ in parents’ use of their social networks to help children secure employment opportunities (Bingley, Corak, & Westergaard-Nielsen, 2011; Corak & Piraino, 2010), which is consistent with the theory on social capital suggesting that access to social networks, as a form of social capital, tends to be socially graded (Coleman, 1990).

In practice, there is a recent phenomenon in industry that well-connected parents sometimes ‘trade’ internships among themselves by letting their children have internship opportunities in each other’s firms (Pitt, 2011). Similarly, a recent study by Marcenaro-Gutierrez, Micklewright and Vignoles (2014) analysing data from the 1970 British Cohort Study shows that parental help in the form of giving career advice and assisting with job application forms also demonstrates a clear social gradient, as individuals from families with higher socio-economic status and higher levels of income receive more parental help. However, this research was unable to identify a clear link between parental help and children’s occupations or earnings. Marcenaro-Gutierrez et al. suggest that errors in the measurement of different types of parental help might possibly explain this non-significant correlation. Some other studies also find no

clear link between networks and access to ‘high-status’ occupations (Green et al., 2015; Macmillan, Tyler, & Vignoles, 2015). Although the picture of the relationship between parental network and occupational status is not consistent, possibly because networks are difficult to measure, family connections and networks can still be considered a potential explanation of the link between social origins and destinations.

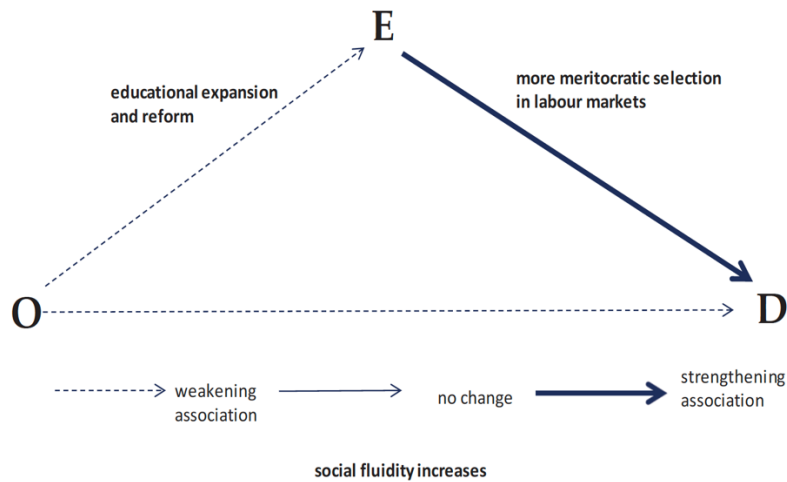
Regarding financial support, there are concerns that unpaid and poorly paid internships, especially in expensive cities, are not opportunities that every individual can afford – affluent parents are more likely to secure internships with no pay or little pay for their children (Marcenaro-Gutierrez, Micklewright, & Vignoles, 2014; Pitt, 2011).

4.2 The literature on the role of education in intergenerational social mobility

Social mobility studies especially devote attention to the role of education in cross-generational social mobility. Education is often considered a mediator of social origins, thus playing an intermediary role between social origin and destination (Goldthorpe, 2016; Halsey, 1977). Social scientists commonly emphasise the important role of education in social mobility in terms of the ‘OED triangle,’ the triangular relationship between social origins, education and life destinations (Goldthorpe, 2016). Here, education normally refers to educational opportunities and achievement, including years of education received and qualifications received.

Figure 4.1 demonstrates one version of the ‘OED triangle’ in the literature. According to this liberal view, the expansion and reform of the education system improves the equalisation of educational opportunities, thus weakening the OE (origin-education) link. Meanwhile, more meritocratic selection based on educational qualifications in the labour market strengthens the ED (education-destination) link. As a result, the OD (origin and destination) link can be weakened (Goldthorpe, 2016).

Figure 4.1 The ‘OED’ (Origins, Education & Destinations) Triangle Model



Source: Goldthorpe (2016)

4.2.1 Education in general: the importance of education in social mobility

Whether education plays a role in minimising gaps in life outcomes for socially and economically disadvantaged students or it is more likely to add to the pre-existing privilege of those from higher class backgrounds, thus further widening these family background-related gaps, has been of increasing concern to stakeholders. A growing body of literature has been probing into social mobility based on education, usually proxied by education level, education quality or years of education. According to human capital theory, human beings can invest in themselves through education, which acts as a key channel forming human capital and will contribute to individuals' lifetime earnings in the labour market (Woodhall, 1987).

Central to this vision is that education has been widely considered to be “an aid to the achievement of individuals' economic ambitions” (Hinchliffe, 1987, p. 141), and the education system plays “a major role in training the future workforce to meet the growing demand for technical, managerial, and professional workers” (Brown, 2013, p. 679). Empirical studies invariably suggest that education, including its length and level, is the best single indicator distinguishing economically successful people from those with lower occupational outcomes (Jencks et al., 1979; Psacharopoulos, 1975; Psacharopoulos, 1987). To some extent, this is in line with what is suggested by human capital theory: that education can be highly related to individuals' lifetime earnings in the labour market (Woodhall, 1987).

In essence, while education can serve as one of the primary avenues for individual social mobility, it can also be a crucial area reflecting inequalities in socio-economic family background, which a vast body of research probes into. Furthermore, as Goldthorpe (2016) states, “[e]ducation is best considered as a ‘positional’ good; and the motivation, and capacity, of parents in more advantaged class positions to help their children maintain their competitive edge in the educational system, and in turn in labour markets, underlies the resistance to change that the mobility regime displays” (p. 89).

Although the quality of education received can be related to birth circumstances, when linking education specifically to social mobility chances and direction, some research shows a more positive picture of the economic return from educational investment. There is a view that education acts as the engine of social mobility (e.g. Kahlenberg, 2000; Wilkinson & Pickett, 2009), which can to some extent serve as a means to alleviate childhood disadvantage. For example, based on a multivariable logistic regression analysis of data from the Newcastle Thousand Families 1947 birth cohort study, a survey collecting longitudinal data on a cohort of 1142 children born to mothers resident in a city in northern England, Forrest et al. (2011) demonstrate a significant and independent association between the education level achieved (measured with education qualifications received) and upward social mobility (measured with social class) between age 5 and age 25.

A similar view is also suggested by Floud (1954), that for those who come from lower family backgrounds, the attainment of formal, and especially professional, qualifications represents the most significant avenue of social mobility. Besides these occupation-related aids, such as education level and professional qualifications mentioned above, that education can possibly bring to those from disadvantaged backgrounds, this view of the positive role of education in access to the labour market is also supported by some arguments that the educational system itself can operate in a way that helps to develop an individual’s cognitive abilities or specific personality traits required by the nature of different types of jobs (e.g. punctuality, self-reliance or decision-making ability), thus potentially increasing individual productivity or earnings (Hinchliffe, 1987).

4.2.2 The literature on the role of schooling factors in intergenerational social mobility

Something closely relevant to education is schooling effects. The role of schooling in both educating individuals and the development of modern society as a whole has been much

emphasised. Schooling is widely considered to facilitate individuals' achievement of economic and social objectives, especially occupational achievement and earnings (Hinchliffe, 1987). The academic outcomes achieved by individuals at school can possibly contribute to positive wider outcomes such as better occupational opportunities. The literature points to a potential role of schooling factors in social mobility, although the role of schooling tends to be less powerful compared to social origins (Coleman et al., 1966; Jencks, 1972). Some studies show that schools only account for a small proportion of the variation in education attainment (Gorard & Smith, 2010; Thomas & Mortimore, 1995). In practice, even a small school effect can make a meaningful difference, especially for students from lower socio-economic backgrounds (Mortimore, 1997). This section reviews two specific aspects of school factors which have been widely covered in the literature: school curriculum and school type.

School curriculum

In the 1970s, structural reproduction theorists held the view that school curricula were largely structured in a way that put children from higher social class backgrounds at an advantage. (e.g. Bourdieu, 1977; Young, 1971). Iannelli's (2013) analysis of NCDS1958 data suggests that students who study certain subjects such as maths and science in secondary schools are more likely to enter professional and managerial occupations. Similarly, Dolton and Vignoles's (2002) analysis of NCDS1958 data and Adkins and Noyes's (2016) analysis of data from the 1970 British Cohort Study show that people who have studied A level mathematics are more likely to benefit from an earnings premium in the labour market.

The initial disadvantage of children from poorer family backgrounds can be exacerbated by schools segregating students into different levels of ability and curriculum groupings (Iannelli, 2013). Some scholars argue that vocational curricula provide poorer groups with marketable skills, thus increasing their chances of being employed (Arum & Shavit, 1995; Gambetta, 1987). Some studies find a strong association between social origins and subject choices (e.g. Henderson, Sullivan, & Anders, 2016; Van de Werfhorst, 2002; Van de Werfhorst, Sullivan, & Cheung, 2003). For example, Van de Werfhorst (2002) finds a class difference in subject choices. Pupils from the working class are more likely to choose subjects that lead to skilled manual jobs while children from more prestigious social class families tend to study subjects which lead to professional occupations, such as law and medicine. This pattern has been found in various countries such as Germany (Reimer & Pollak, 2010), Italy (Pisati, 2002), Sweden (Berggren, 2008) and France (Deer, 2005). Given that different subjects can have different

labour market returns, including unemployment risks, earnings and job status (Reimer, Noelke, & Kucel, 2008), these findings suggest that reforms of school curricula might not serve as any kind of ‘silver bullet’ in improving social mobility.

A selective education system: Debates on school type

One factor relating to school effects on social mobility which has long caused great arguments in academia, politics and the media is school type. Much of this discussion centres around the comparison between private (independent) schools and state schools, and that between grammar schools and other schools, especially in terms of the distribution of resources. As an important feature of education systems, there have been unwarranted claims that some types of school are better than others in terms of the quality of education, pupil achievement outcomes, HE prospects and career prospects.

What is highly relevant to school type is the selective education system. This review uses private schools and grammar schools as two types of school that debates mainly focus on to demonstrate that a selective system is not more effective than a comprehensive system, as some scholars claim. In fact, it might reinforce the origin-destination link and lead to inequality of adult earnings in England (Burgess, Dickson, & Macmillan, 2014). Comprehensive school systems without selection by factors such as ability or high fee-paying ability are good for social mobility and help to weaken the origin-destination link (Boliver & Swift, 2011; Burstein, Fischer, & Miller, 1980; Domovic & Godler, 2005; Gorard, 2018; Gorard & Siddiqui, 2018; Haahr et al., 2005).

Private schools

The origins of Britain’s private schools date back to the late medieval period, when they started out as charities to educate the children of the poor and the rising middle class. However, in the Victorian period, private schools expanded to educate children from middle-class families with a fee. In the 1960s, private schools were re-branded as ‘independent schools’ and this trend of education for children from advantaged family backgrounds continues and evolves into the modern age, making the intakes of private schools dominated by the wealthy. This historical evolution, along with further privileges related to private education are at the base of a long-term political and media debate: should private schools be integrated into the state-funded system? While private schools have long been an important education sector in British society (Gathorne-Hardy, 1977), on 22 September 2019, Labour delegates voted in favour of a motion

to abolish private schools by removing their charitable status and redistributing their property to the state sector (Adams & Proctor, 2019). This motion was widely publicised and discussed.

Some academics make false claims about the effectiveness of private schools in educational and occupational outcomes without taking into account the nature of their student intakes. For example, using 1970 British Cohort Study (BCS70) data, Sullivan, et al. (2014) claim that private schooling raises the chances of gaining a university degree, especially an elite degree from a prestigious university. It has also been argued that elite schooling is associated with high status in society (e.g. Shane, 2016). For example, by investigating the educational backgrounds of samples of elite professionals, some research comes to the conclusion that private schooling is strongly related to prestigious professions (Boyd, 1973; Social Mobility and Child Poverty Commission, 2014a; Sutton Trust, 2005, 2007). Some studies also claim that this socio-economic disparity in top professions has tended to increase in recent years merely based on a report by the Sutton Trust (2020) in 2020 that as many as 65% of the current Prime Minister Boris Johnson's cabinet were privately educated.

In terms of earnings, in his research on elite schooling in the U.S., Khan (2012) comes to the conclusion that the level of education, especially attending an elite educational institution, is one of the best predictors of higher wages. Similarly, adopting a different approach using a web-based list of different forms of networks of the most elite public schools (older more expensive schools catering for the 13-18 age range in England and Wales), Shane (2016), reports “a strong and recurrent link between private schooling and high status employment in Britain” (p. 110).

A similar popular and influential but misleading view is that being privately educated is positively related to earnings advantages in the labour market, which Green, Henseke and Vignoles (2017, p. 2) term “private school advantage.” For example, Green et al. (2011), mainly using two British cohort studies – the National Child Development Study 1958 (NCDS58) and BCS70 – claim that private schooling is more likely to be linked to a strong earnings advantage in Britain and that the earnings differential for privately educated versus state-educated individuals has risen significantly over time. Some other studies make similar invalid claims and report different percentages of wage premiums for employees who have received a private education over the earnings of their state school counterparts (e.g. Dearden, Ferri, & Meghir, 2002; Dolton & Makepeace, 1990; Naylor, Smith, & MaKnight, 2002). These

studies try to support their claims with hypotheses such as employers favour those with private education, more resources per pupil, lower pupil/teacher ratios and better facilities in private schools, employment network connectivity (Naylor, Smith, & McKnight, 2002), that privately educated students can be positively influenced by their peers from families with higher socio-economic statuses in terms of aspirations, attitudes and behaviour, the alumni networks and elite contacts of “social ties as a key mechanism for gaining employment in government and a number of key professions” (Shane, 2016, p. 101), and private schools have a certain advantage in terms of small classes, high-quality instructional materials and facilities (The Guardian, Jan, 2019).

All these claims, however, are misleading and have some problems. Many of these findings are based on relatively small samples restricted to specific cohorts from very few privileged private schools which are not representative of the whole population from private schools, and therefore are biased. Policymakers, commentators and the media tend to believe these claims because they partially reflect the reality of elite private education in the UK: although only about 7% of the population are privately educated, a disproportionate number occupy the most influential/elite jobs, including in the media, law and politics. For example, Eton College, one of the most prestigious elite independent boarding schools in England, has produced 20 of Britain’s prime ministers so far.

However, a simple but important premise has been largely ignored: privileged private schools select pupils based on high family income and prestigious social class background. One of the distinctions between private schools and state schools is the fees charged by private schools, especially long-established high-prestige schools, which affluent parents can afford. An important premise here is that private schooling to a certain extent reflects family backgrounds being more financially and/or socially advantaged and parents being more willing to invest money in their children’s education. Children from higher socio-economic backgrounds are more likely to attend private schools (Levin, 1987). For example, one study has found that in Wales almost two thirds of fathers and half of mothers of private school children had university degrees, which is well above the average (Gorard, 1997b).

As discussed in earlier sections, the link between family background and educational and life chances has been well established. Private schools select students from advantaged backgrounds. These students are more likely to be high achievers both at school and beyond.

However, the fact that they cream advantaged students does not mean that private schools are effective in promoting life chances. In fact, Harmon and Walker's (2000) study using NCDS data does not find any correlation between private schooling and earnings for a sample of employed males at the age of 33 when taking family background into account. Similarly, Smith and White's (2015) research shows that, once social background and prior educational attainment are controlled for, there is no evidence that privately educated students have higher chances of gaining a higher class degree. There are also many other studies suggesting that attending private schools might even have a negative effect on cognitive development (Nelson, 2016).

Furthermore, it is difficult to distinguish real school effects from the influence of social origins. Some research has found that compared to state-school peers with equivalent GCSE scores, private school students tend to perform worse in universities (Smith & Naylor, 2001). A possible explanation of this finding is that rich children tend to be over-coached for high-stake examinations. As a result, their test scores might overestimate their real ability (Department of Education, 2000).

Private schools do no good to equity in education. There is a commonly held view that private schools tend to create an apartheid education system, causing divisiveness and therefore making the education system more unfair. Perhaps what defines British private education is its social exclusivity. In Britain, only around 7% of the population go to private schools (Social Mobility and Child Poverty Commission, 2014a; The Economist, February 2008). In an article entitled 'Do people have a right to privately-funded education?' Gorard (2019) analyses the potential benefits of nationalising private schools and creating one education system of schools for all, such as having more high attaining pupils as role models for a wider range of students, creating a mix of young citizens who study together and will work together in the future, increasing wealthy parents' financial support for local state schools and having elements such as teacher qualifications, extra-curricular activities and access to school facilities standardised up. All these benefits improve the fairness of education. Meanwhile, this article also mentions some criticisms of the previously mentioned Labour party motion, including damaging some traditional elements in education and being too costly. In this political context, Gorard (2019) proposes a more innovative and feasible solution: to increase equality in school access in the state education system, i.e. making all state schools as good as each other, and to move towards a position where paying for private education simply for higher exam results can be a waste of

money and therefore there would be no incentive to pay much higher fees for private education. This solution is evidence-based, with support from two decades of study that the main element which determines the raw-score results of any type of school is the nature of the pupil intake, and the fact that no evidence shows that for equivalent students private schools produce better exam results than state schools.

Grammar schools

The other school type which causes controversy relating to social mobility is grammar schools (at the time of writing, grammar schools have been largely abolished in Britain), which are academically selective. Especially in the political debate and media attention in the UK, there has been a wide divergence in views on whether grammar schools improve social mobility or harm it, and especially on “the chances for upward mobility of those children from lowly origins who were (or would have been) judged worthy of selection into a grammar school” (Boliver & Swift, 2011).

Historically in England according to the 1944 Education Act, students should be allocated to different pathways according to their level of academic attainment within a planned tripartite system. As a consequence, grammar schools were set up for academic-oriented students. The other two school types are secondary modern schools for those wanting to do practical work and technical schools for those aiming for technical work (Morris & Perry, 2017). However, in practice, this tripartite system actually became a bipartite system of grammar schools and secondary modern schools as there were very few technical schools. At the age of 10/11, pupils took an ability test called ‘the eleven plus.’ Those who achieved high scores were selected to attend grammar schools and the remainder were allocated to secondary modern schools. Grammar schools provided pupils with chances of participating in HE and professional occupations at a later stage while the curricula in secondary modern schools were practically focused.

Back in the 1950s in England and Wales, when the system of secondary (grammar) education was created, Floud (1954) claimed that “secondary boarding school pupils (boys and girls) born before 1910 had more than twice as great a chance of reaching a university as those educated in secondary grammar schools” and that “even for individuals within the higher status categories there [were] differential chances of obtaining a university education according to the type of secondary school attended.” (p. 114). Himmelweit (1954) claimed that “[in] Britain,

secondary education of the grammar school type provides the main avenue for upward social mobility for the children of the 'working class' "(p. 141). One study which supported this perception was conducted by Himmelweit, Halsey and Oppenheim (1952). In this study, more than two-thirds of a sample of lower working-class boys in grammar schools in London aspired to rise above the occupational status of their fathers, while only 12% of similar pupils in secondary modern schools had this expectation. Based on this, they claimed that grammar school pupils tend to have higher occupational ambitions compared to secondary modern school pupils.

However, given the nature of academic selection by grammar schools, their study actually compared two cohorts with different pupil characteristics. The working-class boys selected by grammar schools by academic ability and motivation were different to working-class boys who did not manage to attend grammar schools and might have had high occupational aspirations whichever type of school they attended. Again, in much the same way as claims about advantages in school outcomes of private schools are invalid, these claims about grammar schools aiding social mobility also ignored the characteristics of student intakes of grammar schools. Since grammar schools select high achieving pupils, these students are more likely to perform well at a later educational stage. This does not show that grammar schools produce better school outcomes. In fact, grammar schools have a bigger proportion of students from professional and managerial family backgrounds because of their 'cream-skimming' and they do not appear to weaken the link between background and attainment (Power & Whitty, 2015).

According to the 1963 Robbins Report, 33% of grammar school pupils whose fathers had higher professional jobs got degrees; in contrast, as few as 2% of the children who came from skilled working class backgrounds had degrees, and only 1% of those with semi-skilled or unskilled family backgrounds had (Robins Report, 1963). In the Netherlands, tracking by academic ability has been revealed to be the main determinant of stratification of school intakes by social class (Kloosterman & de Graaf, 2010). This further shows that the learning outcomes of grammar school students are largely explained by their family backgrounds, which are more closely interrelated with educational attainment.

From a research point of view, these assumptions about the effectiveness of grammar schools are also challenged by Sullivan et al.'s (2014) analysis of BCS70, which shows that attending grammar schools does not confer any advantage in degree chances. Regarding the effect of

grammar schools on class and income mobility, Boliver and Swift's (2011)'s cross-national analysis of NCDS58 tells a partly similar but more comprehensive story. They find that (1) attending grammar schools does not confer an advantage in upward social mobility on pupils from disadvantaged families and (2) a selective school system as a whole yields no mobility advantages. This is in line with a recent analysis by Iannelli (2013), which also shows that the type of school attended explains very little of the chances of entering a service-class occupation. Analysed historically, grammar schools did not contribute any real advantage in learning outcomes in their prime in the past (Halsey & Gardner, 1953). They still do not confer any advantage in attainment now (Coe et al., 2008).

In their recent influential paper 'Grammar schools in England: a new analysis of social segregation and academic outcomes,' on the basis of analysis of nationally representative data from the National Pupil Database (NPD) Gorard and Siddiqui (2018) suggest that "grammar schools in England endanger social cohesion for no clear improvement in overall results" (p. 921). Tracking or streaming in the school system by academic ability indirectly allocates rich children to academic programmes which further confer advantages in HE participation and more prestigious jobs, and poor children to non-academic programmes which are likely to limit their occupational options, especially their chances of getting professional jobs (Levin, 1987).

To conclude, selection by different types of school is believed to be either directly or indirectly linked to family origins, and there is no adequate empirical evidence supporting claims that particular types of schools can aid social mobility.

4.2.3 The literature on the role of higher education (HE) in intergenerational social mobility

Besides school factors, another important education-related factor is HE. HE is generally defined as "all courses of one year or more, above A-level and its equivalents, that lead to a qualification awarded by higher education institutions or widely recognised national awarding bodies" (Prospects, 2002). It is generally believed that HE serves as a means of career development as a university degree can function as a 'social leveller' in occupation and earnings (Bathmaker et al., 2016; De Vries, 2014; Parsons, et al. 2016).

Traditionally, HE is viewed as a pathway for young people to explore their identities and to bridge the transition from adolescence to young adulthood (Brake, 1980). In a wider societal

context, there is a perception that HE also serves as a means of identifying and nurturing talented young people to enter professions, aiding social mobility (Bathmaker et al., 2016) and promoting participative democracy (NIACE, 1994). Some surveys show that a university degree is seen as desirable by both middle-class and working-class parents as a pathway to either avoid downward social mobility or gain upward mobility (Bradley, 2015; Devine, 2004; Lareau, 2003).

These views on the value of HE are supported by some research. For example, some studies suggest that the link between origins and destinations tends to be weaker for university graduates (e.g. Breen & Jonsson, 2005) and HE can be a significant driver of upward social mobility (Forrest et al., 2011). This is reflected in a lower unemployment rate among graduates (Bathmaker et al., 2016) and a “university graduate premium” in earnings (Britton, Shephard & Vignoles, 2015). However, differentiation in outcomes of HE also exists (Gerber & Cheung, 2008), which is a reflection of the effect of stratification of HE qualifications in the reproduction of social inequality (Shavit, Arum, & Gamoran, 2007). Some research suggests that graduates from ‘high status’ universities who have studied economically rewarding subjects such as some STEM ones are more likely to get professional occupations and have higher earnings regardless of their social origins (e.g. Brewer, Eide, & Ehrenberg, 1999; Chevalier & Conlon, 2003; Croxford & Raffe, 2014; Parsons, et al. 2016).

In particular, there is mounting evidence that there is a link between elite universities, such as Cambridge and Oxford, and high-status jobs and high earnings (Sullivan et al., 2014; Triventi, 2011; Zimdars, Sullivan, & Heath, 2009). One reason for the over-representation of graduates from ‘high-status’ universities in top professional occupations is that large professional companies tend to favour students from these universities (Ashey et al., 2015).

However, like debates on some of the other factors discussed so far, this view of the role of HE in weakening the origin-destination link has also been met with controversy, partly because, as was discussed earlier, access to HE is itself heavily patterned by social origins. Even for those relatively few children from disadvantaged backgrounds who make it into HE through hard work and academic ability, Brown and Hesketh (2003) demonstrate that although HE chances help graduates from working-class backgrounds to improve their positions in the labour market, access to higher education does not enable these graduates to secure elite jobs. Some research also shows that certain ethnic groups and women can be at a disadvantage in their

labour market outcomes even if they have high educational attainment at school and university (Social Mobility Commission, 2016).

To conclude, despite a few results which show that the role of HE can be less powerful than that of social origins, HE still plays an important role in social mobility and can make a real difference to individuals' long-term development such as benefiting from adult learning (OECD, 2003), work-related training opportunities and higher chances of being employed and getting a higher status job (Gorard et al., 2007; McGivney, 1993).

4.3 The literature on the potential impacts of other socio-economic factors in intergenerational social mobility

While education has the potential to influence social mobility chances and directions (Blane, Davey Smith, & Hart, 1999; Forrest et al., 2011), some other factors might also play a role. A study by Hauser et al. (1996) analysing multiple national survey datasets – the 1962 and 1973 Occupational Changes in a Generation Surveys (OCG), the 1986-88 Survey of Income and Program Participation (SIPP) and the 1972-1990 NORC General Social Surveys (GSS) – suggests that social origins and education-related factors only explain 35 to 40 per cent of the variance in status achievement, implying that a variety of other potential predicting variables, such as geographical and neighbourhood characteristics, parental involvement and aspirations and attitudes, also need to be examined in social mobility studies.

Geographical and neighbourhood characteristics

Besides the family-related factors discussed above, attention has also been paid to where families live. Especially in recent years, geographical and neighbourhood characteristics have been a popular focus (Social Mobility Commission, 2017, 2020). The report *State of the Nation 2017: Social Mobility in Great Britain* (2017) makes a first attempt to take regional differences in social mobility into consideration by comparing England's 324 local authority areas in terms of social-mobility-related factors, such as education, employability and people's housing prospects, and identifies a stark social-mobility geographical divide in England. Important findings include: (1) London provides more opportunities for its residents to make social progress than elsewhere, and (2) remote rural and coastal areas and former industrial areas have weak labour markets with greater shares of low-skilled and low-paid employment than

elsewhere in England. Consequently, young people from these areas face higher barriers to improved social mobility than those who live in cities.

This report was followed by a further report, *The long shadow of deprivation: Differences in opportunities across England (2020)*, which analyses newly linked administrative datasets on all state-educated pupils who were born between 1986 and 1988 to see how differences in the earnings outcomes of children vary across the 320 local authorities. Consistently with the 2017 report, this new 2020 report shows that where children grow up matters and disadvantage varies by area – there are large differences in adult pay between children from disadvantaged families and those from more affluent families across areas with different levels of social mobility. This regional difference in the labour market is also supported by previous studies suggesting the role of regional and residential influences on patterns of post-compulsory learning (HEFCE, 2005; Selwyn, Gorard, & Furlong, 2006), as living in economically disadvantaged areas is linked to non-participation in lifelong learning (Gorard, 2018). There is also research showing that rurality is negatively linked to school outcomes as rurality itself tends to be associated with poverty (Smith & Barrett, 2011).

Closely related to geographical factors are neighbourhood effects. People who live near each other tend to have relatively similar household characteristics (Crawford & Greaves, 2013; Smith et al., 1998). For example, using a meta-regression approach, Nieuwenhuis and Hooimeijer (2015) undertake a systematic meta-analysis of 88 studies on neighbourhood effects on educational achievement as an important aspect of socio-economic opportunities. Their study shows negative effects of four neighbourhood characteristics, i.e. poverty, poor educational climate, a high proportion of ethnic/migrant groups and social disorganisation, on individual educational achievement.

To summarise, a desirable geographical location has to some extent the potential to give well-off young people more advantages in terms of labour force entry and a poor neighbourhood environment can needlessly be a barrier to less well-off young people climbing the career ladder.

Parental involvement

One factor frequently covered in the literature is parental involvement in schooling such as the frequency of parents reading to and/or playing with young children, parents helping with

homework, parents' engagement in school activities and parental time invested in the child's education (e.g. Richards et al., 2016). It is generally believed that parental aspirations and engagement in schooling are linked to children's educational attainment (Johnson, McGue, & Iacono, 2010; Siddiqui & Ventista, 2018).

However, the relevant evidence is convincing only when background factors are not taken into account (Gorard, 2018). In fact, See and Gorard's review of relevant studies on trying to increase children's attainment by conducting interventions raising parental involvement in schooling presents a mixed picture of the effect of parental interventions and very few successful interventions were found (see See & Gorard, 2015a, b for detailed information). For example, many of the studies on parental interventions are of poor quality and even among medium-quality studies many of them actually involve interventions covering more than parental involvement in children's education (Gorard, 2018).

To conclude, although parents' positive involvement in schooling might have some potential benefits in different aspects of children's development, no valid evidence so far has been found to support the effectiveness of parental involvement itself in enhancing children's educational achievement. Perhaps more large scale and solid studies need to be done. At least at this stage, recent comprehensive reviews (See & Gorard, 2015a, b) show that finance spent on parental interventions might have been better used in other educational areas, for example improving teaching quality and facilities in disadvantaged schools.

Pupil aspirations and attitudes

It is generally believed that high aspirations and positive attitudes are linked to higher educational outcomes. Some studies claim that students with higher educational aspirations and expectations perform better at school (Bui, 2007; Jacob & Wilder, 2010). Similar claims are made for self-reported motivation to learn (Hayenga & Corpus, 2010). There are other studies suggesting that the link between poverty and behaviour tends to be weakened for pupils with high career aspirations (Flouri & Panourgia, 2012). Some studies explain these assumptions by suggesting that aspirations might play a role in making decisions at certain stages in individuals' education careers (e.g. Fernández-Reino, 2016; Goodman, Gregg, & Washbrook, 2011).

However, reviews suggest that this claimed association only exists without background factors and prior attainment being taken into account and there is no secure evidence on the effectiveness of any intervention raising aspirations on educational outcomes (Gorard, 2018). No causal link has been found between pupil aspirations and school outcomes so far. There is also research showing that this link disappears when pre-school factors are taken into account (Scott, 2004). A more complex and mixed picture is shown in Croll's (2008) and Yates et al.'s (2011) studies, which suggest 'over-ambition' might even be detrimental for children from disadvantaged backgrounds, as they find that compared to their peers from professional backgrounds, over-ambitious children from manual backgrounds are less likely to get professional jobs (Croll, 2008) and more likely to become NEET (not in education, employment or training) (Yates et al., 2011).

Viewed in the light of HE participation, Gorard, See and Davies's study suggests that limited aspiration might only play a small role in unbalanced HE participation (2011). The uneven composition of HE intakes is more strongly linked to inequalities in prior educational attainment (Gorard et al., 2019).

4.4 Conclusion

The existing literature has revealed that educational opportunities and outcomes are heavily stratified by socio-economic background (Gorard & See, 2013). Students from advantaged family backgrounds have better chances of accessing desirable educational paths in terms of quality and occupational prospects. However, it is promising that education, especially the school system and HE participation, might weaken the well-established origin-destination association. In the social mobility literature on the potential factors involved in intergenerational social mobility, it seems that one element of education – the socio-economic segregation that pupils experience at school (in short, school segregation) – has been largely ignored. This new study fills this gap by adding this factor in its data analysis on social mobility. To better understand why school segregation can potentially be an important factor in social mobility, it is important to first understand what school segregation is, why it matters and how we can properly measure it. That is what the next chapter focuses on.

Chapter 5 School segregation and measuring it

Following the important social, economic, educational and biological factors identified in the literature review and discussed in Chapter 4, this chapter focuses on a potential factor which has been largely ignored in social mobility research: school segregation, i.e. the level of socio-economic segregation individuals experience at school. It is a relatively newly investigated educational phenomenon and an important potential factor in the literature relating to inequality and the stratification of life opportunities.

As this study is particularly concerned with the role that between-school segregation at the school level plays in the link between origins and destinations from the perspective of equity in education, this chapter focuses on school segregation and how it can be appropriately measured. It first presents the definition of school segregation and some background. Next, it shows what causes segregation between schools and trends in it over the years in England. It then reveals why school segregation matters by introducing the important concept of equity and discussing the effects of school segregation on outcomes at school and beyond. Finally, it focuses on the longstanding debate over the measurement of segregation, an important element in the data analysis in this study, including detailed comparisons of commonly used segregation indices along with their advantages and disadvantages. It also cites some worked examples to show the rationale for the segregation index chosen for this study.

5.1 An introduction to school segregation: definition and background

Following the debate on the role of selective systems in social mobility (see Chapter 4), this section focuses on a different, indirect, form of selection. In practice, pupils are sorted into different state schools by factors such as residence, ability to pay or ability to travel. This leads to a newly emerging phenomenon related to school composition effects (also called school mix effects) which has not been fully explored in social mobility studies: school segregation. The role of school segregation in social mobility is an important focus in this study.

The term ‘segregation’ is widely used and it is often closely related to social inequality (Levy & Razin, 2015). By definition, segregation is the “differential distribution of social groups among social organisational units” (James & Taeuber, 1985, p. 24). It has been particularly related to the racial separation implemented by the Jim Crow laws in the United States (Morris, 2016). In modern times, desegregation has been an important political issue in countries around

the world. For example, in England policymakers continue to express concern about segregation of certain groups in terms of religion and ethnicity in some areas of the country (Goodhart, 2014; Cameron, 2015b).

In the education sector, as the term indicates, school segregation generally refers to segregation between schools. It is a kind of clustering in which children from similar socio-economic backgrounds are allocated to particular schools, i.e. who goes to school with whom (Gorard, 2018; Gorard & Taylor, 2002). School segregation is measurable with characteristics of disadvantage such as poverty, minority ethnic origin and learning difficulties. It measures the unevenness in the distribution of student characteristics among schools, particularly in terms of disadvantage (for further explanations and detail, see Gorard, 2016b, 2018; Gorard, Taylor, & Fitz, 2003). Accordingly, school segregation indicates the extent to which poor, or otherwise disadvantaged, children are clustered in the same schools (Gorard & Smith, 2010; Gorard & Taylor, 2002). This unevenness of distribution between schools is another type of inequality (Gorard, Taylor, & Fitz, 2003). In the UK, the focus has been on socio-economic background, especially in terms of poverty (Gorard & Cheng, 2011). In many studies, attainment differences are found to be linked to differences in the social composition of school intakes, which are known as the “compositional effect” (Harker & Tymms, 2004). Socio-economic and ethnic segregation between schools, therefore, remains an important research area both in the UK and worldwide (Elacqua, 2012; Gorard, 2016b; Logan, Minca, & Adar, 2012).

5.2 The effects of choice and diversity on school composition: Causes and trends in school segregation in England

In England, pupil intakes in state schools remain, to different extents, indirectly segregated according to different background characteristics. The school system in England is divided academically, socially and economically (Budge, 1999; Gorard, 2000a; Mooney, 1999). According to a 2013 Organisation for Economic Co-operation and Development (OECD) report, schools in the developed world are segregated especially in that children from poor and migrant family backgrounds are in the same schools (OECD, 2013). In England, if the segregation between schools were to be removed, about 30% of students would have to exchange schools (Gorard & Siddiqui, 2019). Although research shows that the stratification of educational opportunities and outcomes in England is lower than that in many comparable OECD countries (Gorard & Smith, 2004; OECD, 2014b), partly because of its relatively

comprehensive school system, segregation is still of great concern as it leads to a broader issue of inequity in education and social justice.

There are different reasons why pupils of similar social and economic backgrounds are clustered within the same schools. In 'The complex determinants of school intake characteristics and segregation, England 1989 to 2014,' Gorard (2016b) provides a detailed analysis of the possible determinants of school segregation, such as geographical factors, ethnic origin and social class. In practice, pupils tend to go to schools with peers of similar socio-economic backgrounds simply because similar families live close to each other and their children go to local schools together (Camina & Iannone, 2013). As a result, this residential segregation – the residential clustering of different socio-economic and ethnic groups – based on house prices and community culture can influence the pattern of social composition of schools (Gorard, 2006). Before the introduction of a school choice policy in England, the allocation of students to local schools by local authorities meant that the student intakes of each school reflected the characteristics of families living in the same community (Morris, 2016). Even after the choice policy was implemented, segregation between schools still remains because of factors including the over-subscription criteria used by popular schools (Harris & Gorard, 2014) and the segregated nature of residence in England (Gorard, 2016b).

Research also shows that parental preference for local schools tends to be greater among lower socio-economic and minority ethnic families (Bonal, Zancajo, & Scandurra, 2021; Jacobs, 2013). Pupils can then be clustered into schools by disadvantage, including low attainment, minority ethnic origin, poverty and learning difficulties (Gorard, 2016b). The level of segregation differs according to the local population density (Cheng & Gorard, 2010). Segregation is likely to be higher in more sparsely populated areas; in contrast, schools tend to have a broader mix of students in densely populated areas (Cheng & Gorard, 2010; Harker & Tymms, 2004). Other factors that can influence the level of school segregation include the economic cycle such as changes in employment, changes in families' socio-economic status, immigration (Gorard, 2016b), social housing policies (Exley, 2009), an ongoing policy of inclusion (Tomlinson, 2012) and residential proximity in school admissions policy (Bonal, Zancajo, & Scandurra, 2021). School segregation can also be enhanced by school selection of students. For example, as was discussed earlier in section 4.2.2, any school that selects students by academic ability will increase school segregation by SES, as do fee-paying schools. Similarly, schools that select student intakes by religion might enhance segregation by social

class (The Guardian, March 2012), ethnic origin (Harris, 2012) or parental education (Allen & West, 2011).

These unbalanced school intakes existed long before the 1988 Education Reform Act, which extended the open enrolment education policy (Coldron, Cripps, & Shipton, 2010; Gorard, Taylor, & Fitz, 2003). As a result, it to some extent altered the ways that pupils are allocated to schools and restructured the social composition of schools. This brought a challenging and novel policy context for the phenomenon of school segregation. As Waslander, Pater and Van Der Weide (2010) point out, one important common issue of market elements in education is related to socio-economic segregation. A free choice of school is in accordance with the right to choose education regulated by the European Convention on Human Rights. This school choice policy attempts to break the link between residential segregation and school segregation and to reduce the effects of residential segregation on social segregation within schools (Bonal, Zancajo, & Scandurra, 2021). Since then, there has been much debate on whether increased school choice strengthens or weakens segregation between schools.

Some scholars claim that there is a possibility that school supply cannot be regulated by choice. One rationale behind this view is that some schools in high demand are not able to grow to increase their student intakes due to factors such as lack of space and financial support. As a consequence, school intakes cannot be responsive to student demand and this can lead to increased inequality in education. For example, some studies claim that market development in schools can be determined by variations in between-school socio-economic segregation (Valenzuela, Bellei, & de los Ríos, 2014, using the case of the Chilean education system), or tends to enhance the advantage of students who are already educationally advantaged and benefits economically robust areas more, (Galiani, Gertler, & Schargrofsky, 2008, using the case of Argentina). There are also views that increased school choice leads to increased school segregation because of differences in the effectiveness of parental choice, parents' financial ability to pay for the transport needed to attend a non-local school and information asymmetries (Allen, 2007; Allen, Burgess, & McKenna, 2014). The counter-argument is that equity and effectiveness can be improved by choice and diversity. The American economist Caroline Hoxby (2003) argues that free choice of school is “a rising tide that lifts all boats” (p. 2). The idea is that increased parental choice of schools and inter-school competition should drive up education standards, thus improving overall education quality across the system.

Such debates need empirical evidence. A large-scale study led by Gorard and his colleagues finds that, following the 1988 ERA, the overall level of segregation between schools in England and Wales decreased (Gorard & Fitz, 1998; Gorard, Taylor, & Fitz, 2003). One potential explanation for this desegregation might be the increased parental choice of school, which allowed disadvantaged families greater access to desirable schools and made it easier for disadvantaged pupils to attend higher quality schools outside their locality (Bonal, Zancajo, & Scandurra, 2021; Coleman, 1992; Gorard, Fitz, & Taylor, 2001). However, from 1996 onwards, segregation at the national level increased steadily until 2008 (Gorard, 2009). Since 2008 it has gradually decreased again (Gorard, 2016b). From a long-term point of view, the level of socio-economic segregation across schools at the national level has remained persistent (Gorard, 2016b). These results from Gorard and his colleagues have been widely accepted as a true picture of the trends in between-school segregation in the UK over time (Allen & Vignoles, 2007; Coldron, Cripps, & Shipton, 2010; Croxford & Paterson, 2006). Although there is little evidence on the impact of choice policy on the education system (Gorard & Fitz, 2000), data suggest that the policy did not cause any significant long-term change in the school segregation level, which was originally a concern of some scholars (Gorard, 2016b). At least school choice is no worse and probably better than simply allocating children to the nearest schools (Gorard, Fitz, & Taylor, 2001).

5.3 The importance of school segregation in equity in education

5.3.1 Equity

School segregation is often viewed from the perspective of equity. This is an important concept in this study because the potential role of school segregation in intergenerational social mobility, which this study explores, is related to it. Before going more deeply into the potential effects of school segregation on pupil outcomes and why segregation matters from the perspective of equity, this section first introduces and discusses the concept and especially equity in education.

By definition, equity refers to the distribution of goods or resources which are essential for individuals (Deutsch, 1975). It is often used to refer to fairness or justice, and is a judgement of whether and why something is (un)fair (Gorard & Smith, 2010). To fully understand equity, a distinction needs to be made between equality and equity. While equality simply refers to the same treatment for every individual (Van de Werfhorst & Mijs, 2010), equity puts more

emphasises on the specific circumstances of individuals when allocating resources. In his seminal work, *A Theory of Justice*, John Rawls points out that to achieve equity the allocation of resources might need to be unequal, and equalities can be justified in some ways if they benefit the most disadvantaged social groups (Rawls, 1971). The rationale behind this view is that society should compensate for the disadvantages of certain social groups, as they have inadequate personal resources. Therefore, it is justifiable to allocate more public resources to people with greater needs, so equity does not necessarily mean equality. This justification is also what the principle of ‘needs-based’ equity – which concerns more individuals’ disadvantages rather than their advantages (Feinberg, 1970) – relies on.

The other major principle concerning equity is merit-based equity, which is the idea that it is fair to allocate public resources according to individuals’ merit (UNESCO, 2018). However, this idea has encountered some challenges. There is a view that merit-based equity ignores the link between individuals’ performance and their socio-economic backgrounds (UNESCO, 2018). Roemer (1998), therefore, proposes taking individuals’ background characteristics into consideration when recognising the level of merit. In fact, in reality no single principle of equity or formal criterion of justice can be considered adequate as any principle or criterion may lead to injustice in some circumstances (Gorard & Smith, 2010).

In the context of education, equity refers to fairness and justness in the distribution of educational resources (UNESCO, 2018) taking into account pupils’ personal and background characteristics. Equity in education matters, in the sense that it enables a universal compulsory education system to fulfil its main purpose of compensating for early disadvantages such as undesirable family circumstances or a lack of resources at home. An education policy aiming to redistribute educational resources according to pupils’ educational needs and to compensate for their early disadvantages is consistent with needs-based equity.

However, there is a view that, since equity reduces the public resources allocated to the more productive social groups in favour of disadvantaged groups with greater needs, equity is not good for effectiveness (Field, Kuczera, & Pont, 2007). However, there is much evidence that equity and effectiveness are not mutually exclusive (Marks, Cresswell, & Ainley, 2006; McGaw, 2008; Peterson & Woessmann, 2007; World Bank, 2006). In fact, they can be mutually beneficial both in terms of educational attainment (Gorard & Smith, 2010; Pfeffer, 2015) and social development (World Bank, 2006). For example, in the education context,

some countries such as Scandinavian ones have achieved high levels of both equity in the education system and school outcomes (Gorard & Smith, 2010).

Overall, equity involves considering individuals' specific situations when distributing public resources and it is closely related to fairness. Although equity can mean compensating the most disadvantaged groups in society, it can be achieved with mutual effectiveness.

5.3.2 The effects of school segregation: why does school segregation matter?

It is widely believed that education can provide the answer to a variety of social challenges, such as social participation and social cohesion (Haveman & Wolfe, 1984). One important reason for universal free compulsory education in the early years in the UK is to mitigate the early influence of socio-economic background so as to aid social mobility and build a fair society (Gorard, 2018). This is very important for equity in education. State education, despite its aim to provide equal opportunities for all pupils, appears to decrease social justice (Gorard, 2000a). An integrated school system is considered fairer than a segregated system as it allows time for schools to counteract differences in the social and cultural resources of children from different family backgrounds (Gorard, 2009), thus weakening the link between pupil origins and school outcomes (Dupriez & Dumray, 2006). By contrast, a high level of between-school stratification leads to educational attainment being more strongly linked to social background (Parker et al., 2016).

Disproportionate clustering of pupils within schools by personal and background characteristics is a matter of concern for various reasons (Belfi et al., 2014). The importance of school segregation largely lies in its impact on the outcomes of individuals, schools and society as a whole (Morris, 2016). International studies show that socio-economic stratification of student intakes yields no clear academic benefit (Gorard & Cheng, 2011) and can be harmful to individuals, the school system and society in the long term (Gorard, 2018; Gorard & Siddiqui, 2018; Gorard & Siddiqui, 2019).

Research consistently shows a strong correlation between positive social connections and happiness, one of the important factors underlying individual well-being (e.g. Baumeister & Leary, 1995; Gilbert, McKee, Spreitzer, & Amabile, 2017; Holder & Coleman, 2009; Myers, 2003; Ryan & Deci, 2001) and a feature which employers tend to consider when recruiting. Successful schooling can provide pupils with such positive social connections and contribute

to their psychological well-being such as by creating receptive attitudes and emotional adaptation (Finch, McCreight, & McAleavy, 2010). Social connections can be formed from pupils' interactions and connections with teachers and peers during their school experiences. School experiences can be partly explained by cultural capital theory, which commonly refers to socialisation into different activities, such as appreciating the arts and music, and reading literature (De Graaf et al., 2000). According to this theory, children who are not familiar with such socialisation tend to experience school as a hostile environment and they are also likely to lack the skills that are normally rewarded at the higher educational level, causing them to decide to not pursue HE, a phenomenon known as self-selection (Kalmijn & Kraaykamp, 1996; Lamont & Lareau, 1988). This provides theoretical support for the research finding that the level of segregation experienced at school is associated with post-compulsory participation in education in a negative way for the most disadvantaged pupils (Billings, Deming, & Rockoff, 2012; Gorard & Smith, 2007).

As was discussed in the previous sections, background-related differences in learning outcomes can be partly explained by the interactions experienced by students at school (Harris & Williams, 2012). Harris and Williams (2012) find that in classroom practice teachers might find responses from poor children more difficult to interpret. As a result, children from disadvantaged backgrounds might experience poorer quality teacher-pupil interactions. As Gamoran (2009) points out, raising standards for low achievers can be a viable way to promote higher attainment for all. One implication of this finding is that class-segregated education can actually lower the overall quality of both between-peer and teacher-pupil interactions, and mixing poor children with more affluent peers can provide them with role models and improve their responses to teachers' questions, thus enhancing the effectiveness of classroom interactions.

Gorard and Smith (2010) point out that, at the aggregate level, one factor which contributes to pupils being less academically successful at school is pupils coming from families with experiences of unemployment or low earnings. During any phase in schooling, disadvantaged students, especially when clustered together, tend to make less progress than their more advantaged peers (Duru-Bellat & Mingat, 1997), partly because children in schools highly segregated by poverty are more likely to have less qualified teachers (Clotfelter, Ladd, & Vigdor, 2007; Kalogrides & Loeb, 2013), poorer teaching facilities and poorer classroom instruction (Massey & Fischer, 2006). For example, in England the authoritarian inspection

system tends to give low grades to schools in deprived areas (Fitz-Gibbon & Stephenson-Forster, 1999). As a result, it is not surprising that in practice experienced and qualified teachers are less likely to apply for positions in disadvantaged schools. The well-established school attainment gap in which schools in the north of England lag behind schools in the south can also reasonably be explained by the level of segregation by poverty in the school system (Gorard, 2018). This is also true in Latin America, where socio-economic stratification in schools is found to result in high between-school variance in terms of educational outcomes (Castro Aristizabal, Gimenez, & Perez Ximenez-de-Embun, 2017). In addition, students in schools more socially segregated by disadvantage are also more likely to be diagnosed as having behaviour difficulties or disorders (Gorard, 2018; McCoy, Banks, & Shevlin, 2012).

Gorard (2007) points out that school systems without tiering or selection have lower segregation of pupil intakes, *ceteris paribus*. Viewed in the light of school segregation, a selective education system is more likely to disadvantage students from low-income families (Boliver & Swift 2011; Burgess, Dickson, & Macmillan 2014). Gorard (2014) and other scholars suggest that school segregation is likely to depress the individual performance of those who are disadvantaged at school, thus widening the attainment gap between advantaged and disadvantaged students (Gorard, 2014; Kahlenberg, 2012; Knowles & Evans, 2012; Mickelson, Nkomo, & Wimberly, 2012). Disadvantaged students can benefit from an integrated school system. Previous research shows that one of most important positive outcomes of education integration is improving overall educational attainment, and especially that of disadvantaged pupils and minority ethnic groups (Gewirtz, Ball, & Bowe, 1995; Gorard & Smith, 2010). For example, a balanced racial composition of classes can help to improve the individual performance of ethnic minority pupils at school (Gewirtz, Ball, & Bowe, 1995).

Similarly, research evidence also shows that including children with special educational needs (SEN) in mainstream schools can help improve their individual performance at school (Warnock, 1978). One policy example to support this view is the process of comprehensivisation of education in Scotland, which aims to raise the educational attainment of working-class children (Coe et al., 2008). By contrast, international studies consistently show that school segregation by background characteristics is associated with lower overall educational attainment (Condrón, 2013; Goldsmith, 2011; Vasque & Home, 2013). In Scandinavian countries, where school segregation is low, a mixed school intake has been shown to be related to narrowed attainment gaps, higher overall attainment and a high

proportion of skilled pupils (Alegre & Ferrer, 2010). Similarly, a study of Uruguayan pupils' primary education trajectories also suggests that a mixed SES composition in schools increases the chances of success in the first year of secondary school (Vinas-Forcade et al., 2021).

These potential benefits of an integrated educational context are not confined to disadvantaged students (Gorard & Smith, 2010). Research also shows that an 'average' student is more likely to succeed in secondary school if the school has a low level of segregation (Vinas-Forcade et al., 2021). Learning in a diverse setting challenges pupils' taken-for-granted ideas and thinking capacity (Piaget, 1983) and stimulates young people's intellectual potential (Gurin et al., 2003) regardless of their backgrounds. In fact, there is evidence showing that children from more advantaged family backgrounds also tend to perform better in a diverse school setting (Gurin et al., 2003). Some large-scale international surveys also show that equality between schools improves both the quality and equality of school outcomes (Haahr et al., 2005).

From a different perspective – the role of early cognitive ability in educational attainment – research by Galindo-Rueda and Vignoles (2005) finds that mixed ability school systems have the potential to narrow the attainment gap between the most able and the least able pupils. Since the younger pupils are, the stronger the role that family background plays in their educational performance (Schütz, Ursprung, & Wößmann, 2008), Galindo-Rueda and Vignoles (2005)'s finding further implies that early tracking of students into different school types based on their early ability may potentially harm the educational opportunities of disadvantaged students, which is in line with what is suggested by one model in an international study conducted by Schütz, Ursprung, and Wößmann (2005). Analysing data combined from two extensive international student achievement tests – the Third International Mathematics and Science Study (TIMSS) and TIMSS-Repeat – covering more than 300,000 pupils from 54 countries, Schütz, Ursprung and Wößmann (2008) also show empirical evidence that the earlier students are tracked into different schools, the larger the poverty gap in educational attainment is. One implication of these consistent findings is that a comprehensive school system can help equalise educational opportunities for pupils from different socio-economic backgrounds.

From a wider perspective beyond individual performance at school, the level of segregation experienced at school can influence other factors, including pupils' experience of fairness, their sense of belonging, their educational aspirations (Gorard & Smith, 2010), their later attitudes to learning (Gorard, 2018), their attitudes to work (Levin, 1987) and even their opinions of

justice both at school and in society (Gorard & Smith, 2010) and their social skills (Gottfried, 2014). The collective findings in nearly all the relevant empirical studies show that school experiences with ethnically diverse peers in education settings promote active thinking and better prepare students to be citizens in a democratic society (Gurin, 2003).

Research also shows that a mixed school composition helps pupils to be more tolerant of different religions (Levinson & Levinson, 2003), to develop respect for cultural differences, to improve their ability to solve conflicts (Mickelson, Nkomo, & Wimberly, 2012), to have more positive interactions with different ethnic groups (Frankenberg, Siegel-Hawley, & Wang 2011) and to develop positive civic responsibility and social engagement (Kurlaender & Yun, 2006). Pupils' experiences of diversity can be created in a tolerant and inclusive education setting which allows for uniform group activities (See, Gorard & Siddiqui, 2017). All these research findings suggest that an integrated comprehensive school environment provides an important and beneficial context for effective citizenship education (Davies & Evans, 2002; Print & Coleman, 2003).

Besides the potential impact of school segregation on citizenship education, school systems with higher levels of educational segregation are also shown to be linked to higher levels of segregation of labour market outcomes (Buchmann & Charles, 1995; Smyth, 2005). For example, Burgess, Dickson and Macmillan (2014) demonstrate that selective school systems can strengthen earning inequality in adult life. By contrast, attending a socially mixed school might have a positive effect on future earnings (Johnson, 2011). This point mirrors the criticisms of the tripartite system of secondary education which put much stress on the point that segregated secondary education leads to a narrowing of pupils' occupational aspirations (Elder, 1965), which is supported by empirical evidence (Gorard & Smith, 2010). Similarly, research also shows that segregation is linked with negative factors such as unfairness in terms of opportunities for the disadvantaged and low educational aspirations (Schmidt et al., 2015). In addition, in the wider social context, school segregation can affect the pattern of residential segregation and/or integration (Gorard, Taylor, & Fitz, 2003).

To conclude, there is no clear academic benefit from a more segregated school system (Gorard, 2014). By contrast, a diverse school system appears to confer academic advantage and other benefits, including long-term well-being, civic development and desirable labour market outcomes. For a fairer school system, Gorard and Smith (2010) therefore suggest the

desirability of a mixed school intake and propose a comprehensive and undifferentiated education system.

5.4 How to measure school segregation – debates over the measurement of segregation

The first important issue that this study faces in attempting to capture socio-economic segregation between schools and analyse its potential role in social mobility is choosing a valid index to measure school segregation.

In practice, the measurement of segregation can be complex and multifaceted, as segregation has different dimensions. How to measure segregation has therefore long been and remains a subject of dispute (James & Taeuber, 1985; Johnston, Poulsen & Forrest, 2010; Morris, 2016), and there is still no consensus. This section discusses the longstanding and considerable debate over the measurement of segregation across schools. In this study it is necessary and important to fully understand how segregation has been measured, and the features of segregation indices that have been commonly used.

To understand how segregation can be properly measured, it is important to first understand the purpose of measuring it. As Harris (2012) states, segregation indices, which are used to measure segregation, have largely been adopted to identify the inequality experienced by groups of people who are disadvantaged or marginalised in society:

Segregation indices are used, therefore, to measure how various social or ethnic groups of people are distributed across a study region, and whether there is evidence or not that they are separated. In themselves, the indices are not restricted to any singular view of the processes which led to the separation, or to whether those separations should necessarily be prevented (Harris, 2012, p. 671).

There have been longstanding debates around a number of the indices used, especially in terms of their validity (Taylor et al., 2000). Indices with high validity should properly measure the key elements of segregation. Massey and Denton (1988) highlight five key elements of segregation – evenness, exposure, concentration, centralisation and clustering – and they consider that while empirically there can be some overlap between these five elements, they are distinct conceptually. They also point out, after assessing 20 indices of segregation, that the last three elements – concentration, centralisation and clustering – are not robust factors and

are not theoretically clear. Regarding segregation between schools, researchers are interested in the first two dimensions – evenness and exposure (e.g. Gorard & Taylor, 2002; Jenkins et al., 2008; Orfield & Lee, 2005). These two elements are also theoretically, methodologically and empirically clearer than the other three factors mentioned above. Evenness refers to the distribution of individuals with certain characteristics among different socio-economic contexts (e.g. schools, which are the focus of this study) and exposure is more concerned with the extent to which individuals from a minority group interact with members of the majority group or with each other (Gorard & Taylor, 2002). These two dimensions are the focus of the analysis in this study measuring school segregation.

To measure these two dimensions of segregation, a number of indices have been developed. In the context of England, measuring segregation between schools began following the Education Reform Act 1988 with the aim of examining whether the increased market element in the education system made a difference to social segregation between schools (Morris, 2016).

Although there remains a debate over these indices and there is agreement that no index measuring segregation is perfect, there is general agreement on the desirable features of any segregation index (Gorard, 2009; James & Taueber, 1985). Gorard (2009) highlights the following four criteria traditionally considered important for a valid measure of segregation. It should be

organisationally invariant, such that if a school is broken into two, or if two schools merge, with the same proportion of FSM pupils in all, then the value of the index remains the same;

size or scale invariant, such that if the number of both FSM and non-FSM pupils is multiplied by a constant in all schools, then the value of the index remains the same;

compositionally invariant, such that if the number of FSM pupils is multiplied by a constant in all schools, then the value of the index remains the same (equivalent to the margin-free criterion in sex segregation analysis); and

affected by transfers, such that if an FSM pupil moves from a school with more FSM pupils to a school with less, then the value of the index goes down.

(Gorard, 2009, p.644)

In addition to these four fundamental characteristics, some researchers have further added other features a useful index should have. These include easy calculation, not distorting deviations by squaring when producing absolute values, being easy to interpret, being symmetrical between FSM pupils and non-FSM ones, and having a defined maximum range (Gorard & Taylor, 2002; Reardon & Firebaugh, 2002; Hutchens, 2004).

Debates over the indices

Given these desirable attributes, this section compares the main segregation indices that have been used and discusses the debates over them and their advantages and disadvantages. The majority of these indices are based on binary categorical variables (Gorard & Taylor, 2002) and this type of index is the focus of the discussion in this section. Regarding measuring segregation between schools, which is the focus of this study, the debates are mainly around two indices – the Dissimilarity Index and the Gorard Segregation Index (e.g. Allen & Vignoles, 2007; Gorard, 2007), as both have been extensively used in school segregation research in England, Wales and Europe.

The Dissimilarity Index (D)

As Allen and Vignoles (2007) reasonably point out, an important index which has long been considered the optimum measure of segregation is the Dissimilarity Index (D). It was developed by Duncan and Duncan (1955) and has also long enjoyed popularity as a measure of unevenness segregation.

To measure D, the D residual is the absolute value of the result of subtracting the population proportion of non-disadvantaged students in each school from the population proportion of disadvantaged students in each school (Gorard, 2009). D itself is the sum of these residuals for all schools divided by two.

More formally, $D = 0.5 * (\sum |F_i/F - N_i/N|)$,

where:

F_i is the total number of disadvantaged children in school i ;

N_i is the total number of non-disadvantaged children in school i ;

F is the total number of disadvantaged children in the chosen area; and

N is the total number of non-disadvantaged children in the chosen area.

Taylor et al. (2000) agree with the high validity of D and point out that D meets the four criteria for segregation measurement which were discussed above. A number of other researchers (e.g. Burgess & Wilson, 2010; Noden, 2000) also advocate using D to calculate the level of school segregation. Gorard (2009) points out some other features of D , including that it is easy to calculate, it lies within a clearly defined range and it does not distort deviations. Besides all these features, D has a unique advantage. It is completely symmetrical, meaning that it gives exactly the same results for both FSM pupils and non-FSM ones (Gorard, 2009).

However, D has some weaknesses. For example, it is not always able to pick up all transfers (although it picks up some) and the size of the minority group has to be large in comparison to the number of organisation units (Gorard & Taylor, 2002). It has also been claimed to have the advantage of being highly comparable over time and space (Massey & Denton, 1988). However, Cortese et al. (1976) cast doubt on this by pointing out that given that D is not always organisationally invariant, it is not reliable when comparing areas of different scale. Furthermore, Lieberman and Carter (1982, p. 296) state that D can be “affected by group size under special circumstances ... but the conditions under which a problem arises are quite extreme and are unlikely to occur in real-life circumstances.”

In terms of the desirable feature of being compositionally invariant, D has what Taylor, Gorard and Fitz (2000) term ‘weak’ composition invariance. To demonstrate this, Gorard and Taylor (2002) use a hypothetical example of numbers of pupils in four schools who are eligible for FSM to show that the invariance calculated by D only applies when the overall school population and the number of FSM-eligible pupils increase by the same amount while the number of non-FSM eligible pupils is held constant. They further demonstrate that D changes even if the proportion of overall FSM-eligible pupils stays the same in each school.

The Gorard Segregation Index (GS)

Another important index to calculate the level of school segregation is known as the Gorard Segregation Index (GS) (Gorard, 2009; 2016b). The GS was first proposed back in 1997 (Gorard, 1997a).

The GS is an index of segregation between schools that indicates “the proportion of potentially disadvantaged students in a school system who would have to exchange schools with another (non-disadvantaged) student for there to be no segregation by disadvantage between schools in that school system (or the area under consideration)” (Gorard, 2018, p. 14). Gorard, Taylor and Fitz (2003) present large-scale in-depth evidence suggesting a number of the determinants of school segregation at both the local and national levels, such as patterns of residential segregation and the proportion of schools (e.g. selective schools) which do not share their local authority’s approach to allocating places. Like D, the GS is a measure of inequality and unevenness. It is a useful tool to understand school segregation as it directly and clearly indicates the proportion of disadvantaged students (for detailed information on the main indicators of disadvantage, see section 8.3.4) who would need to exchange schools in order to achieve balanced student intakes among schools. This is also a key advantage of the GS that its advocates have highlighted (Morris, 2016).

To measure the GS, each school’s GS residual is “the absolute value of the result of subtracting the population proportion of all students in each school from the population proportion of potentially disadvantaged students (such as those eligible for FSM) in each school” (Gorard, 2016b, p. 134). The GS is the sum of these residuals for all schools divided by two.

More formally, $GS = 0.5 * (\sum |F_i/F - T_i/T|)$,

where:

F_i is the total number of disadvantaged children in school i ;

T_i is the total number of children in school i ;

F is the total number of disadvantaged children in the chosen area; and

T is the total number of children in the chosen area.

As the formula suggests and as some researchers have noted, there is not a great difference between the results that GS and D produce (Bartholo, 2013). However, the GS indicates the precise deviation from evenness in any school system using any indicator of disadvantage such as FSM eligibility (Gorard, 2007).

GS is calculated in a similar way to the disparity ratio used in health studies. Both D and SG are useful to understand the proportion of pupils in a defined category that would need to move schools to achieve a balanced intake across the whole school system. However, they do not indicate from which schools pupils would need to move. To solve this, a segregation ratio (SR) adopted by Gorard and his colleagues provides a “proportionate measure of the level of social stratification in the school compared to its surrounding schools” (Gorard, Taylor & Fitz, 2003) so that we are able to know which specific schools would have to swap students to obtain evenness of student characteristics.

The use of the GS index is not, however, without controversy. For example, Allen and Vignoles (2007) criticise it for not being bounded by 0 and 1, for not being symmetrical in that its values for disadvantaged and non-disadvantaged students are different, and for systematically varying with changes in the overall share of the disadvantaged group such as the overall proportion of FSM-eligible pupils. In response, Gorard (2007) argues that (1) 1-p (which is the proportion of FSM-eligible pupils in the school system) is not the empirical upper limit of the GS. He further points out that Allen and Vignoles’s (2007) strong claim that D is bounded by 0 and 1 is actually contradicted by a footnote in which they state that D can never be 0 because of random variation. This actually shows that in principle D is bounded by 0 but empirically it is never likely to reach the bound of 0. For the same reason, in principle the upper bound of the GS can be 1 and (2) the correlation between the school-level deviation measured by the GS and that by GS’ is perfectly 1.0, showing that the GS and the GS’ are not contradictory. He also further explains why the GS and the GS’ produce different figures with a real-life example that in any school system the proportion of the FSM group (i.e. the minority group) who need to change places with the non-FSM group (i.e. the majority group) to achieve evenness would be greater than the proportion of non-FSM pupils who have to exchange places to achieve the same even spread. As the GS is primarily only concerned with the distribution of the minority group, what it encapsulates is exactly the unevenness that Massey and Denton (1988, p. 283) describe as “minority members may be distributed so that they are overrepresented in some areas and underrepresented in others.” Allen and Vignoles’s (2007) third point that the GS is not

compositionally invariant is proven invalid by a worked example which will be discussed in the next section. Furthermore, as is indicated by how the GS is calculated, it “compares the proportion of one group with the total for that sub-area. This means that even if the proportion of students eligible for free school meals is altered, [the GS] remains unchanged as long as they are distributed across the schools in the same proportions as the original figures” (Gorard & Taylor, 2002, p. 888).

An additional critical point that Allen and Vignoles (2007) make concerns the accuracy of the measurement of the GS. They use the Annual Schools Census (ASC) data from 1989 to 2004, repeat the analysis by Gorard et al. (2003) and reach the same substantial result that school segregation did not increase after 1989. However, they claim that figures calculated by D show a decline that was half as large as that calculated by the GS and state that this suggests that “the method used by Gorard et al. actually overstates the size of the fall in segregation by 100%” (p.1). In response, Gorard (2007) proves that for all real-life datasets the correlation between the school-level deviations measured by the GS and those calculated by the D is 1.0, suggesting that D and GS are measuring the same underlying phenomenon. He further points out that the reason that the figures are different for the same schools using these two indices is that they are expressed in different units, in the same way that Centigrade and Fahrenheit produce different figures for the same underlying temperature.

At the same time, Gorard (2007) suggests that one inconvenience of the GS is its asymmetry, as it produces a different figure for the out-group, such as FSM pupils, and the in-group, such as non-FSM pupils. This can be a little confusing for some commentators but it is not an error. Lieberman (1981) reasonably points out that asymmetry is not intrinsically problematic.

The justification for using the GS to measure segregation in this study

Like the D index, the GS index also has the four traditional attributes previously discussed. Furthermore, it is organisationally and scale invariant, and it is affected by disadvantaged students changing schools (Morris, 2016). In addition, it is easy to calculate, has a clearly defined maximum range and does not distort deviations (Gorard, 2009). Compared to D, GS has been shown to be more strongly composition invariant (Gorard, 2009), as “[c]hanges in the levels of segregation are not artificially affected by changes in the overall size of the minority group, such as occurs in England when records change from take-up to eligibility for free

school meals” (Gorard, Taylor & Fitz, 2003, p.36). It is also easier to understand with real-world meaning (Gorard, 2009).

Being strongly composition invariant is a specific advantage of the GS. There are worked examples to demonstrate this particular advantage and the validity of measurements using the GS too. For example, to examine the school segregation pattern following the Education Reform Act 1988, Gorard et al. (2003) employ the GS index to measure school segregation patterns of FSM eligibility using Annual Schools Census (ASC) data from 1989 to 1995 for England and Wales. Their results show that such segregation declined during this period. This pattern is confirmed when using other approaches such as the D index and visually by the Lorenz curve (Gorard, 2000a). As was previously mentioned, this analysis was directly replicated by Allen and Vignoles (2007) using the same indices and the same datasets, with the same results. Other studies (e.g. Johnston et al., 2006; Croxford & Paterson, 2006) using different datasets – survey data – also provided empirical support for Gorard et al.’s (2003) finding. These results demonstrated the validity of the results using the GS index.

This worked example also proved that the GS index is strongly composition invariant because of the specific features of the dataset used. In fact, using FSM data from 1989 to 1995 creates a practical challenge. In the ASC dataset, for the period 1989-1992 data are only available for FSM take-up but from 1993 data on both FSM eligibility and FSM take-up became available. Compared to FSM eligibility, the FSM take-up indicator tends to be more biased because some families who are eligible for FSM may choose not to take advantage of their entitlement for religious or dietary reasons (Gorard, 2009; for a detailed explanation of FSM eligibility, see Chapter 8). Gorard et al. (2003) decided to use FSM take-up data from 1989 to 1992 and FSM eligibility data from 1993 onwards. However, this entails an abrupt change in both coverage and scale between 1992 and 1993 (Gorard, 2009) as the number of FSM pupils increased. However, the GS index was not affected by the change in scale, proving that it is strongly composition invariant (Gorard & Taylor, 2002). Other indices are not so strongly composition invariant and if they were used in this study the results would show an illusory increase in the segregation level even if the distribution of disadvantaged pupils stays the same.

Besides this key advantage, the GS index has been widely used in various studies. For example, it is related to the Hoover coefficient of income inequality (Kluge, 1998) and the Hoover index of concentration (Massey & Denton, 1988). It is also related to the Women and Employment

(WE) Index used by the OECD (1980). This, as Lieberman and Carter (1982) point out, enables comparisons between times, areas and even different research fields.

For all these reasons, the GS is chosen in this study to measure segregation between schools. However, the analysis has also been conducted the D index, and the results are the same.

The Isolation Index

Rather than measuring segregation in terms of evenness, the Isolation Index (I^*) measures segregation in terms of exposure. I^* is “a measure of the extent of isolation of one group from the other” (Gorard & Taylor, 2002, p. 883) and is considered by Massey and Denton (1988) to be the best available index to measure segregation as exposure. The calculation of I^* is illustrated in the table below, where a region has n sub-areas in which segregation could take place.

	Minority	Majority	Total
Unit 1	A_1	B_1	T_1
Unit 2	A_2	B_2	T_2
Unit n	A_n	B_n	T_n
Total	A	B	T

Source: Gorard and Taylor (2002)

I^* is calculated as: $I^* = \sum \left(\frac{A_i}{A} \right) \cdot \left(\frac{A_i}{T_i} \right)$

In this formula, i varies from 1 to n . As Gorard and Taylor (2002, p. 883) point out, this measure is sensitive to transfers, which means that I^* “adheres to a strong interpretation of the principle of transfers.” This is an important advantage of I^* compared to more commonly used indices such as D . However, in some situations, the accuracy of figures produced using I^* is questionable. Using hypothetical examples, Gorard and Taylor (2002) demonstrate that I^* can produce the same figure when all schools have the same share of FSM-pupils, i.e. there is no clear segregation in the school system, and when the proportion of FSM-pupils differs between schools, i.e. there is clearly some segregation in the system. I^* , therefore, might not be an accurate measure of segregation, in the sense that it can produce misleading figures when there is actually no segregation according to the Le Grand (1999) notion of fairness.

Other indices

There are some other less popular indices which can be used to measure segregation. However, they tend to have major flaws. For example, the Gini coefficient uses the square of numbers instead of absolute values. Although in this way it eliminates negative residuals, Gorard (2005) points out that squaring residuals before aggregation runs the risk of distorting the index by emphasising larger deviations. The Gini coefficient is also harder to calculate and understand compared to other indices. Some other indices, such as the Atkinson Index (A) and the Sex Ratio Index also have this problem of potential distortion of results. Moreover, A is difficult to interpret, more complex to calculate compared to most other indices and does not enable direct comparisons between different studies (Massey & Denton, 1988). The Sex Ratio Index is considered difficult to interpret, is theoretically unbounded and is sensitive to any change in the composition of the population (Tzannatos, 1990).

Allen and Vignoles (2007) also consider the Square Root Index as an index that has the four traditional desirable properties for a segregation index. However, compared to indices such as D, it is less familiar to researchers and is more likely to show lower values when the segregation level is moderate, which is the case of segregation between schools (Allen & Vignoles, 2007).

5.5 Conclusion

In sum, this chapter has presented a detailed discussion of school segregation covering its definition, background and causes and potential outcomes. More importantly, it has reviewed some commonly used segregation indices and has shed light on the ongoing methodological debate on the measurement of segregation. It has also justified the choice to use the GS index to measure segregation in this study. As the study investigates school segregation using secondary data, before a detailed description of the secondary datasets used the next chapter first introduces commonly used datasets in social mobility research.

Chapter 6 Datasets used in previous social mobility research

Following most of the social mobility studies discussed in the previous chapters, this study also uses secondary data analysis. The re-use of existing official data enjoys a long and honourable history in social science research (Gorard, 2012a). Before a detailed description of the research design and methods, this chapter first provides an introduction to the characteristics of two main types of secondary data, i.e. longitudinal data and administrative data, which are the two data types used in this study. All the example datasets discussed here are major UK survey and/or administrative datasets.

6.1 An introduction to data linkage

In general, data linkage refers to matching two or more sets of data which have common cases or units and can be linked with a common identification code. It normally aims to create a new, and usually richer, dataset. Linking can be an exact matching of cases or units, but depending on the quality of the information it can be an onerous process, with cases or units being linked on the basis of some similarity threshold criteria. In social research, linking secondary data sets for the purpose of research is becoming increasingly popular. It is particularly valuable because it allows analyses using additional information such as high-quality administrative information (Siddiqui, 2019).

Normally in empirical studies, data linkage can involve joining together administrative datasets such as the National Pupil Database (NPD) dataset, the Higher Education Statistics Agency (HESA) dataset, or the University and College Admission Service (UCAS) data (e.g. Chowdry et al., 2013; Gorard, Siddiqui, & Boliver, 2017). In sociology research it is more common to link social survey data with relevant administrative records (e.g. Banks et al., 2005; Sala et al., 2010; Tate et al., 2006). This latter practice allows for the analysis of certain additional information that is not included in the original survey dataset. It can greatly improve the quality and utility of the data and enable researchers to address certain research areas which cannot be addressed using just one single data source (Calderwood & Lessof, 2009). Especially in recent years, linking large-scale longitudinal survey data to administrative data has become a popular trend in sociology research (e.g. Sala, Burton, & Knies, 2012; Siddiqui, Boliver, & Gorard, 2019). This is the case in this study.

6.2 An introduction to longitudinal data

This section discusses the characteristics of longitudinal data in general terms, including a review of the major UK longitudinal datasets.

Social-mobility-related studies, especially ones investigating patterns or trends in social mobility, are predominantly conducted through analysis of data collected in large-scale birth cohort studies, a typical type of longitudinal survey. The datasets used in previous studies on social issues relating to social mobility in the UK have generally been longitudinal in nature. There are, for instance, relevant data on economic circumstances, occupations and income levels following specific cohorts over time. Some of the major national longitudinal birth cohort studies are the 1946 National Birth Cohort (NBC1946), the 1958 National Child Development Study (NCDS1958), the 1970 Birth Cohort Study (BCS1970) and the Millennium Cohort Study (MCS), which have provided both opportunities and challenges for numerous studies in social science (for more comprehensive information on some important secondary data sources in the UK, see Gorard, 2012a).

Among these, NCDS1958 and BCS1970 are popular sources which have played a vital role in analyses of social mobility in the UK (see, e.g., Dearden, McGranahan, & Sianesi, 2004; Feinstein & Vignoles, 2004; Breen & Goldthorpe, 2001; Bynner & Joshi, 2002; Carneiro et al., 2007; Gorard, 2008a; Hobcraft, 2001; Jantti et al. 2006; Sullivan et al., 2014; Savage & Egerton, 1997) and other life-chance-related research areas such as the career trajectories of STEM graduates (Smith & White, 2018; 2020) due to their analytical advantages of being large-scale, containing rich individual-level data and covering prolonged periods of time. The NCDS1958 is a continuing longitudinal study of an initial sample of 17,415 cases born in England, Scotland and Wales in the single week 3-9th March 1958. It conducted a survey on the original sample at birth and then followed up this cohort and their families periodically when the cohort were at ages 7, 11, 16, 23, 33, 42, 44, 46, 50, 55 and 62. It began as a study of perinatal mortality. Information collected in the NCDS1958 includes physical, educational and social development, employment, economic status, well-being, health behaviour and attitudes as the cohort members passed through childhood to adolescence and then to adulthood. Another example, the BCS1970, is an ongoing longitudinal study following the lives of an initial cohort of about 17,000 cases born in England, Scotland and Wales in a single week in 1970. It has so far collected data on this sample at birth and at ages 5, 10, 16, 26, 30, 34, 38, 42, 46 and 50.

Information collected in the BCS1970 covers different aspects of the cohort members' lives such as family and economic circumstances, physical, educational and social development and health (for more detailed information on the NCDS1958 and the BCS1970, see Elliott & Shepherd, 2006; Power & Elliott, 2006).

In terms of the characteristics of longitudinal data, basically, both in theory and practice, a longitudinal social survey “collects data from the same sample elements on multiple occasions over time” (Lynn, 2009, p. 1). This definition captures one key design feature of longitudinal surveys: tracking and tracing certain characteristics of a cohort over a prolonged period of time. There are two important features central to the concept of longitudinal social science data. One is the temporal (i.e. time) dimension (Gayle & Lambert, 2018, p. 1), i.e. they are collected at different points in time, allowing the analytical advantage of understanding social changes and/or (in)stability. This contrasts with cross-sectional data, which are gathered at only one point in time. The other feature is that they constitute a panel – a sample of survey participants are repeatedly contacted and surveyed, allowing for more accurate data to be obtained by reducing potential recall bias.

In terms of analysis, Lynn identifies six main advantages of using longitudinal data. These are that they (1) allow analysis of gross change and (2) analysis of unit-level change, (3) provide aggregate measures, (4) measure stability or instability, and identify (5) time-related characteristics of events or circumstances and (6) causality (see Lynn, 2009, p. 5-6 for detailed discussion). These analytical strengths of longitudinal data have been increasingly valued in recent years, resulting in more longitudinal social surveys being carried out and more studies being conducted analysing the data, making important intellectual contributions to understanding the trajectories of people's life chances and the potential factors improving or constraining people's social and economic outcomes, such as child development, HE participation and access to the labour market (e.g. Ashby & Schoon, 2010; Marmot & Brunner, 2005; Siddiqui, Boliver, & Gorard, 2019; Sullivan et al., 2018). Longitudinal data can also be valuable in various other areas of social scientific research. For example, Ekinsmyth (1996) points out some unique characteristics of longitudinal studies especially in geography research as “they chart change, collect information across various domains and are spatially referenced” (p. 364). From the research perspective, longitudinal datasets can serve as important sources of evidence on evolving public policies.

Admittedly, beside all these extra potential advantages of longitudinal social surveys, they are also methodologically subject to all the attention that needs to be paid to any other social survey (Groves et al., 2004). In addition, compared to analysing cross-sectional surveys, longitudinal analysis is potentially subject to certain unique disadvantages, including sample attrition (Siddiqui, Boliver, & Gorard, 2019) and the possibility of an increasing rate of under-coverage over waves (Lynn, 2009).

6.3 An introduction to administrative data

This section discusses the characteristics of administrative data in general terms, using the examples of some key UK administrative datasets.

As discussed in section 6.1, there is a popular trend in sociology research to link longitudinal data to official administrative data to increase research opportunities to examine more social issues. In fact, some administrative datasets themselves have also been used in social mobility studies. For example, Laurison and Friedman (2016) use data from the Labour Force Survey (LFS) to examine differences in earnings by parental occupation. LFS is a long-term national scale official dataset which covers hundreds of variables relating to the employment circumstances and economic activities of about 150,000 people in the UK. The data are collected every three months and are available from 1973. Similarly, Britton et al. (2016) use linked administrative datasets – administrative data from the Student Loan Company, administrative tax records and university-level data from the HESA – to examine differential earnings by family background. The HESA data contain rich information on applications and admissions to HE, which is broken down by subject, institution and region.

Administrative datasets are also used to examine access to HE in the UK. For example, Bolton (2010) uses data from the University and Colleges Admissions Service (UCAS) to examine the proportions of students enrolling on different HE degree courses by parental occupation. Meanwhile, Boliver (2013) also uses UCAS data to assess socio-economic inequalities in access to the prestigious universities in the UK. And Chowdry et al. (2013) use linked administrative datasets – the NPD, the National Information System for Vocational Qualifications and the HESA – to assess potential factors relating to access to HE for disadvantaged students. Smith and White (2017) take a further step by using data retrieved from the HESA to examine the early career destinations of STEM graduates.

In general, administrative data are official data which are collected by government agencies annually for successive years. In the UK context, one main advantage of administrative data is that compared to other types of datasets which are normally collected by social surveys, administrative data are much more robust and complete, with a very high level of population coverage and minimal missing cases. Meanwhile, the main disadvantage of administrative data is that they usually contain very limited information in terms of the wider context of the cohorts' lives. Taking one of the most important administrative datasets in the UK, the NPD (to be discussed in detail in Chapter 7), as an example, the data for each pupil are usually at the school level and each individual pupil's information can be tracked longitudinally year by year.

Although the NPD data contain a high coverage of pupils' academic attainment at school, along with some key indicators of potential disadvantage such as eligibility for free school meals (FSM), which are also more reliable compared to social survey data, it does not contain wider contextual data on other individual performance at school and school experience-related factors such as parental involvement in schooling and pupil aspirations. Nor does the NPD cover more detailed information on family background such as parental occupation and educational level and pupils' trajectories beyond school. The other demerit of administrative data is that some information contained is normally not detailed enough to make a judgement of some pupil circumstances. One good example is eligibility for FSM in the NPD data. While this variable indicates a severe level of economic disadvantage, it does not indicate the extent to which pupils are disadvantaged.

6.4 Conclusion

This chapter has introduced data linkage as a widespread practice in data analysis and has reviewed the general characteristics of both longitudinal data and administrative data, which have been widely used in social mobility studies. Although both types of data have certain deficiencies, they have proved to be very valuable and useful in education and social science research, which serves as an important foundation for policy advice. From a methodological perspective, it is also necessary to point out here that, while mainstream studies on social mobility in the UK apply secondary analysis to longitudinal and administrative datasets, social mobility has also been studied using methods such as interviews and case studies (see, e.g., Bathmaker et al., 2016; Bertaux & Thompson, 1997; Hoskins & Barker, 2014; Reay, 2017).

Now that the broad context of data linkage and secondary datasets has been discussed, the next chapter moves on to the research design and methods, specifically focusing on the data linkage and datasets used in this study.

Chapter 7 Research design and methods I

7.1 Introduction

This chapter explains in detail the research design and methods used to address the research questions, including the data used, the data quality and the analytical sample established. All the decisions on designing and conducting the research were made based on the research questions to make sure they are properly and adequately addressed (Gorard, 2013).

First, the chapter gives an overview of the research design. Second, it discusses the rationale for choosing to analyse secondary data to answer the research questions. Third, it provides information and discusses the characteristics of the two datasets – longitudinal Next Steps data and NPD administrative data – used in the study, which is followed by the rationale for linking these two datasets to justify why these two datasets were chosen for this study and why data linkage was used for the analysis. Fourth, it evaluates the data quality of these two datasets, putting more emphasis on that of Next Steps, the main dataset used in the study. Finally, as a result of the data quality, it discusses how the core analytical sample was established, which is followed by an analysis of the representativeness of the analytical sample established.

7.2 Research design

This study uses a longitudinal cohort design, chosen to evaluate the relationship between a wide range of factors relating to birth characteristics, family background, secondary schooling characteristics, pupil characteristics and post-16 outcomes. At the core of the study is a combination of the large-scale nationally representative longitudinal survey Next Steps dataset, and the robust administrative National Pupil Database (NPD) for England. Next Steps data were linked to both pupil-level and school-level data from the NPD. The information provided in these two high-quality national datasets is a combination of contemporaneous and retrospective data on birth characteristics, family background, different dimensions of secondary schooling and post-16 stages, higher education (HE) and labour market outcomes. The datasets were chosen to track the life courses of a cohort of young people in England at ages 13 to 25, aiming to build a comprehensive picture of the journeys of these young people currently entering the labour market in their early adulthood.

7.3 The advantages and disadvantages of using secondary data

This study conducts a secondary analysis using two official public datasets on England. Before a detailed introduction to and discussion of the specific secondary datasets used, this section first discusses the advantages and disadvantages of using secondary data in research and particularly focuses on the rationale for the choice to perform a secondary data analysis.

The advantages of using secondary data

By definition, secondary data analysis is “an empirical exercise carried out on data that has already been gathered or compiled in some way” (Dale, Arber, & Procter, 1988, p. 3). The use of secondary data in social science research originates from political arithmetic theory in the 1660s in the UK (Porter, 1986). Since the 1980s there has been consistent encouragement to make good use of existing official datasets in social science research (e.g. Bulmer, 1980; Gorard, 2001; Smith, 2008; White, 2017) and in fact the practice is becoming increasingly prevalent (Smith et al., 2011).

This is justified by the many advantages of using secondary data. First, as Gorard (2012a) points out, in any research area in education large relevant datasets already exist. Indeed, there are national large-scale datasets which can be used to answer the main research questions in the present study. The availability of these datasets, which cover wide ranging research topics, often at no or very little cost, presents a true opportunity to use secondary data in education research.

Second, Smith (2008) points out the important role of analysing secondary data in a “political arithmetic” approach to empirical research with a key focus on equity and social justice issues, including “origins and destinations,” “schools, markets and choice policies” and “analysing underachievement in schools” etc. As was mentioned in Chapter 1, this study focuses on the political arithmetic tradition of origins and destinations. The most up-to-date large-scale secondary data, therefore, enables the study to adopt a political arithmetic approach to studying social mobility issues.

Third, Gorard (2002a) and many other researchers (e.g. MacInnes, 2017; Pérez-Sindín, 2017) argue for the power and economy of using numerical secondary data in social science research, because of the high speed, low cost, flexibility of primary data techniques and the high quality

of these large-scale long-term official datasets. To take a real-life study for example, one of Gorard and Fitz's (1998) influential early projects on school choice and socio-economic compositions of schools analysed secondary annual school census data and was completed at a cost of less than £100. Particularly with the development of the internet and networked technologies, secondary data can be easily accessible (MacInnes, 2017; Pérez-Sindín, 2017) and using secondary digital data saves researchers much time (Pérez-Sindín, 2017). Gorard (2002; 2012a) further points out that, compared to one researcher generating data through primary fieldwork, official public datasets such as the Labour Force Survey (LFS) tend to be larger in both scope and scale, have higher quality, especially in terms of completeness and validity, and can be linked to other sources of data. Such data linkage not only creates richer data (see section 6.1) but also empowers a more robust analysis of some subgroups (e.g. ethnic minorities) which can be under-representative of the overall population (Brooks-Gunn, Phelps & Elder, 1991). Pérez-Sindín (2017) holds similar views that longitudinal and international comparative studies, such as government censuses, increase the breadth of research. Secondary data analysis, therefore, provides researchers with an opportunity to access and analyse data of high quality on a scale that they could not manage themselves (Smith, 2008).

Fourth, besides linking different sources of secondary data, Smith (2008, p. 41) also points out that comparing analytical results from different sources of secondary data, such as comparing findings from early studies with more contemporary ones, enables "triangulation with data from other sources." This can be useful because it can help to discover some unanticipated relationships (Dale, Arber & Procter, 1988). One example is the association between an early version of the contraceptive pill and blood clotting revealed in a study (British Association Study Group, 1979).

Fifth, secondary data analysis can also be useful to address new research questions (Glaser, 1963; Hewson, 2006) and by adopting better developed statistical techniques and novel theoretical perspectives to replicate, re-analyse and re-interpret existing research and therefore to further explore the original research questions or new research ideas (Cook, 1974; Glass, 1976; Smith, 2008). Similarly to comparing results from different datasets, as mentioned above, reanalysing secondary data can also lead to some unexpected new discoveries (Pérez-Sindín, 2017).

Furthermore, from the perspective of research methods, secondary data analysis can be used as a useful approach to evaluate the quality of a sampled population and accordingly help to further select samples for further in-depth studies such as case studies (2012a). For example, Selwyn et al. (2006) point out that the ten-yearly census data can be used to select area samples because they show the characteristics of the populations of different regions.

In addition to the empirical advantages of using secondary data, some scholars taking a broader perspective point out the social benefits of using secondary data. These include the ethical benefit of protecting the privacy of individuals' data (Bulmer, 1979), which allows studies on sensitive topics and hard-to-reach samples (Rew et al., 2000) and opens up opportunities, especially for novice researchers, to conduct independent data analysis without worrying about difficulties in securing funding for fieldwork (Glaser, 1963; Hakim, 1982; Smith, 2008).

As will be discussed in section 7.6, the two datasets chosen for use in this study can be categorised as what Gorard (2002) calls "powerful datasets" (p. 235). Secondary data analysis on these two datasets saved time and increased both the cost efficiency and the quality of the analysis involved in this project. The results of this study can also be used as a useful reference for further work using the same datasets in the same research area. All the above advantages of using secondary data constitute the rationale for adopting secondary data analysis in the present study.

The potential disadvantages of using secondary data

Admittedly, using secondary data also has some potential disadvantages. The nature of secondary data analysis, i.e. re-analysing existing data, makes it susceptible to criticism. The most widely recognised disadvantage of using existing data is that secondary data can be collected for other research purposes than addressing the specific research questions that researchers aim to address (Boslaugh, 2007). Therefore, secondary data can be less than ideal (Gorard, 2012a). Researchers, therefore, need to ensure that their research questions match the existing data (Johnston, 2014). The other main limitation to using secondary data is that since secondary researchers did not participate in the data collection process, they do not know how well the data collection was done (Johnston, 2014). This limitation can be minimised by finding out this information such as by consulting the original researchers who conducted the data collection (Johnston, 2014) and reading documentation on the data collection process, published findings and technical reports (Boslaugh, 2007).

Smith (2008) summarises the four main disadvantages of using secondary data in social science research as follows: (1) secondary data can contain many errors; (2) since social data are socially constructed, numerical secondary data reduce the complexity of social issues to quantities and numbers alone cannot explain the complexity of social experiences; (3) there is public suspicion that secondary data, especially official statistics, can be manipulated by those in power; and (4) potential inappropriate use of secondary data can lead to unwarranted and invalid comparisons. One good example is international comparative tests of educational attainment, which are likely to have methodological deficiencies in their test design and administration and lack proportionate analysis of the test data (Brown, 1998; Prais, 2003; White & Smith, 2005).

However, none of these possible disadvantages should be reasons for researchers not to use secondary data. First, as it is likely that all data contain errors, Webb et al. (1966) point out that if the errors in the data can be recognised and clarified using different measurement techniques the errors should not prevent researchers from using the data. In fact, since secondary data have already existed in some form before they are actually used, they can be properly evaluated for appropriateness and data quality (Stewart & Kamins, 1993). Second, Smith (2008) argues that the complexity of society should not be a reason for not using secondary data. In fact, using secondary data can help identify certain trends and inequities that in-depth research methods can further explore. Third, potential manipulation of official data by governments can actually serve as a reason for researchers to engage fully with the secondary data so that government official data can be independently monitored (Thomas, 1996). Fourth, although addressing national educational concerns cannot merely rely on rankings in international league tables, international comparative tests can be used as complements to contextual research on a nation's school system (Smith, 2008).

In sum, these disadvantages should not prevent researchers from using secondary data. Rather, secondary data need to be treated with scepticism and respect for possible limitations (Smith, 2008). Researchers, therefore, should take the limitations of secondary data they use into account in their findings and discuss the specific limitations in their publications (Gorard, 2008b).

7.4 Applying for and obtaining the data

The process of getting access to the data consisted of three stages. The first stage was getting approval for access to the secure version of Next Steps. The second was getting approval for access to low-security School Annual Census data (2004 to 2006) from the NPD. The third was requesting national-level linking of between-school segregation figures based on all secondary schools in England derived from the NPD to the Next Steps data.

To get approval for access to Next Steps, four forms – ‘Research proposal application form,’ ‘Accredited Researcher application form,’ ‘Declaration’ and ‘Secure Access User Agreement’ – needed to be completed, which asked questions ranging from personal information to information on the proposed project. To access the NPD data, two forms – ‘Data Request Application Form’ and ‘The National Pupil Database and/or Linked Data Information Security Questionnaire’ – needed to be completed. The first of these contained personal information questions and ones on the proposed research such as the specific data requested and their intended use. The second included personal information and detailed questions relating to data security, including information security policy, the technical system, physical security, data handling, staff awareness, risk assessment, audit and monitoring, sanitisation and disposal, and third-party access. All the forms were submitted to the Department for Education (DfE) Requests Team and approvals were granted.

Much effort was made to link national-level school segregation data to the Next Steps data. First, approval for linking the two datasets needed to be granted by the Next Steps data management team. From 2004 to 2012 Next Steps was funded and managed by the DfE. In 2013 the management of the study was transferred to the Centre for Longitudinal Studies (CLS) at the University College London (UCL) Institute of Education (IoE), and since then it has been funded by the Economic and Social Research Council (ESRC), an important funding agency for research in the UK. Accordingly, the application form entitled ‘Proposal for CLS data not currently available via UK Data Service’ was completed and submitted to the CLS. The form contained personal information, detailed information on the external data requested, the aim of the research and its potential impact for policymakers and/or practitioners. This linking data request was approved by the CLS.

Then, the school segregation data were created from the NPD data obtained and were submitted to the CLS team. The whole process was in close cooperation with the CLS. Many checks were conducted by the CLS team and there were ongoing communications to make sure that the school segregation data provided were valid and met the data security criteria. After a strict process of checking, the school segregation data were linked to the secure version of Next Steps datasets by the CLS team.

7.5 The data obtained

The two datasets accessed are summarised in Table 7.1. The following section (7.6) explains the content of the datasets in detail.

Table 7.1 Description of the dataset files accessed

Received file	Description
Next Steps: Waves One to Eight, 2004-2010, 2015: Secure Access Source: UCL Institute of Education, Centre for Longitudinal Studies, (2020)	The full range of datasets contained in the Secure Version of Next Steps
Tier 3 School-Level Annual School Census (SLASC) 2004/2005 to 2006/2007	Aggregate school-level data on the number of students known to be FSM _e , SEN _s , SEN _n , EAL, and NW in each school

Note. FSM_e = eligible for free school meals; SEN_s = special educational needs with a statement; SEN_n = special needs without a statement; EAL = English as an additional language; NW = non-white-British ethnic origin

7.6 Datasets

The datasets used in this study are Next Steps with a total sample of 16,122 young people (an initial sample of 15,770 young people and a boost sample of 352 young people in Wave 4) and the NPD for England.

7.6.1 Next Steps

The rationale for choosing Next Steps as the main dataset for this study

The main source of data used in this study is the longitudinal Next Steps dataset, which collects rich data pertaining to young people's personal and family backgrounds and covers a continuous longitudinal period from 2004 to 2015. Next Steps was chosen because the data allow life trajectories to be tracked, which matches the design purpose and function of longitudinal surveys well. The analytical advantages of longitudinal data stated in the previous chapter are the important rationale for adopting longitudinal data as a uniquely powerful resource with which to probe into the research questions. As the data are longitudinal, the concept of 'trajectory' can be used to analyse HE and labour market outcomes in early adulthood. Interest in both intra-generational and inter-generational educational and occupational mobility has intensified in recent years, particularly as issues such as social justice, educational equity and equality, and access to higher education and the labour market have become increasingly important policy concerns. Next Steps, which was previously known as the Longitudinal Study of Young People in England (LSYPE1), is an important up-to-date data resource for mobility research informing public and education policies, with a national-scale rich set of information, a high professional standard of data production, the feasibility of being linked to NPD administrative data and a unique longitudinal design (<https://nextstepsstudy.org.uk/>).

Although Next Steps maintains a strong focus on the area of education, the content was broadened to include socio-economic elements, making it a unique resource for multi-disciplinary research. Especially in recent years, Next Steps has become an important new data resource for addressing research questions regarding various social issues. Drawing on data collected from Next Steps, research has already been conducted to address research questions on social behaviour (Demack et al., 2010), social mobility (Goodman & Gregg, 2010; Note, 2019), access to higher education (Anders, 2012; Siddiqui, Boliver, & Gorard, 2019) and health behaviour (Hagger-Johnson, 2013; Williams & Hagger-Johnson, 2017).

Background to the Next Steps survey

Next Steps is an innovative large-scale nationally representative longitudinal (panel) study following the lives of a sample of 16,122 participants selected as representative of young people in England. It had a sample of 15,770 households in Wave 1 and an ethnic boost sample

of 352 in Wave 4, making a total of 16,122 young people who have taken part in this study over the years (see section 7.8 for detailed information). Specifically, the survey followed a cohort of young people born between September 1989 and August 1990 attending maintained schools, independent schools and pupil referral units (PRUs) in England from the age of 13/14 (Year 9) in 2004 until the age of 25 in 2015. The respondents were initially interviewed in spring 2004. This was subsequently followed by annual household interviews until 2010 when the cohort reached the age of 19/20 and a further survey in 2015 when the young people were aged 25, resulting in a total of eight waves.

Regarding the data collection approach, the first four waves were conducted via face-to-face interviews at the young people's homes using computer assisted personal interviewing (CAPI). Two big changes regarding the study design were made with Wave 5. First, Waves 5, 6 and 7 used a mixed mode approach of online interviews, telephone interviews and face-to-face interviews. The Wave 8 (age 25) survey used a sequential mixed-mode design, with cohort members being invited to participate online first and non-respondents being contacted via telephone and face-to-face afterwards. Second, while in the first four waves both the sampled young person and at least one of his/her parents/guardians were interviewed, from Wave 5 only the sampled young people were interviewed. The first four waves were conducted by a consortium of three research agencies: BMRB, GFK-NOP and Ipsos-Mori. Waves 4 to 7 were carried out by BMRB and GFK-NOP, and Wave 8 was carried out by the large independent research institute NatCen Social Research.

The Next Steps survey has two main empirical purposes: (1) the initial objective for conducting the Wave 1 to 7 interviews was to get an insight into important factors relating to educational attainment and progression from compulsory education; (2) Wave 8 widened the focus to gathering evidence on the transitions that the cohort of young people made from secondary and tertiary education or training to early adult life at the age of 25, including labour market outcomes and other socio-economic circumstances. From a policy-driven perspective, Next Steps greatly contributes to the formation and appraisal of policies relating to young people and the dataset has been used to monitor and evaluate the progress of the cohort group and the effectiveness of relevant policies targeted at this cohort of young people (Department for Education, 2011). It also potentially serves as an important evidence base for future policy development, especially of policies to improve social mobility in the UK.

The content of Next Steps data

In general, the Next Steps dataset maps the cohort members' education and life journeys from compulsory schooling to training and/or university and ultimately to access to the labour market over more than a decade from their early schooling to their early 30s, shedding light on the early occupational patterns of young people in modern Britain.

As is typical of longitudinal surveys, Next Steps contains repeated measures of the same variables across certain waves (although not necessarily at every wave), in order to build up histories of families' economic activities and mobility, and of young people's educational and occupational mobility. This also provides the possibility of measuring changes in the value of variables at the individual level (to be explored in section 9.3 and 9.4). As the main research interest of the present study is the link between socio-economic factors and young people's labour market outcomes, as indicated by employment status and occupation information, Next Steps is a particularly useful data resource, having fine-grained details on a wide range of family background, school, pupil and occupational factors. An understanding of the family and education characteristics of the cohort is key to understanding early potential factors in their later occupational trajectories. Specifically, the survey collects rich and specific longitudinal demographic information on young people's (1) family background, including ethnic origin, English as a first or main language, parents' socio-economic status, parents' employment, household income, housing tenure, home environment and local deprivation; (2) parents' attitudes, including their aspirations for the young person after compulsory education and parental involvement in the young person's schooling; (3) education and qualifications, including HE participation and degree outcomes; (4) characteristics, including their attitudes and aspirations, such as post-16 plans; and (5) economic activities, including post-16 employment status and 'not in education, employment or training' (NEET) status. In particular, Wave 8 includes important information on young people's occupational statuses and wider characteristics such as their overall satisfaction with life.

Limitations of Next Steps Data

Occupation data on the young people sampled

One of the limitations of using large-scale datasets is that the data can be less suited for a new purpose (Gorard, 2012a). This limitation applies to Next Steps data. The information on the sample cohort's occupation status is less than ideal. As when this study was conducted the last wave of Next Steps was the time when these young adults reached the age of 25, the dataset

can only provide occupation information – the young person’s NS-SEC class – on the sample when they were in their early adulthood, i.e. at the age of 25. However, there is the possibility of significant short-term instability in individuals’ lifetime career trajectories (Hope, 1972). Age 25 can still be a very early stage and their occupation status might be subject to change. Data on labour market outcomes for this cohort in middle age – a more mature stage – could be more accurate. Therefore, due to this limitation, this study can only focus on occupational mobility until early adulthood.

7.6.2 The National Pupil Database (NPD)

The rationale for choosing NPD for data linkage

The choice of NPD as the data source for creating school segregation figures for linking to Next Steps survey data depends on the quality and the types of data collected in the NPD. The NPD is a national administrative dataset officially collected by the DfE and has long served as one of the nation’s richest and most complete education data resources. It can be used as a useful and reliable data resource to examine and explore a wide range of education-related issues and can serve as a main secondary data source (FFT Education Datalab, 2018; Gorard, 2013).

NPD collects administrative data from all state-maintained schools in England and provides some basic pupil-level data such as individual educational attainment and rich school-level data including the specific state schools that pupils attend and “a range of possible indicators of pupil disadvantage such as eligibility for free school meals and special educational needs” (Gorard, 2013, p. 113) which can facilitate analysis of the main characteristics of school segregation using different indicators, especially indicators of disadvantage. The schools included in the NPD are completed with ‘all school-age educational establishments to some extent, and [...] all state-funded schools completely’ (Gorard, 2013, p. 113).

Gorard (2016b) gives a detailed explanation of the six main common indicators of potential disadvantage in schooling: 1) the number of pupils taking free school meals (FSMt); 2) the number known to be eligible for free school meals (FSMe); 3) the number known to have a statement of special educational needs (SENs); 4) the number known to have special needs without a statement (SENn); 5) the number known to have English as an additional language (EAL); and 6) the number not classified as white British ethnic origin (NW) (see Gorard, 2016b

for detailed information and discussion). These indicators reflect the extent of socio-economic segregation among pupils in school.

For clarification, Special educational needs (SEN) is a legal term used in Department for Education official datasets. It refers to pupils “who have a difficulty or disability which makes learning harder for them which calls for SEN provision to be made available” (Section 20, Children and Families Act 2014). Like FSM eligibility (detailed information on FSM eligibility can be found in Chapter 8), EAL and non-white ethnicity, which have already been discussed earlier in this chapter, SEN is also a main indicator of disadvantage at school. Research has shown that SEN pupils are more likely to have other disadvantages such as being eligible for FSM, and they are more likely to have lower educational attainment than non-SEN pupils (Gorard, 2018).

The NPD contains all the relevant data on the composition of disadvantaged groups in the school population of full-time-equivalent students. It also provides a Unique Registration Number (URN) for each individual state school, which allows researchers to track the schools. These school-level data and the URN enable calculation of segregation indices at the national level as indicators of school stratification using socio-economic-disadvantage-related features like FSM_e, SEN_n, SEN_s, EAL and NW.

7.6.3 The data linkage rationale

The Next Steps dataset was linked with some administrative data held in the NPD both at pupil level and school level, including pupil attainment at Key Stage (KS) 2, KS3 and KS4, pupil characteristics such as free school meal eligibility and school-level information such as the proportion of pupils gaining five or more GCSEs at grades A* - C, and geographical indicators including the Income Deprivation Affecting Children Index (IDACI) and urban/rural indicators. In general, approximately 97% of Next Steps survey data were matched to the NPD data (DfE, 2011).

The present study goes one step further and adopts an innovative research design by linking the Next Steps dataset to school-level segregation indices – the Gorard Segregation Index (GS) from 2004 to 2006 – created from the SLASC data from the NPD. This enables examination of whether and how different patterns and levels of school segregation are related to young people’s later occupational status as a wider outcome of schooling. This section summarises

the empirical use of this data linkage in the UK context and provides the rationale for it in terms of motivation, feasibility and reliability. All the examples of data linkage illustrated here are major UK survey and/or administrative datasets.

In general, data linkage refers to matching two or more sets of data relating to the same people or entities to create a new, and usually richer, dataset. Normally in empirical studies data linkage can include joining together administrative datasets such as the NPD dataset, the Higher Education Statistics Agency (HESA) dataset, or the University and College Admission Service (UCAS) data (e.g. Chowdry et al., 2013; Gorard, Siddiqui, & Boliver, 2017). In sociology research it is common to link social survey data with the relevant administrative records (e.g. Banks et al., 2005; Sala et al., 2010; Tate et al., 2006). This latter practice allows for the analysis of additional information that is not included in the original survey dataset. Especially in recent years, linking large-scale longitudinal survey data to administrative data has become a popular trend in sociology research (e.g. Sala, Burton, & Knies, 2012; Siddiqui, Boliver, & Gorard, 2019), which is the case in this study.

(1) Motivation. One of the key innovative research questions in this study regards the extent to which national school-segregation characteristics are linked to young people's post-16 destination. The former figures can be created from the NPD data while the latter information is contained in the Next Steps dataset. This motivated the exploration of the possibility of linking segregation data to Next Steps data.

(2) Feasibility. Compared to most other panel surveys, one unique advantage of Next Steps is that all of its participants have agreed to have their responses linked to the NPD administrative data (Anders, 2012; Sutherland, Llie, & Vignoles, 2015), as in agreeing to participate in the Next Steps survey, the parents of the cohort of young people also consented to have their children's education records held on the NPD to be linked to the survey data. This makes it feasible to link the school segregation indices created to Next Steps on the unique serial number variable NSID, i.e. the cohort member identifier uniquely identifying each cohort member and family in Next Steps, which has also been linked to the NPD data.

(3) Reliability. Linking administrative data to social survey data potentially improves both the quality and the utility of the survey data and enables researchers to address certain research questions that cannot be addressed by analysing only one single data source (Calderwood &

Lessof, 2009; Lillard & Farmer, 1997; Sakshaug et al., 2012). In other words, such data linkage can be a promising way to create richer and more comprehensive data structures. In particular, Gayle and Lambert (2018) speculate on the future use of longitudinal analysis drawing on administrative records and hold the view that this practice helps to go beyond the constraints of individual surveys and enriches the range of the data. This is the case of the present study, in which the combination of more complete and reliable school-level information exclusively contained in the NPD data and the much richer information on young people's life outcomes exclusively collected in the Next Steps dataset produces a more reliable and comprehensive data frame, which is the realisation of Gayle and Lambert's (2018) vision that social science research is likely to prove most effective when well-designed longitudinal survey data are linked with administrative data.

7.6.4 Potential contribution to future data linkage practice

The data linkage in this study allows two potential theoretical contributions to longitudinal analysis. First, as an empirical example of linking longitudinal data to administrative data, it provides a reference for future research on the effectiveness and reliability of data linkage in examining post-16 outcomes. Second, compared to previous research using data linkage which links two or more original datasets, this study pioneers a new data linkage strategy – linking longitudinal data to school segregation figures created from the original NPD data. It provides evidence and reference for future potential research on the wider impact of school segregation by matching school segregation figures to any suitable longitudinal survey dataset.

7.7 Data quality

This section explores the data quality of the two datasets, Next Steps and NPD, used in this study. It mainly focuses on Next Steps, as it is the main data source where the majority of the variables used come from, and it suffers from a missing data problem because of its longitudinal nature.

7.7.1 Next Steps – a general review

As a large-scale panel study of young people aged from 13 to 25, Next Steps attempted to follow all the 15,770 households who took part in Wave One. Like almost all other longitudinal surveys, Next Steps suffers from sample attrition across the waves. Wave Two achieved a sample of 13,539 households and there was a reduction of 36% in Wave Three with a sample

of 12,439. Wave Four interviewed 11,801 samples. It is important to point out that the sample frame in Wave Four also contained “an ethnic minority boost of 600 Black African and Black Caribbean young people,” of whom 352 responded (Department for Education, 2011, p. 11), with the aim of ensuring “an adequate representation of the relevant sub-population in England” (Department for Education, 2011, p. 9). 10,430 households were surveyed in Wave Five, 9,799 in Wave Six and 8,682 in Wave Seven. The final wave (Wave Eight) achieved 7,481 samples. Table 6.2 below shows basic information on the responses obtained in Next Steps Waves 1 to 8. For more detailed information on the sampling process and the reasons for data attrition in each wave, see Appendix 2, which is a CONSORT flow diagram (Consort, n.d.) as advocated by Gorard (2021) for reporting missing data accurately in social science research reports.

Table 7.2 Responses obtained in Next Steps Waves 1 to 8

(Based on information provided in LSYPE User Guide to the Datasets: Wave 1 to Wave 7, Department for Education, 2011 and Next Steps Sweep 8 – Age 25 Survey User Guide, Centre for Longitudinal Studies, 2017).

	Sample issued	Sample achieved	Response rate (%)
Wave 1	21,000	15,770	74
Wave 2	15,678	13,539	86
Wave 3	13,525	12,439	92
Wave 4	12,468	11,449	92
Boost	600	352	59
Wave 5	11,793	10,430	88
Wave 6	11,225	9,799	87
Wave 7	9,791	8,682	90
Wave 8	15,531	7,707	51

Sampling strategy

The Next Steps sampling strategy consisted of two stages: sampling schools and sampling pupils. To sample schools, the survey collected data using a stratified random sampling procedure with schools as the primary sampling units (PSUs), which ensured an equal chance of selection for all pupils in an ethnic group in a deprivation stratum. For the maintained sector, 892 schools were selected in total. Specifically, the sample was drawn using the Pupil-Level

Annual Schools Census (PLASC) and 838 schools were sampled, while independent schools and pupil referral units (PRUs) were sampled using the School-Level Annual School Census (SLASC) and 52 independent schools and 2 PRUs were sampled. To sample pupils, “pupil selection probabilities were dependent on either group as recorded in PLASC and on school selection probabilities” (Department for Education, 2011, p. 9).

Sampling young people by ethnicity

In terms of the proportion of young people sampled by ethnicity, Next Steps adopted a two-stage probability proportional to size (PPS) sampling procedure with disproportionate stratification, which ensured an equal chance of selection for all pupils in an ethnic group in a deprivation stratum. Specifically, 66.9% of the cohort are white and 5.2% are mixed. For ethnic minorities, sample boosts were included to ensure an adequate representation of this sub-population, with Indian, Pakistani, Bangladeshi, Black Caribbean and Black African students accounting for 6.5%, 6.1%, 4.7%, 3.8% and 4% respectively.

7.7.2 NPD

Compared to the Next Steps data, NPD does not suffer from much data attrition because of its census-like nature. The administrative data in the NPD are more robust and complete with many fewer missing cases and a comparatively low item non-response rate and low attrition.

7.8 Missing data in Next Steps: sample attrition across the waves

As a result of the longitudinal nature of the Next Steps survey, it has the common problem of sample attrition (see Table 7.3; some additional relevant information is also provided in section 7.6.1). With an initial sample of 21,000 young pupils but 15,570 responses achieved, the survey experienced an initial non-response rate of 26% (Department for Education, 2011). One specific issue which caused the initial sample non-response was school-level non-response. According to the Department for Education (2011), only 73% of the 892 schools selected cooperated with the Next Steps survey, which caused a great reduction in the initial sample. Anders (2012) estimates the final response rate if this issue of a high level of school non-cooperation had not happened: if the selected participants from uncooperative schools in the dataset were included in the initial unit non-response, the response rate would fall to only 53%, which would be slightly above half of the maximum possible responses.

Table 7.3 Responses achieved from Wave 1 to Wave 8

	Achieved sample	Response rate (%) compared to initial Wave 1
Wave 1	15,770	-
Wave 2	13,539	85.9
Wave 3	12,439	78.9
Wave 4	11,449	72.6
Boost	352	-
Wave 5	10,430	66.1
Wave 6	9,799	62.1
Wave 7	8,682	55.0
Wave 8	7,707	48.9

As Table 7.3 shows, the extent of sample attrition increases over the waves. In general, the total number of responses falls by about 45% from 15,770 in Wave 1 to 8,682 in Wave 7. With a further decrease of around 11%, the sample population in Wave 8 is 7707. Statistically, this would not be much of a problem if those dropping out of the survey are missing at random. However, there are more concerns if the dropping out has something to do with economic or occupation-related factors. In this case, estimates of the variables might have potential bias. The design of the non-response weighting in Next Steps has to some extent helped to eliminate such bias in estimates of the population quantities (Department for Education, 2011).

7.9 Establishing the core analytical sample

The decision on establishing the core analytical sample in this study was made based on the main consideration that the analytical sample needed to have full information on school segregation figures and post-16 outcomes. First, considering the problem of sample attrition across the waves in the Next Steps survey, I was aware that some cases did not participate in all the waves and the information collected on them is not complete. For example, for some cases we only know their family background but we do not know their HE participation or occupation at a later stage, which means that it is impossible to examine the link between their family background and their schooling outcomes and beyond for every individual who ever participated in the survey. Accordingly, a decision was made to choose only a fixed number of young people and their families who participated in every wave of the survey, so that full

information on every aspect of their life is known and their life trajectories can be traced and analysed. Second, since school segregation was a key factor relating to post-16 outcomes to be examined in this study, and school segregation figures are only available for state schools in the NPD data, a decision was made to only include those young people who studied in a state school in England. Therefore, the young people who participated in every wave of Next Steps and who attended a state school in England were established as the core analytical sample of interest in the research analysis.

In practice, for all the initial sampled cases, a flag variable was created in every wave (eight waves in total) to indicate whether the case took part in that single wave of the survey. Then, all these eight flag variables were merged using the unique identifier variable NSID, and only those cases with a flag variable indicating that they are in every wave were selected. Of the initial total sample of 16,122 respondents (including the ethnic boost sample of 352 in wave 4), the size of the valid sample who took part in all the waves (excluding the boost sample) throughout the survey is 5,426. Then, these 5,426 cases were matched to the school type (state school or independent school) and 96% of them were identified as having attended a state school in England and were established as the analytical sample for the study. This made a fixed $N = 5,192$, which is the core analytical sample.

7.9.1 Who was missing from Next Steps across the waves and who stayed throughout the waves? An examination of the analytical sample's representativeness

After establishing the core analytical sample, this section examines the analytical sample's representativeness. A notable strength of the Next Steps survey is that the initial sample of young people are nationally representative, meaning that estimates on its data can be representative of the whole population born between 1 September 1989 and 31 August 1990, including all the subsets defined by various categories such as ethnicity group and socio-economic status (Piesse & Kalton, 2009). This raises a question: how representative would estimates on the analytical sample be?

Before gaining a full understanding of the characteristics of the fixed analytical sample, this section first makes comparisons between the initial sample's characteristics and the analytical sample's characteristics to show a general picture of (1) the particular features of those who were missing from the Next Steps survey and the characteristics of those who chose to participate in every wave of the survey; and (2) how representative the analytical sample of

interest are, in terms of basic sociodemographic information on birth, family, school, neighbourhood, and personal characteristics. The key findings are shown below. Appendix 3 shows detailed comparisons of the percentages of young people by key variable characteristics between the initial sample and the analytical sample in relevant waves, and a comparison of the mean and SD of key stage attainment scores between the initial sample and the analytical sample.

Birth characteristics

(1) Sex: male participants were 20% less likely than their female peers to stay in all the survey waves (odds ratio = 0.8); (2) ethnic origin: compared to the other ethnic minority groups, white and Indian participants had a slightly higher probability of staying in all the waves; and (3) those with English as a first or main language had a much higher probability of staying until the last wave – they were 5 times as likely to stay until the end of the survey (odds ratio = 5.0). This is also consistent with the pattern that people of white ethnicity, who are likely to be native English speakers, were more likely to stay in every wave.

Family background features

(1) Family structure: young people who were born into a single family were about a third less likely to stay until the last wave (odds ratio = 0.72); (2) family socio-economic class: those who stayed throughout the eight waves were slightly more likely to have parents in managerial, professional and intermediate occupations; among the rest of the families, households with members in long term unemployment were the most likely to opt out from the survey; (3) household income: in general, higher income families were more likely to stay across all the waves; this is in line with Siddiqui, Boliver and Gorard's finding that on average Next Steps dropouts were more likely to come from low-income households (2019); (4) while lower income families tend to opt out of the survey, this trend does not apply to those in poverty, as the analytical sample is as representative of FSM pupils as the initial sample; (5) highest qualification held in the family: generally, households with parents holding higher levels of qualifications were slightly more likely to stay until the final wave than those with parents holding qualifications at level 1 or below.

Educational attainment

When it comes to school outcomes, the mean KS2, KS3 and GCSE attainment scores for the analytical sample are slightly higher than in the initial sample. Although these attainment gaps

are small, there is a tendency that those with higher educational attainment were more likely to stay until the last wave.

Economic regions

Regarding which Government Office Region the young people come from, Londoners were the most likely to opt out over the waves, while those from the east of England and the south east were the most likely to stay.

Young people's characteristics

HE participation and outcomes

Consistently, young people in the analytical sample had a higher probability of entering HE, entering a Russell group university and achieving a first class degree or higher compared to their peers in the initial sample.

Labour market outcomes at the age of 25

In terms of young people's occupational status at the age of 25, those with higher NS-SEC classes, i.e. those in professional and intermediate occupations, were more likely than those in lower NS-SEC class occupations to stay over all the waves, while young people who were not in employment at the age of 25 were the most likely to opt out.

Conclusion

In conclusion, the analytical sample is slightly over-representative of young people who come from a more economically advantaged family background and they are more likely to participate in HE and have professional occupations themselves at age 25. In other words, disadvantaged students, both in terms of their family background and their post-16 opportunities, were more likely to opt out across the waves. These findings provide some potential implications for longitudinal survey design in terms of improving response rates over the waves: dropping-out might to some extent be related to participants' family background, and there is a possibility that those who are socio-economically disadvantaged are more likely to drop out for certain reasons. This phenomenon is worth exploring further by analysing the characteristics of those who were missing over the waves in other large-scale longitudinal social surveys. Such a study could potentially facilitate improving participant rates in longitudinal social surveys.

7.10 Conclusion

In conclusion, the analysis in this study was mainly based on a linked dataset created from Next Steps datasets and the NPD, including school segregation data created from the NPD. The analysis included 5,192 valid cases, which is the core analytical sample of the study. The next chapter explains in detail each analytical step.

Chapter 8 Research design and methods II

8.1 Introduction

Following chapter 7, this chapter explains in detail the linkage of different datasets, research strategies for choosing potential proxies and the statistical approach in each step. First, it explains the process of linking the datasets, including the specific datasets obtained. Second, a snapshot of the explanatory variables established and the outcome variables together with background information on the key proxy measures is provided, which is followed by the establishment of measures of potential disadvantages of young people in Next Steps. Third, the quality of the indicators is discussed and how missing data in the analytical sample were dealt with is explained and justified. Next, there is a detailed explanation of how different types of analysis and regression modelling were conducted to address each research question in the study and of the rationale for the procedures. This is followed by snapshots of all the explanatory variables entered in each model. Finally, the chapter reviews ethical considerations in the study.

8.2 Linking datasets and creating the analytical file

After establishing the analytical sample of 5,192 cases, a further flag variable was created for these 5,192 cases indicating that they were the cases chosen to be included in the analysis. The next stage was to link all the relevant datasets. This was done in the following five steps: (1) all the deposited datasets in Next Steps were linked on the variable NSID, and this formed the new analytical file; (2) the NPD files already included in the Next Steps files were merged into the analytical file using NSID; (3) school segregation figures were created from the Tier 3 School-Level Annual School Census (SLASC) 2004/2005 to 2006/2007; (4) school segregation data were linked to the analytical file using ISID; and (5) in the analytical file, the established 5,192 cases were selected using the flag variable and all the other cases were deleted. Detailed explanations of the deposited survey datasets linked and how school segregation data were created and linked to Next Steps follow in the next sub-section.

8.2.1 Linking deposited Next Steps survey datasets

The established variables (to be introduced in section 8.3) were derived from all the deposited datasets. The next stage was to link all the deposited Next Steps survey datasets using NSID. Table 8.1 shows the deposited datasets linked.

Table 8.1 Linked Next Steps deposited datasets

Linked deposited datasets
Next Steps Family Background file, Wave One to Wave Five
Next Steps Parental Attitudes file, Wave One to Wave Four
Next Steps Young Person file, Wave One to Wave Seven
Next Steps Household Grid file, Wave One to Wave Seven
Next Steps Activity History file, Wave Four to Wave Seven
Next Steps Outcome file, Wave Eight
Next Steps Derived file, Wave Eight
Next Steps Activity History file, Wave Eight
Next Steps, Self completion file, Wave Eight
LSYPE_reduced_NPD_restricted
All pupil-level_achievement_data_LSYPE_restricted

8.2.2 Calculating school segregation data from the NPD

This section provides details on how school segregation figures have been calculated from the school-level data in the NPD. Using figures from the school-level annual school census available in the NPD for all state secondary schools in England, the school segregation figures for each individual school in each year were used to calculate what has been termed the Gorard Segregation Index (GS index) (see Chapter 5 for a detailed explanation of the GS index) for all of the secondary schools in the NPD.

The level of socio-economic segregation in each school is its GS residual. Each school's residual for the GS index is the absolute value of the result of subtracting the population proportion of all students in each school from the population proportion of potentially disadvantaged students (such as those eligible for FSM) in each school.

Following Gorard (2016b), the specific segregation figures in this study are calculated using the following indicators of socio-economic-disadvantage-related features in schooling:

- GS indices for eligibility for FSM based on the proportion of students eligible for FSM, as an indicator of the overall level of deprivation in the school;

- GS indices of Special Educational Needs (SEN) with statements, based on the proportion of students with SEN with statements;
- GS indices for SEN without statements, based on the proportion of students with SEN without statements;
- GS indices for EAL, based on the proportion of students known to have English as an additional language;
- GS indices for non-white ethnicity, based on the proportion of students reporting a non-white ethnicity. This also serves as a rough proxy for the ethnic make-up of the school.

Using the Unique Registration Number (URN) for each individual state school in the NPD, these five GS indices (GS for FSM eligibility, GS for SEN with a statement, GS for SEN without a statement, GS for EAL, and GS for non-white ethnic origin) have been calculated by applying the following formula to data on the number of disadvantaged pupils and the total number of pupils in individual schools and in England:

Each school's GS index residual = $|F_i/F - T_i/T|$,

where:

F_i is the number of disadvantaged children in school i ;

T_i is the total number of children in school i ;

F is the total number of disadvantaged children in the chosen area; and

T is the total number of children in the chosen area.

Following this formula, these GS indices have been calculated for the KS3 and KS4 cohorts of students of compulsory school age in England in 2004-2006, which are the relevant secondary schooling years applied to the Next Steps cohort. The school segregation residuals for these five disadvantages are the amount by which each state school's student population derives from the national average in England. The segregation figures indicate how segregated an individual school is, measured with indicators of disadvantage compared to the national level and therefore reflect the extent of socio-economic segregation among pupils in schools.

Table 8.2 below summarises the number of cases (secondary schools) available each year (2004 – 2006) in the NPD, from which the GS indices were calculated.

Table 8.2 Numbers of school cases available

Year	Number of school cases
2004	3,378
2005	7,234
2006	7,220

Accordingly, a list of the GS indices for all the schools from 2004 to 2006 was calculated and put in a file, ready to be linked with Next Steps.

8.2.3 Linking school segregation data to Next Steps

These GS indices were then linked to every individual case in the analytical sample attending particular state schools in the Next Steps dataset on the variable NSID.

Linking data in practice and data protection

In practice, this data linkage was independently conducted by the CLS team as a third party who were given access to data files with matching codes for schools. After matching, no individual school or student can be identified. As for data linkage, the dataset of segregation figures produced was merged with the Next Steps dataset using the URN (School Unique Reference Number) and the LAEST (LA Establishment number). Some variables were re-labelled and the final dataset was de-anonymised by reducing the number of decimal digits, assigning the Next Steps anonymised school identifier and removing the original URN/LAEST.

Linking segregation data for public use

As a result of all these efforts, these linked school segregation data were deposited with the UK Data Service for public use for research purposes, and a User Guide (Shao & Siddiqui, 2021) to the data linkage was produced and deposited with the UK Data Service accordingly.

8.3 Research strategy: choosing and describing potential proxies

After creating the final file containing a massive range of variables with all the information available for the analytical sample, the next stage was to choose potential proxies, which included a thorough examination of all the variables available and choosing all the potential variables relating to post-16 outcomes.

New variables, at both the pupil and school levels, were either chosen or created from the original datasets to prepare for the analyses in this study. Especially for regression models (to be discussed in 8.6), the data analysis depends greatly on choosing the most accurate and powerful potential proxies possible for birth, family background and other socio-economic characteristics as predictors of HE participation and occupational outcomes, and on assessing models fit for each scenario. This required a careful consideration of all the potential variables chosen.

8.3.1 Establishing potential explanatory variables to assess important predictors of post-16 outcomes

The proxies were selected on the basis of both data quality and practicality. All the potential explanatory variables were considered in terms of their association with HE and occupational outcomes, and whether they represent the most important dimensions in young people's lives. Considerations for inclusion of variables included availability, the theoretical relationships among the variables, reliability and real-life practice. They aimed to cover as many of the theoretically and practically important dimensions of the research area (discussed in Chapters 2, 3, 4 and 5) as possible.

The variables representing family origin and background are at the pupil level, the between-school segregation indices are school-level aggregated variables and the variables indicating other schooling characteristics such as educational attainment and pupil characteristics are at the pupil level.

While some characteristics of young people are unlikely to change over life stages, such as sex, ethnic group, English as first or main language and single-parent family status at birth, other characteristics may fluctuate, and the relevant fluctuating characteristics are captured by the Next Steps survey being longitudinal. Therefore, to exclude the influence of changes in characteristics, the stability and fluctuation of characteristics for all the variables chosen were evaluated (see section 9.2 for detailed information), and variables were derived to summarise all the changes over the period from age 13 to 19 (see sections 9.3 and 9.4 for details).

The initial evaluation (covered in section 9.2) shows that except for the geographical location indicated by the Government Office Region, and the neighbourhood deprivation level indicated

by the Income Deprivation Affecting Children Index (IDACI), which remain unchanged from Wave 2 to Wave 3, all the other characteristics fluctuate slightly. Accordingly, explanatory variables were included indicating the geographical location and neighbourhood deprivation level in Wave 3 (with no missing data) and all the derived variables summarising changes in certain characteristics across the waves. This practice can (1) exclude any influence of changes in certain characteristics in regression models; and (2) capture any time effect of those characteristics collected in different waves. See Appendix 4, which provides a snapshot of the derived combined variables summarising changes in characteristics.

8.3.1.1 Establishing potential explanatory variables for models to assess important predictors of HE entry

The key explanatory variables established in the models for entry to HE are composed of the following batches of variables representing different factors in young people's lives up to the age of 19 in life order:

Birth characteristics

- Sex
- Ethnic group (major)
- Whether English is first or main language
- Single parent status at birth

Socio-economic status (SES) of households

SES can be indicated by a wide range of factors (Sirin, 2005), which are drawn from the following variables available in the Next Steps data:

Secondary schooling stage – Age 13-16

- ***Family composition:*** whether ever single parent status since birth, whether ever stepfamily status since birth
- ***Economic situation at home:*** family's highest NS-SEC class, level of managing on income, free school meal eligibility (FSMe), whether ever received Education Maintenance Allowance (EMA), type of tenure, private household status
- ***Material ownership:*** mobile phone, telephone, home computer, home computer for schoolwork, laptop for school use, access to internet

- ***Private tuition opportunities:*** private lessons in school subjects, private lessons in supplementary subjects
- ***Parental educational background:*** highest qualification held in family

Geographical location and neighbourhood deprivation level

- Government Office Region, Income Deprivation Affecting Children Index (IDACI)

Parental behaviour, attitudes, and aspirations

- ***Parental involvement in schooling:*** the level of parental involvement in school, parental help with homework.
- ***Parental attitudes and aspirations:*** parents' attitudes to their children's education, parental expectations for young people when they reach school-leaving age, parents' expectation of the likelihood of young people going to HE, parent-children relationship indicated by how well the parents get on with their children, frequency of parents arguing with children.

School characteristics

- ***School segregation figures,*** indicated by GS indices (GS for FSM eligibility, GS for SEN with a statement, GS for SEN without a statement, GS for non-white ethnic origin, and GS for EAL).
- ***School features:*** School mobility indicated by whether ever changed school, level of rules/disciplines in school, after-lesson activities, overall school quality, whether ever feel happy at school, whether enjoyed Year 11.
- ***Educational attainment:*** Key Stage 2 (KS2) attainment indicated by KS2 average points score – attainment at the age of 11, Key Stage 3 (KS3) attainment indicated by KS3 average points score – attainment at the age of 14, Key Stage 4 (KS4) attainment indicated by capped GCSE (General Certificate of Secondary Education) and equivalent points score – attainment at the age of 16.

Connexions help

- Whether ever talked to a Connexions Personal Advisor.

Young person's characteristics – attitudes and aspirations

- Young person's attitudes to job/career, young person's attitudes to success, young person's attitudes to social mobility in British society, young person's post-16 plans.

8.3.1.2 Establishing explanatory variables for models to assess important predictors of labour market outcomes

After establishing the potential explanatory variables for models predicting HE participation, the key explanatory variables for labour market outcomes at the age of 25 were established. They are composed of all the explanatory variables established for predicting HE participation plus the following additional variables up to the age of 25:

- *Young person's economic activity*: whether ever employed or did any paid work; whether ever did any apprenticeship; whether ever economically inactive (NEET)
- *FE Entry*
- *HE Entry*: HE entry, Russell group university entry, Oxbridge university entry.

For some individuals, HE can be seen to function as a means of career development (Bathmaker et al., 2016). Adding a further variable indicating HE participation status can help to explore what role HE can play in career development in early adulthood.

8.3.2 Establishing outcome variables for the models to predict post-16 outcomes

After establishing the explanatory variables for all the models predicting post-16 outcomes, the outcome variables were established.

8.3.2.1 Establishing outcome variables for the models to predict HE entry

The binary flag variable applied in the regression models for HE entry is whether the young person ever entered HE. The information on whether the young person was in HE or not was collected in Next Steps Wave 6 and Wave 7 when the young people were aged 18 and 19. A flag variable was created to indicate whether the young person was in HE or not at the age of either 18 or 19.

8.3.2.2 Establishing outcome variables for the models to predict labour market outcomes

The binary variables applied in the regression models for young people's labour market outcomes at the age of 25 were: (1) whether the young person was in employment or not; and (2) whether the young person was in a professional occupation or not. These are the two labour market outcomes of interest in this study. In Next Steps Wave 8, information on young people's employment status (whether employed or not) and their NS-SEC class were collected. Two further flag variables indicating whether the young people were in employment and whether they had professional occupations were accordingly created.

After establishing both the explanatory and the outcome variables for the models in this study, the following section provides the rationale for and background information on some key explanatory variables which need further explanation.

8.3.3 The rationales behind the key explanatory variables

Following the establishment of potential explanatory and outcome variables, this section focuses on the explanatory variables chosen. It provides background information on the key independent variables and explains in detail how their choice was informed by theory, previous empirical work and explanatory analyses.

Birth characteristic measures

Among the mainstream factors relating to social origin (birth characteristics) identified in existing origin-destination research, four variables are available in the data used in this study: sex, ethnic group, whether English is the first or main language and single parent status at birth. These birth characteristics are constant characteristics.

Sex

Sex has been a long-established important factor explored in origin-destination research. Existing analyses show a sex gap in educational attainment in general (David, Weiner & Arnot, 1997; Social Mobility Commission, 2016) and it remains beyond compulsory schooling, with girls more likely to continue in post-16 education (Gorard, 2018). Informed by this research, this study uses sex to explore whether there is a sex gap in the post-16 outcomes of the Next Steps cohort.

It is important to define the variable ‘sex’ in this study. First, a clear distinction needs to be made among three terms: sex, gender and gender identity. The birth characteristic ‘sex’ refers to an individual’s biology, which is assigned at birth and determined by anatomy (Stoller, 1964). For humans, sex is a binary biological categorical variable determining reproductive functions and taking the values male or female (Kashimada & Koopman, 2010). One should be aware that “there is no universal agreement regarding how to define sex either conceptually or operationally” (Glasser & Smith, 2009, p.349). In contrast, the term ‘gender’ is a social categorical variable which refers to the traditions and social roles that are associated with each sex, and so to hierarchical power dynamics between men and women (Scott, 1986; Oakley, 1998). The term ‘gender identity’ refers to how individuals regard themselves psychologically in terms of their sex and gender (Sullivan, 2020). The variable ‘sex’ is encouraged to be used as a basic explanatory variable in social surveys because of its fundamental demographic nature, the need to use it in equality monitoring and its role as an important dimension in analyses of human life (Sullivan, 2020).

Both the Next Steps and the NPD datasets record young people as being either male or female, and ‘sex’ is the measure used in this analysis as a categorical variable referring to the sampled young people’s biological identities assigned at birth as male or female.

Ethnic group

Studies suggest that pupils’ educational outcomes tend to be stratified by ethnicity (e.g. DfES, 2006b; Strand, 2007). Particularly in the context of England, ethnic minorities are found to be linked to economic disadvantage such as family poverty, which is itself linked to life outcomes (Gorard, 2018; Strand, 2007). Following previous research, this study also chooses ethnicity as an important birth characteristic.

The term ‘ethnic’ is derived from the Greek word ‘ethnos,’ meaning people or nation. The term ‘ethnic group’ generally refers to large groups of people classified according to their common racial, national, religious, linguistic or cultural origins or backgrounds (Merriam-Webster Dictionary). In the UK, the term ‘ethnic group’ is often used in social media and public discussions on crucial social issues (e.g. Duncan & Edwards, 2017). There are different official classifications of ethnicity in the UK (for further details, refer to <https://www.ethnicity-facts-figures.service.gov.uk/style-guide/ethnic-groups>). In the Next Steps survey, the young

people's ethnic groups are classified as white, mixed, Indian, Pakistani, Bangladeshi, black Caribbean and black African as the major minority ethnic groups, and 'other.' In England, the ethnic origin of the majority of the population is referred to as white and the main minority ethnic groups are mixed, Indian, Pakistani, Bangladeshi, black Caribbean and black African.

English as a first or main language

The choice to use English as a first or main language as a predictor of life outcomes is more context-focused. In England, teaching is mainly conducted via the English language, suggesting that pupils whose first language is not English can be disadvantaged, at least temporarily, because of the potential language barrier. Previous analyses show that the indicator 'English as an additional language' can be a potential proxy for disadvantage. For example, an analysis by Gorard (2018) shows that pupils whose first language is recorded as an additional language are more likely to come from lower income and ethnic minority family backgrounds. Informed by this, this study explores life outcomes by first language.

Single-parent status at birth

This demographic variable is chosen because previous research shows that single-parent status can be an indicator of a potential risk of low educational attainment, which is likely to be related to HE participation and any further schooling outcomes (Elliott, 2007; Nunn et al., 2007). For example, in Strand (2007)'s analysis, pupils' educational outcomes, especially those of white British pupils, are shown to be affected by whether they live in a single-parent household. A single parent household cannot have more than one person in employment, so it is more likely to have a lower household income. In addition, Strand (2007) points out that single parents are more likely to suffer from both financial and mental stress and so may tend to spend less time looking after their children or being involved in their children's education. All these possibilities can be negatively related to young people's outcomes at school and beyond.

Household SES measures

Previous research generally explores two dimensions of household SES: economic status and resources (e.g. Sullivan et al., 2014) and cultural resources at home (e.g. De Graaf et al., 2000; Elliott, 2007). To a large extent, the use of cultural and economic resources reflects Boudon's (1974) and Breen and Goldthorpe's (1997) theory of primary and secondary effects of social stratification, which is concerned with the relation between cultural and economic inequalities at home and socio-economic status in later life. According to this theory, the primary effects

of social stratification are cultural inequalities, which can influence pupils' cognitive and later academic abilities, while the secondary effects are economic inequalities, which may influence the educational and occupational decisions of pupils from different socio-economic backgrounds. Although there is a certain vagueness in the theory of primary and secondary effects, the idea of distinguishing cultural factors from economic ones based on socio-economic background is useful in explaining differential life outcomes in terms of different background-related elements. This is partly because the cognitive and academic abilities of young people which are assessed for HE admission and employment, together with the knowledge and advice advantaged parents can provide their children with when they are applying for HE or jobs, can be influenced by cultural background. Viewed in this light, not only the traditional economic factors but also some cultural factors might influence both the decisions which young people make and their outcomes in key transition stages such as the move from secondary education to either work or HE. These various cultural and economic factors are also likely to interact.

Informed by Boudon's (1974) and Breen and Goldthorpe's (1997) theory and following this research tradition, this study, therefore, chooses variables which can be used as measures of economic status and material resources at home, indicating the financial wellbeing of the family, and measures of cultural resources in the household, indicating the educational and social support that young people receive from their parents.

Economic status and household resource measures

NS-SEC class (Parental occupation)

Among the factors relating to family economic status examined in previous research, social class is an important one and it is often included in analyses (Sullivan et al., 2014; Goldthorpe, 2016). Social class is commonly indicated by parental occupation. Following this, and because of the availability of this information in the Next Steps data, this study includes parental occupation as an important indicator of socio-economic background.

To measure the socio-economic classification of households, Next Steps adopts 'the National Statistics Socio-economic Classification (NS-SEC) of employment relations and occupational status,' which was developed from the Goldthorpe class scheme. It is an occupation-based classification and contains graded hierarchical levels (see Goldthorpe, 1987, 1997; Erickson & Goldthorpe, 1992; and The National Statistics Socio-economic Classification User Manual,

2005 for details). It matches the employment status of the household reference person (HRP) or the size of the organisation that the HRP works for to a NS-SEC class. The HRP is the person who is considered to be most relevant to the economic status of the household.

As was discussed in Chapter 2, the NS-SEC of the HRP is chosen as the measurement of social class because of its wide coverage and role as a ‘gold standard’ in official measurements of class. The specific NS-SEC family class categories used in this study are: higher managerial and professional occupations; lower managerial and professional occupations; intermediate occupations; small employers and own account workers; lower supervisory and technical occupations; semi-routine occupations; never worked; and long-term unemployed.

Family income related variables

In previous empirical studies, like parental occupation, family income has been widely used as an important indicator of socio-economic background and has been consistently identified as one of the most influential factors (Chevalier et al., 2005; Ermisch & Francesconi, 2001; Rutkowski et al., 2018). As will be discussed in section 8.4, the income band variable is not chosen as an independent variable in the regression analysis because of its high proportion of missing data. Instead, this study chooses the following three variables which indicate low income to compensate for the low quality of the income variable. These can be equally useful. Since the most disadvantaged pupils are of most concern in this study, the potential inequality between the most disadvantaged (the poorest) and everyone else is much more pressing as a social justice issue than that between the advantaged and the most advantaged.

Free School Meal Eligibility (FSMe)

UK education research, and particularly studies using administrative data, frequently adopts eligibility for free school meals to proxy family/household income (Hobbs & Vignoles, 2010). Based on an analysis of data from a nationally representative survey in England, the Family Resources Survey (FRS), Hobbs and Vignoles (2010) assess the validity of FSMe as a proxy for family income and find that children who are eligible for FSMs are much more likely than their peers to be in households with the lowest income. Gorard (2009) similarly points out the usefulness of FSMe as an indicator of disadvantage, especially in social justice research.

The other reason that FSMe in England is widely used as an important indicator of deprivation and a key proxy for disadvantaged family socio-economic background is because of its simple

binary legal definition. Data on FSMe have been continually officially collected from all maintained schools for more than two decades and they are commonly used as an official estimate of potential educational disadvantage. FSMe is based on legal criteria, which were established in the Education Act 1996, defined by the DfE, and updated in April 2018 with the introduction of Universal Credit (see DfE, 2018a and 2018b for the latest details on FSM eligibility criteria). Families who are entitled to FSM must be claiming one of several benefits because their annual gross income is below a certain annual income threshold. This figure was £13,480 when the Next Steps survey was conducted. Put simply, FSMe indicates all students known to be living below the official poverty line (Gorard, 2009).

Admittedly, there are three potential disadvantages in using FSMe as an indicator of household economic circumstances: (1) unlike variables such as gender and ethnicity, which stay constant, FSMe can change as it is possible for pupils to move in or out of FSMe status during their school years because of changes in their family economic circumstances; (2) FSMe can only indicate severe levels of family poverty and does not discern the level of income disadvantage in a more nuanced manner. For example, the cohort of pupils not eligible for FSM can be very heterogenous, ranging from households just above the FSMe threshold to ones which are extremely affluent; (3) there is also a possibility that some families which would be eligible for FSMs can be missed out simply because they did not apply for them for various reasons.

Despite these possible disadvantages, FSMe is still a key binary variable in research because of its long-established use and wide coverage. For this study, whether the sample were eligible for FSM at age 15 is available. For the reasons stated above, FSMe is chosen as a flag variable indicating whether a young person comes from a household which is officially classified as having a household income below the poverty line, which is an indicator of socio-economic disadvantage. Much the same logic applies to the next two indicators of poverty: eligibility for the education maintenance allowance and living in rented housing.

Education Maintenance Allowance (EMA) eligibility

The Next Steps datasets contain information on young people's receipt of maintenance grants, bursaries and/or benefits. EMA is an income-assessed weekly allowance aiming to support 16-19-year-olds from low-income families so they can continue their education beyond the age of compulsory education. It is also an important indicator of low family income. It was terminated in England at the end of the 2010/2011 academic year.

Household tenure

There is a tendency for social mobility research to include ‘home learning environment (HLE),’ “a term used to encompass a range of factors in homes shown to be conducive to a child’s learning” (Social Mobility Commission, 2016, p. 1), such as the type of house tenure, in the analysis. There is research evidence showing that living in rented housing can be related to low educational attainment (e.g. Chevalier et al., 2005; Grisay, 1997; Strand, 2007). To some extent, rented accommodation status is related to household poverty and insecurity, which can be detrimental to children’s academic development and aspirations (Strand, 2007).

Informed by this existing evidence, this study includes household tenure in the analysis to further explore the potential risk of disadvantaged status in the Next Steps data. In the Next Steps survey, household tenure refers to whether the family owned its house or not, and whether the house was private or not. Houses which were owned outright or bought with a mortgage or bank loan are considered owned, while houses which were rented or occupied under some other arrangement are considered not owned. Living in a private house means not living in a hotel or another institution. While living in an owned or private household may not indicate a household economic advantage, not living in an owned or private house can be an indicator of a severe level of economic disadvantage as it is likely that the parents could not afford to purchase a house of their own or they could be new arrivals or traveller families.

Material resources at home

The HLE can also be indicated by ownership of material resources in the household, which serves as an important indicator of economic circumstances at home. Some studies report that availability of home resources is positively related to pupils’ academic development (e.g. De Graaf et al., 2000). For example, Strand (2007)’s analysis shows that not having a home computer has a negative impact on pupils’ academic attainment.

Inspired by the HLE concept widely used in the literature and following previous empirical work, this study also includes independent variables relating to material resources at home to examine their potential role in pupil outcomes. These include access to a mobile phone, a home computer, internet and a laptop. These resources can be used as educational facilities to aid pupils’ learning and educational success. Whether and the extent to which ownership of home

material resources makes a difference to outcomes at and beyond school is one concern in this study.

Access to private tuition

Besides material resources at home, parents' provision of private tuition is also examined in previous research. For example, Strand (2007) reports that private tuition access is strongly related to pupils' progress at school. Access to private lessons can, to some extent, reflect family economic circumstances or even social status. Having private lessons can potentially give young people an advantage in education as they are likely to get extra academic support from private tuition.

Following Strand (2007), this study chooses to include private tuition access in the analysis as another indicator of young people's family economic status and extra academic support that the young people received and to explore whether it plays a role in pupil outcomes.

Parental educational background measures

Parental educational qualifications

Another important background-related factor which has been frequently examined in social mobility research and identified as influential is parental education level (e.g. Argentin & Triventi, 2011; Ermisch & Pronzato, 2010; Sullivan, Ketende & Joshi, 2013). There is empirical evidence in the international context showing that parental education is closely linked to life outcomes such as chances of getting a degree (e.g. Sullivan, et al., 2014; Triventi, 2011). Given the importance of parental education as a key factor predicting pupil outcomes as is shown in numerous empirical studies, this study considers parental education to be a factor that cannot be ignored when predicting the cohort's post-16 outcomes. More specifically, the highest qualification in the family is chosen as an important indicator of parental educational background. Next Steps collects data on the highest qualification in the family, and it is categorised in the following seven levels: degree or equivalent; higher education below degree level; GCE A Level or equivalent; GCSE grades A-C or equivalent; basic low-level qualifications; other qualifications; and no qualification.

Measures of parental behaviour, attitudes and aspirations

Another factor in social mobility which is frequently covered in the literature is parental behaviour (commonly indicated by parental involvement in schooling), attitudes and

aspirations (Johnson, McGue, & Iacono, 2010; Richards et al., 2016). However, See and Gorard's review of studies on the effect of parental interventions in children's attainment presents a mixed picture (See & Gorard, 2015a, b). To contribute to this inconsistent evidence, this study includes these independent variables to explore what the picture looks like for the Next Steps cohort. As Gorard (2018) points out that evidence on the link between parental aspirations and engagement in schooling is only convincing when background factors are not taken into consideration, this study explores this by controlling for socio-economic background in the regression analyses.

Parental-support-related factors, including the level of parental involvement in young people's schooling and whether parents helped with homework, to a certain extent reflect extra support young people received from their families. Parents' aspirations for their children's education, for example whether parents wanted their children to continue in post-16 full-time education, indicate parental support for young people's education, and parents' aspirations might influence young people's decisions on whether to continue in full-time education. One hypothesis here is that parental aspirations might be positively related to young people's performance both in their education careers and in the labour market, but this link may be much weaker compared to family-background-related factors.

Neighbourhood deprivation measures – the Income Deprivation Affecting Children Index (IDACI)

Particularly in recent years, geographical and neighbourhood characteristics have been a popular focus in social mobility research (Social Mobility Commission, 2017, 2020) and there has been increasing evidence showing that living in an economically disadvantaged area is linked to poorer life outcomes, including educational attainment and participation in post-compulsory learning (Gorard, 2018; HEFCE, 2005; Strand, 2007). Living in a poor area can be indicated by the IDACI, which is available in the data.

Here is some background information about the IDACI. The geographical IDACI indicator, an ONS-derived index, indicates neighbourhood deprivation and serves as an important proxy for economic disadvantage. IDACI relies on census data and identifies neighbourhoods where children are more or less affected by income deprivation by ranking them according to the proportion of children under the age of 16 living in low-income households. IDACI is defined for small geographical areas in England: 'Lower-layer Super Output Areas' (small areas with

an average of about 1,500 residents or 650 households). This classification of small areas according to the proportion of children living in income-deprived families is used as a useful way to proxy the general household income levels in certain areas. It is also used as a measure of family poverty and as a broader measure of educational disadvantage in the household.

Informed by neighbourhood deprivation being identified as an important risk factor in life outcomes and because of the availability of official data, this study includes neighbourhood disadvantage as a key independent variable in the regression analysis.

Educational attainment measures

Empirical evidence has clearly established that prior school attainment is the main predictor of later life outcomes such as access to HE (Gorard et al., 2007; Gorard et al., 2019). Therefore, pupils' previous test scores will have a strong effect in any investigation of other factors that play a role in predicting post-16 outcomes. As a result, most previous work has adopted regression techniques to control for previous educational attainment as a confounding element in predicting outcomes beyond school.

Following this common practice and informed by previous evidence, there are two main purposes for choosing educational attainment as an independent variable in the regression analysis: one is to explore the extent to which educational attainment is linked to post-16 outcomes when family background is controlled for; the other is to enter educational attainment variables as covariates in the regression analysis to examine what factors are effective predictors of post-16 outcomes when both family background factors and previous attainment are taken into account. The educational attainment data chosen in this study come from the NPD for England and indicate educational attainment scores at three key stages: KS2 average points score, indicating KS2 educational attainment; KS3 average points score, indicating KS3 educational attainment, and capped GCSE and equivalent points score, indicating KS4 educational attainment.

School segregation measures

As is discussed in Chapters 4 and 5, a factor which has been largely ignored in the social mobility literature is school segregation. To fill this gap, this study employs school segregation as a key predictor in the regression analysis.

‘Wider opportunities’ measures

Two of the independent variables included are considered ‘wider opportunities’ in young people’s school careers and post-16 outcomes. These are: (1) apprenticeship experiences; (2) whether the young people ever talked to a Connexions Personal Advisor. The rationale for including them as predictors is as follows. First, reviewing the literature, there has been a debate on whether an apprenticeship is a ‘silver bullet’ in improving social mobility. While some studies find that an apprenticeship enhances chances of being employed, especially for the disadvantaged (Arum & Shavit, 1995; Gambetta, 1987), other research in various countries such as Germany (Reimer & Pollak, 2010), Italy (Pisati, 2002), Sweden (Berggren, 2008) and France (Deer, 2005) finds a pattern of poor children being more likely to choose to do an apprenticeship while their richer peers are more likely to go into HE and study subjects leading to professional occupations. Inspired by this debate and these findings, this study uses apprenticeship status an independent variable to examine this issue in the UK context by exploring the role of apprenticeships in employment chances and professional occupation chances.

Second, the Connexions Personal Advisor-related variable was chosen to assess the practical effectiveness of the Connexions Service in young people’s HE and labour market outcomes. In England, the Connexions Service offers information, guidance, advice and personal development support to young people aged 13 to 19. The Connexions Personal Advisor offers young people support to help them deal with various issues, including helping them to evaluate their aspirations and providing them with career advice. Given that a large amount of money has been invested in this service, it is necessary and important to assess its effectiveness in real life. However, previous empirical research has hardly touched on this. This study, therefore, innovatively includes use of the Connexions service as a predictor variable to explore its real-life value.

Economic inactivity measures

NEET is an acronym for ‘not in education, employment or training’ (Social Exclusion Unit, 1999). It has been established in the literature that young people who are NEET are more likely to suffer from poverty and may also lack the skills to improve their financial situation, thus being at risk of social exclusion (Social Exclusion Unit, 1999; OECD, 2021). Studies also find that NEET status can be associated with wider risk factors such as psychological and health problems (e.g. Henderson, Hawke, & Chaim, 2017). NEET status, therefore, is a useful factor

to explore in this study. Although I am aware that there is some debate on the accuracy of the term (e.g. Furlong, 2006; Yates, & Payne, 2006), this analysis adopts the NEET status variable to indicate economic inactivity of young people because of its well-established use, especially in UK government official datasets.

8.3.4 Establishing variables indicating potential disadvantages of young people in Next Steps

As the last research question examines the gap in HE participation and labour market outcomes between disadvantaged young people and their peers in Next Steps, this section establishes a measure of the main potential disadvantages of young people. The indicators of disadvantage are grouped in five domains, as follows:

- Potential disadvantage at birth: single parent family at birth; English not being the first or main language;
- A lack of socio-economic resources at home: parents who were long-term unemployed; low household income; house not owned; young people being eligible for FSM;
- A lack of cultural and educational resources at home: a lack of material ownership such as a home computer for school use; parents had no qualifications; low parental aspirations for post-16 education;
- Neighbourhood poverty: high IDACI;
- School composition effects: high GS indices.

Further detailed information on the characteristics of the disadvantaged young people in the Next Steps survey is explored in chapter 9.

8.4 Key decisions made because of the quality of the indicators

After establishing all the potential explanatory variables, the primary data in the file was cleaned. An exploratory descriptive analysis was conducted to identify the missing data for all the variables to assess the quality of all the possible indicators and determine which of them were valid to be used in the analysis. It aimed to explore the completeness, the quality and the significance of the data, which are essential factors to conduct any rigorous research (Gorard, 2015).

One important indicator of family background that was initially taken into consideration was bands of household income. The Next Steps questionnaire contains an item that asked parents to report their household income. Household income was coded in six bands, ranging from very small ranges below or equal to £5200 per annum to wider ranges at the higher end of the continuum (e.g. £33,800.01 to £41,000 per annum).

This variable was chosen for inclusion in the univariate analysis and the bivariate analysis so that it can contribute to the general picture of the analytical sample. However, in the regression models, it was treated as non-viable and was not included in the regression analysis due to its high proportion of missing data, which suggests that too many cases would be lost in the modelling of the links with post-16 outcomes. Additionally, there is a concern that the collection of self-reported economic data can be unreliable (see, e.g., Moore et al., 2000; Hobbs & Vignoles, 2009) and income data, being sensitive information, are in particular likely to be non-response biased and mis-estimated by respondents. For all these complex reasons, following other authors (e.g. Jenkins & Levacic, 2006; Strand, 2007), the regression analysis uses other proxies for family SES – NS-SEC class and FSMe – instead of family income. For all the other valid variables, missing data were identified and how to treat them was decided to mitigate potential biases in the analysis and limit the possibility of the results being unreliable.

Another important indicator of educational attainment that was initially taken into account is ‘Total A Level and equivalent points score’ (KS5 attainment). However, it was decided not to use this in the analysis because of its high rate of missing data, in both the initial sample and the analytical sample (see Appendix 5). A relatively high proportion of the sample did not choose to continue in post-16 education and so did not have A Level results.

The linkage rates for the 2004 to 2006 school segregation data were carefully examined. After an assessment of the data quality, segregation indices for 2005 were chosen as indicators of school segregation characteristics, as the number of school cases in the NPD year 2005 file is the highest of the three years (see Table 8.2) and they reached a full linkage rate so that every case was matched to a valid segregation index so the result would not be biased (see Appendix 6 for the specific linkage rates, which shows that all the linkage rates are reasonably high, and this linkage performs even better for the analytical sample in this study).

8.5 Handling missing data due to item non-response

This section explains how missing data are treated in the analysis in this study, and contrasts the approach with other common approaches to dealing with missing data.

The decision on how to handle missing data was based on the following factors: (1) contextual information on each variable, i.e. the kind of information the variable collects; (2) the specific reasons for data being missing data for each individual variable; (3) the type of indicator, and (4) the analytical purpose that the indicators are used for.

One common approach that analysts use when dealing with cases missing data is simply omitting them and only working with the cases where there are no missing values (Gorard, 2021). In contrast, in this study, all cases with missing values are retained. This study acknowledges that missing values are not simply missing at random and must be respected. The rationale for this decision is as follows.

First, simply deleting missing data reduces the number of valid cases, thus limiting the trustworthiness of the analysis (Sterne et al., 2009). This is especially true in a multivariate model such as a regression model (which is the case in this study) when deleting cases with missing values would substantially reduce the number of valid cases (Gorard, 2021). Therefore, cases with missing values cannot simply be deleted as this could result in high attrition and a high potential for bias (Gorard, 2010).

Second, cases with missing data are often systematically different to those with complete data (Gorard, 2012b; Gorard & Siddiqui, 2019; Silverwood et al., 2020). Analysing only data on complete responses, therefore, produces knowingly biased results (Swalin, 2018). There is some research evidence showing that this is especially true when dealing with both longitudinal data and administrative data. For example, Siddiqui, Boliver and Gorard (2019) show that in a longitudinal dataset, poorer respondents are often more likely to drop out in later survey waves, and this inflates estimates of average household income. Using the administrative data on England in the National Pupil Database, Gorard (2012b), demonstrates that it is often the most disadvantaged cases that do not have valid data. Because this study deals with both longitudinal data and administrative datasets, it is even more important for this study to keep the missing data.

Given that all cases with missing values in the established core analytical sample are retained, the specific techniques used were: (1) for nominal variables which have more than two well-defined categories, for example variables on the family's NS-SEC class, missing values were retained and created as a further 'not known' category, indicating that the data are missing and we do not know what information the respondent had. This extra category can be useful because it can be used to analyse the characteristics of the missing cases, and the new category indicating missing data can be used as an explanation in any substantive analysis (Gorard, 2020); (2) for binary variables in which the analytical interest is in whether the respondent has a certain characteristic or not, for example, whether the young person has his/her own mobile phone or not, the missing values were recoded in the category 'not known to have a certain characteristic' and a new variable was created recording whether the original value was missing or not; (3) for real-number continuous variables, i.e. attainment scores, the missing values were replaced with the national average value for this cohort.

This third approach, replacing missing attainment scores with the overall mean score, is not a perfect solution but it is considered to be the best solution to retain all the cases. As Gorard (2021) points out, for any real number variable, a simple approach keeping cases with missing values is to replace them with a default value and a reasonable default value could be the overall mean score for all the cases with values. This is because in this way, the mean for the variable does not change and the replacement does not have an undue influence on the substantive findings.

A common alternative approach to dealing with missing data for real number variables is 'imputation,' which is a way of replacing the missing value by figuring out what any missing value might be by considering cases with a value. There are two main types of imputation: simple imputation and multiple imputation. Simple imputation is done by creating a predictive regression model where the dependent variable is the variable with missing values and the independent variables are all the other relevant variables. The replacement for the missing value of the variable is the multivariate composite value that similar cases which do not miss a value have.

Multiple imputation is a more complex approach in which the same predictive regression model is run many times and the multiple results are either combined or averaged to create an

overall predicted missing value. This, as Brunton-Smith et al. (2014) have pointed out, adds variability to the predicted missing values which represents their proposed distribution. However, imputation is often not performed appropriately. Gorard (2021) argues that neither simple nor multiple imputations should be used because both of them are based on the assumption that all missing data are ‘missing at random.’ As missing data are likely to be missing for a reason, this assumption is seldom met. Besides, Gorard and Siddiqui (2019) point out that using imputation to ‘predict’ missing values based on the data available is more likely to cause bias and to affect the associations between items than a simpler approach such as using the average value, which is what this study adopts. For the reasons stated above, this study does not use imputation to predict missing values, which has been inappropriately used in many other studies.

Advantages of this study’s treatment of missing data compared to alternative approaches

There are some main advantages of the strategies adopted in this study to deal with missing data: (1) rather than deleting or ignoring the cases with missing values, which is routinely done by many researchers, retaining all missing data prevents data loss and mitigates potential biases in the analysis resulting from missing data, thus allowing direct modelling of missing data rather than imputing values; (2) especially for binary variables, merging missing values into an existing category makes the variables simple enough for analysis while still retaining the information of interest; and (3) for nominal variables with more than two categories, the category created representing the missing values contributes to full use of the reported data and provides an opportunity to examine the specific characteristics associated with the cases with missing values, i.e. what we know about these cases. Furthermore, the fact that variables have missing data can have a predictive value.

After the discussing the treatment of missing data in this study and its advantages, the next section moves on to discuss the data analysis and modelling. It will explain how specific analyses are conducted to address each research question.

8.6 Analysis and modelling

This section explains in detail how the analyses were conducted to address the RQs. Table 8.3 summarises the analytical methods used for each RQ in this study.

Table 8.3 Summary of the methods of analysis to address each RQ

Research question	Methods of analysis
1. How do school attainment, HE participation, HE degree outcomes and labour market outcomes vary between different socio-economic groups of young people?	Percentages, effect size, cross-tabs, Pearson correlation
2. Is the level of SES (socio-economic status) segregation experienced at school linked to an individual's post-16 destination once their birth and background characteristics are taken into account? If so, what role does school segregation play in post-16 trajectories?	Pearson correlation, binary logistic regression models
3. What factors are important predictors of HE participation? How does HE participation link to birth characteristics, socio-economic background and other socio-economic factors?	Binary logistic regression models
4. What factors are important predictors of labour market outcomes? How do young people's labour market outcomes link to birth characteristics, socio-economic background and other socio-economic factors?	Binary logistic regression models
5. What are the deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers?	Cross-tabs, Pearson correlation, binary logistic regression models

8.6.1 Descriptive analysis – kinds of analyses conducted

A general description of the analytical sample – an exploratory approach

First, to build a general picture of the main characteristics of the analytical sample at different life stages from birth to age 25, a descriptive analysis of the distributions of the values for each established variable was conducted. For categorical variables, the percentages of each valid category for every variable are presented. For real numbers, means and standard deviations are presented. For real numbers relating to key stage educational attainment scores, means, standard deviations, modes, minimums, maximums and percentile scores are presented. Second, to evaluate changes and/or the stability of sample characteristics over time, the characteristic variables (all of them are categorical variables) were selected. All these repeated categorical variables were then cross-tabulated with each other across each available wave, and

the percentages of the young people who made a change are presented. These descriptive analyses are both necessary and helpful to further explore the variables of interest and to set the scene for the research questions.

8.6.2 Differential outcomes for different groups of young people – standardising the differences and correlations

To answer the first RQ on how educational attainment, HE participation and outcomes, and labour market outcomes vary between young people from different socio-economic groups, different types of bivariate analyses were conducted to standardise the differences in order to reveal differential outcomes at school and beyond. For differences in educational attainment, means were compared. Achievement gaps, for example those between males and females or between different ethnic groups, are presented using effect sizes, which are calculated as the difference between means divided by their overall standard deviation (SD).

An effect size is a way of quantifying the difference between two groups which puts the emphasis on the size of the difference rather than confounding it with the sample size (Coe, 2002). Admittedly, in some circumstances the effect size can apparently be influenced by the sample size (Cheung & Slavin, 2016). However, when the sample is large enough ($n \geq 250$), the effect size is meaningful. Since 1994, the American Psychological Association has been officially encouraging authors to report effect sizes in their papers (Wilkinson et al., 1999). Therefore, effect size is chosen in this study to report and interpret the achievement gaps between different socio-economic groups of young people. To interpret effect size, many researchers use a rule of thumb from Cohen (1988) in which a predicted difference can be considered small if $d = 0.2$, medium if $d = 0.5$ and large if $d = 0.8$. However, Cohen himself acknowledges the limitations of adopting this approach out of context and others agree that there is no single standard to decide when an effect size is large or small (e.g. Slavin, 2018). How big an effect size is should be judged in the specific context (Coe, 2002) and by comparing it to those in similar studies with similar measures and designs (Hill et al., 2008).

For differences linked to HE outcomes, the outcome variable (HE participation and degree outcome) was cross-tabulated with each key contextual variable, and the percentages of young people by different categories for each contextual variable are presented. The same analysis process was conducted for differential labour market outcomes (whether employed or not, and whether in a professional occupation or not). Correlation analysis was also used. Some key

potential explanatory factors, such as IDACI and prior educational attainment, were selected to assess whether they correlated with each other and whether any of them correlated with HE participation, the young people's NEET status by age 19 and their labour market outcomes. The reason for including NEET status in the correlation analysis was that it was identified as an important factor predicting employment status. Pairs of real number variables were correlated using Pearson's R. Real number and binary variables were correlated using point-biserial correlation in R. These correlation analyses were conducted to evaluate how these selected factors were related to post-16 outcomes when analysed separately, before combining them with other variables in the regression models in the next stage.

8.6.3 Modelling

The second, third and fourth RQs were mainly addressed using binary logistic regression modelling to explore the relationships between key predictor characteristics and outcome characteristics.

This section first explains the general practices that were applied in all the regression analyses in this study. A logistic regression model predicts the probabilities of a binary outcome and provides the relative odds (e.g. the probability of HE entry/the probability of not having entered HE; the probability of being employed/the probability of not being employed; the probability of having a professional occupation/the probability of not having a professional occupation). Regression modelling was used to explore the longitudinal nature of the data through a hierarchical approach, and to examine young people's trajectories as they progressed through secondary schools on to HE and then to the labour market up to the age of 25. It is necessary to point out here that it is impossible to determine any causal relationship from the analyses. This analysis can only provide some hypotheses. The results from the regression models can only provide estimations for judgement to be made (Gorard, 2003a). In general, all the regression models were developed over a considerable period of time, covering young people's secondary schooling stages and capturing the key transitional stages (ages 16, 18 or 19) of the individual early life course in a cumulative manner. The aim was to identify the unique contribution of important factors to variations in HE participation and labour market outcomes while controlling for other factors. All the established explanatory variables were entered in the models in biographical order.

Regarding the regression modelling, three basic procedures were followed and they were applied to all the relevant regression models (to be discussed in detail in the following sections). First, following Gorard and Rees (2002), the explanatory variables were entered in the models in different separate ‘blocks,’ representing different aspects roughly in life order. There are three key stages before the sample reached age 25: birth, secondary schooling (age 13 to 16) and post-16 (age 17 to 19). Accordingly, the first block was always the batch of variables relating to birth characteristics. This was then followed by blocks representing different aspects of young people’s lives at the secondary schooling stage, such as SES at home and school characteristics, and finally followed by blocks representing different aspects of young people’s lives at the post-16 stage. In this way, each block of variables can only improve the prediction of the outcome(s) based on the previous block(s), and therefore can only explain the remaining variation unaccounted for by variables in the previous block(s).

Second, following White and Selwyn (2013) and unlike most regression modelling adopted in social science research, for the regression models to predict employment status at the age of 25, because the binary outcome employment status variable is unevenly distributed (i.e. 17.1% of the sample were unemployed and 82.9% of the sample were employed), the data were re-sampled randomly to create sub-samples in which the number of cases not in employment were in similar proportion to the number of cases in employment. This process was run several times. As a result, the final regression model predicting employment status was derived from three binary logistic regression models and the average results were adopted. This approach was conducted with the aim of achieving the most adequate, trustworthy and valid results possible, and the final model was rigorous. This is a useful way to construct meaningful models, especially when dealing with binary variables that are unevenly distributed (White & Selwyn, 2013).

Third, while the variables in the univariate analysis were kept in their original forms (see sections 9.1 and 9.2) to provide as rich as possible a picture of the sample characteristics, for the bivariate analysis and regression analysis a small number of case responses were ‘collapsed’ into a smaller number of categories to simplify the results. Decisions were made on a variable-by-variable basis and the variables were only collapsed when: (1) the univariate analysis showed a distinct divide between fewer categories; and (2) the multivariate analysis suggested a greater explanatory power when the variables were in their modified forms than in the original forms. For example, the variable indicating parental aspirations for young people’s

post-16 education was originally in the form of five categories – ‘continue in full time education,’ ‘start learning a trade or get a place on a training course,’ ‘start an apprenticeship,’ ‘get a full-time paid job’ and ‘something else.’ A univariate analysis showed that there was a distinct divide between parents wanting the young person to continue in full-time education and parents not wanting this. A further multivariate analysis demonstrated that this variable had stronger explanatory power in predicting the outcome when it was converted into two main categories – ‘wanting the young person to continue in full time education’ and ‘not wanting the young person to continue in full time education.’ Therefore, a decision was made to ‘collapse’ the five original categories into two simple categories.

8.6.4 Contrasting logistic regression modelling with alternative approaches

While regression analysis is broadly applied in social mobility research, researchers are often faced with the choice to decide on the model most appropriate for their studies. Besides the logistic regression modelling used in this study, the other common approach is multilevel modelling (MLM). This section contrasts logistic regression modelling with MLM to further justify the choice to adopt logistic regression modelling in this study. While logistic regression is a standard traditional regression technique, MLM is a more complex form of regression analysis and has been argued to constitute a specific advance on previous multiple regression techniques (Miles & Shevlin, 2001).

A general assumption in regression models is that cases are independent of each other. However, in real life this assumption is likely to be flouted because some cases can be auto-correlated with each other. For example, there can be between-school differences in which pupils in one school might perform more like each other than like pupils in a different school. MLM is based on acknowledgement of this inherent nature of much social science data (Gorard, 2003b) and is based on the perception that the hierarchical nature of real-life data should be reflected in regression techniques (Goldstein, 2003). MLM, therefore, takes group-level differences into consideration and is held to increase the accuracy of results by drawing group-specific regression lines before making an overall regression estimation (Hazlett, & Wainstein, 2020).

MLM is frequently used in school effectiveness studies. However, although MLM considers school-level differences, whether the MLM approach is better than the traditional standard regression approach remains a subject of dispute. In fact, it is unclear when MLM can be

appropriately applied and many researchers do not use MLM appropriately. As Gorard (2003b) points out, MLM can only be appropriately applied when there is a cluster-random sample, as the model is based on auto-correlation of cases. The key conditions for applying MLM are a defined population of clusters from which a sample of clusters is selected at random and that there should be no non-response, no drop-out and no replacement (Gorard, 2003b). Torgerson and Torgerson (2001) further argue that if this condition is not met, then the claimed increased accuracy of results from using MLM will be more than lost because of the design bias.

Although the data in this study are at the school level, MLM is not appropriate for this study because the sample is not cluster-random. This is the main reason why MLM is not chosen for the analysis. By applying multi-stage logistic regression modelling where school-level variables are entered in a block separate from the individual-level variables, this study achieves the same effect as taking school-level differences into account in MLM would. Standard single-level regression analysis using aggregated school-level variables as ‘clustered’ variables in real practice fully replicates a multi-level analysis. As Kreft (1996) points out, compared to more complex techniques such as MLM, there are simpler ways that do not need more than one iteration but can achieve the same effect.

Besides this key condition of a cluster-random sample, which makes MLM not suitable for this study, there are other limitations of MLM which make it not a safe approach in this analysis. These limitations include ignoring competing non-nested hierarchies, being incompletely theorised, being difficult to explain and creating greater bias because MLM reduces the sample size in each cluster to the lower level of any multi-level model (Gorard, 2003b). Some researchers, therefore, call for stronger research designs, bigger sample sizes and high-quality data rather than relying on newer complex analytical techniques (Brighton, 2000; Gorard, 2003b).

After showing a general picture of the logistic regression analysis in this study and justifying using logistic regression modelling by contrasting it with MLM, the following sections explain in detail how the correlation analyses and regression modelling were conducted to address each of the specific RQs.

8.6.3.1 The link between school segregation and post-16 outcomes

The second RQ exploring the role of school segregation in post-16 outcomes is the key question to be addressed in this study. First, school segregation indices and the three binary outcome variables (whether ever entered HE or not, whether employed or not aged 25, and whether in a professional occupation or not aged 25) were correlated using point-biserial correlation in R (a special case of Pearson's R correlation) to assess how school segregation is related to the key outcomes when entered separately.

In addition to snapshots of correlations between school segregation and key post-16 outcomes, in a second stage regression models were built to assess whether school segregation adds predictive accuracy to that of the previous characteristics in predicting all the key outcomes. For each of these three regression models, the batch of GS indices were entered in the model following the blocks of birth characteristics and background characteristics to assess whether and to what extent school segregation contributes to the predictive ability of the model when these prior characteristics are taken into account. In each regression model, the main interest lay in the percentage of remaining variation explained by each stage of the model, which revealed how the set of school segregation characteristics increased the predictive accuracy of the models.

8.6.3.2 Important predictors of HE participation and the link between birth characteristics, socio-economic background, other socio-economic factors and HE participation

To address the third RQ, two stages of analysis were performed. First, a regression model was built to assess which factors were important predictors of HE participation, which is the first part of the question. The first block entered represents birth characteristics, and then different batches representing different aspects of young people's lives from age 13 onwards were entered in the model separately to assess how much each batch of variables contributed to the predictive accuracy of the models when birth characteristics are controlled for. The interest lay in the changes in the predictive accuracy of the model to evaluate whether and to what extent each batch of variables added power to the prediction percentages.

In this first stage, all the potential variables available in the data are included in the regression models. The rationale for including all these variables is that confounding variables can

influence the causes and the effects of the independent variables, and omitting confounding variables from the regression models can confound assessment of any genuine relationships and therefore bias the coefficient estimates (Frost, n.d.). It is therefore important to include all the potential variables in the regression analysis.

Table 8.4 provides a snapshot of the batches of variables entered in the regression model (for the specific variables included in each batch, refer to section 8.3.1.1) to assess the important predictors of HE participation.

Table 8.4 Batches of variables entered in the regression model to assess the important predictors of HE participation

	Block
0	Base
1	Young person's characteristics at birth
2 Age 13-16	Family composition
	Economic status at home
	Parental educational background
	Material ownership
	Private tuition
	Parental involvement in schooling
	Parental attitudes and aspirations
	Geographical location and neighbourhood deprivation level
	Connexions personal advisor
	School features
	KS2 and 3 educational attainment
	Young person's attitudes and aspirations

Second, after assessing which factors were important predictors of HE participation, a different regression model was constructed through an iterative process to assess how factors were linked to HE participation, which is the second part of the question. The aim was to achieve the simplest model to create a result with the highest percentage of correct results while including the smallest set of powerful predictors with relatively stable coefficients. Initially, all the variables established were entered in the model, and then they were either removed or

retained according to their contribution to the predictive accuracy of the model. Judgements on the inclusion or removal of the variables were based on their predictive power and the principle of parsimony of including the simplest and fewest predictors. The variables retained in the model were identified as the strongest among all the potential variables.

Table 8.5 provides a snapshot of all the variables finally chosen to be entered in the regression model to predict HE participation.

Table 8.5 Variables entered into the regression model to predict HE participation

	Block	Variables in block
1	Young person's characteristics at birth	Sex of the young person
		Ethnic group (major)
		Whether English is first or main language
		Single parent status at birth
2	Socio-economic background	Family's highest NS-SEC class
		Highest qualification held in family
		FSM eligibility
		Home computer for schoolwork
		IDACI
3	School features and educational attainment	Whether ever felt happy at school
		KS3 average points score
		GCSE and equivalent points score
4	Parental aspiration	Parental aspiration for FT education
5	Young person's aspiration	Young person's aspiration for FT education

Note. NS-SEC = The National Statistics Socio-economic *Classification*; IDACI = Income Deprivation Affecting Children Index; GCSE = General Certificate of Secondary Education; FT education = Full-time education

For this model to predict HE participation, the main interest lay in the following two indicators: (1) the percentage of variation explained by each stage in the analysis, which revealed how knowing certain sets of explanatory variables increases the predictive ability of the model; and (2) the Exp (B) of each baseline variable, which compares the odds of one outcome (in this case, HE entry) for one group of young people with the odds for another group of young people,

producing an odds ratio. For categorical explanatory variables, Exp (B) compares the odds for each subgroup of the variable with the chosen reference category. For real number variables, Exp (B) presents the changes in odds ratios with a one-unit increase in the explanatory variables.

8.6.3.3 Important predictors of labour market outcomes and the link between birth characteristics, socio-economic background, other socio-economic factors and labour market outcomes

The third RQ was addressed following the same procedure as that used for the second RQ. The only differences were slightly different batches of variables being entered in each regression model.

For the correlation analysis, two key potential factors – IDACI and prior educational attainment – were selected to assess whether either was correlated with young people’s NEET status by age 19 and their labour market outcomes respectively. The reason for including NEET status in the correlation analysis was that it was identified as an important factor predicting employment status.

For the regression analysis, Table 8.6 provides a snapshot of the batches of variables included in the regression model to identify the important predictors of employment status (for the specific variables included in each batch, refer to section 8.3.1.2), and Table 8.7 provides a summary of all the variables finally chosen for inclusion in the regression model to assess how factors are linked to employment status.

Table 8.6 Batches of variables entered in the regression model to assess the important predictors of employment status at age 25

	Block
0	Base
1	Young person’s characteristics at birth
2 Age 13-16	Family composition
	Economic status at home
	Parental educational background
	Material ownership

	Private tuition
	Parental involvement in schooling
	Parental attitudes and aspirations
	Geographical location and neighbourhood deprivation level
	Connexions personal advisor
	School features
	KS2, 3 and 4 educational attainment
	Young person's attitudes and aspirations
3 Age 17-19	Economic activity
	FE entry
	HE entry

Note. FE = Further Education; HE = Higher Education

Table 8.7 Variables entered in the regression model to predict employment status at age 25

	Block	Variables in block
1	Young person's characteristics at birth	Sex of the young person
		Ethnic group (major)
		Whether English is first or main language
		Single parent status at birth
2	Socio-economic background	Family's highest NS-SEC class
		Highest qualification held in family
		FSM eligibility
		Home computer for schoolwork
3	Educational attainment	KS2 average points score
		GCSE and equivalent points score
4	Parental and young person's aspirations	Parental aspiration for FT education
		Young person's aspiration for FT education
5	Economic inactivity and apprenticeship	Whether ever been NEET
		Whether ever been in an apprenticeship
6	HE entry	HE entry

Note. NS-SEC = The National Statistics Socio-economic *Classification*; GCSE = General Certificate of Secondary Education; FT education = Full-time education; NEET = Not in education, employment or training; HE = Higher Education

Table 8.8 provides a snapshot of the batches of variables included in the regression model to identify the important predictors of professional occupation status (for the specific variables included in each batch, refer to section 8.3.1.2), and Table 8.9 is a summary of all the variables finally chosen for inclusion in the regression model to assess how factors are linked to professional occupation status.

Table 8.8 Batches of variables entered in the regression model to assess the important predictors of professional occupation status at age 25

	Block
0	Base
1	Young person's characteristics at birth
2 Age 13-16	Family composition
	Economic status at home
	Parental educational background
	Material ownership
	Private tuition
	Parental involvement in schooling
	Parental attitudes and aspirations
	Geographical location and neighbourhood deprivation level
	Connexions personal advisor
	School features
	KS2, 3 and 4 educational attainment
	Young person's attitudes and aspirations
3 Age 17-19	Economic activity
	FE Entry
	HE Entry

Note. HE = Higher Education; FE = Further Education

Table 8.9 Variables entered in the regression model to predict professional occupation status at age 25

	Block	Variables in block
1	Young person's characteristics at birth	Sex of the young person
		Ethnic group (major)
		Whether English is first or main language
		Single parent at birth
2	Socio-economic background	Family's highest NS-SEC class
		Highest qualification held in family
		FSM eligibility
3	School features and educational attainment	Whether ever felt happy at school
		KS2 average points score
		KS3 average points score
		GCSE and equivalent points score
4	Parental aspiration	Parental aspiration for FT education
5	Young person's aspiration	Young person's aspiration for FT education
6	HE entry	HE entry

Note. NS-SEC = The National Statistics Socio-economic *Classification*; GCSE = General Certificate of Secondary Education; FT education = Full-time education; HE = Higher education

8.6.3.4 Deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers

The last RQ was addressed with a further discussion of the summary of all the results from all the previous analyses, using the indicators of disadvantage established in section 8.3.4 and mainly focusing on the sub-group identified as disadvantaged students.

8.7 Rationale for the way the results are presented

In sociological research, as in other research areas, it has been common practice for researchers to report statistical significance test results with p-values (Engman, 2013). Other inferential statistical test (ISTs) results such as confidence intervals (CIs) and standard errors (SEs) are also still common in social science work. The presentation of the regression results in this study is unconventional in that statistical significance and other IST results are not reported. The reason for this is as follows.

The fundamental assumption underlying ISTs is full randomisation of the sample, and any non-response or sample dropout would violate this assumption (White & Gorard, 2017). This is what IST calculations are based on. However, Cuddeback et al. (2004) point out that in real-life data, samples which are completely random without any type of missing data are very rare or even do not exist. As is fully discussed in Chapter 7, the analytical sample used in this study is not randomised as it involves drop-outs, non-responses and other types of missing data, which, as Sheikh and Mattingly (1981) rightfully state, are non-random in nature. The criterion for employing ISTs is therefore not met in this study.

In fact, even in the very unlikely situation of a fully randomised sample, as Gorard (2016c, 2017) and many other commentators and methodology experts (e.g. Fidler et al., 2004; Lipsey et al., 2012; Nelder, 1999; Nix & Barnette, 1998; Walster & Cleary 1970) have pointed out and emphasised, significance testing does not work as intended because its logic is fundamentally flawed. Taking p-values as an example, what an analyst wants to know is the probability of the null hypothesis being true. However, what the p-value tells us is, assuming that the null hypothesis is true, how likely we are to get a result as or more extreme than the one observed. Significance tests, therefore, simply do not give the useful answer that we want to know. The same is true for confidence intervals (CIs) and standard errors (SEs). White and Gorard (2017) rightly point out that CIs and SEs share the same fundamental flaw as p-values, as all of them rely on an assumption about the thing that analysts try to discover. Much has been written on misinterpretation of significance tests (e.g. Cumming, 2014; White & Gorard, 2017).

To conclude, in Engman (2013, p.257)'s words, "reporting statistical significance provides sociology with very little value, and the consequences of misinterpreting significance values outweigh the benefits of their use." For these reasons, this study does not report statistical

significance or other IST results, even though they are routinely – but mistakenly – reported in most social science research reports.

8.8 Ethical considerations

Based on anonymised secondary data, this project raises no complex ethical issues. During the whole process of conducting this research, every effort was made to follow the ethical guidelines set by the British Educational Research Association (2018).

At the sampling stage, the Next Steps survey results were linked with the NPD data. Informed consent from all the participants was obtained for this data linkage. This suggests that a further linkage of segregation data from the NPD also applied to the consent of all the participants. The application for the use of Next Steps Secure Lab data for research purposes was through a strict process. Appropriate data protection and information security training for using NPD data were received, and the Secure Lab training on conducting data analysis in a safe manner was taken before accessing the datasets.

Regarding data analysis and further data linkage, there are two main ethical considerations. One is that some Next Steps Secure Lab data contain private and sensitive information such as household income and FSM eligibility. To prevent the disclosure of the data and to protect data security, the datasets are kept and analysed in the safe secure lab environment to ensure the protection of privacy. The other consideration is that when linking Next Steps data to between-school segregation indices created from NPD data, there is a concern that the individual student might be identified. The solution to this problem is that the whole process of linking data was conducted by the Next Steps Secure Lab team and all the variables relating to individual identification were removed before the analysis of the linking data. No individual was identified.

In addition to the common research ethics principles of respecting the participants' consent and not harming the participants in the research, this research also followed a second research ethics principle proposed by Gorard (2002), which draws attention to the importance of respecting and considering non-participants in the research through emphasising the trustworthiness of the research results. When using secondary data, there can be a danger of wasting time and resources if a secondary data analysis is not done well and it is only useful if both the quality

and the analysis of data are warranted (Gorard, 2012a). All the results of this study are evidence-based, and all the analytical methods were developed to be rigorous to achieve trustworthiness of the results.

8.9 Conclusion

In conclusion, a wide range of analyses, including percentages, comparisons of means (presented effect sizes), cross-tabs, correlations and binary logistic regression models, were used to address the research questions. After explaining the analytical steps entailed in answering each research question, the next chapter presents the results of the analysis for the questions, following each step as described in this chapter.

Chapter 9 Sample characteristics descriptive statistics

This chapter reports a descriptive analysis of all the key variables used in this study using the analytical sample established (N=5,192). As was discussed in chapter 8, informed by theories and previous empirical work, a wide range of socio-economic variables are chosen based on availability of data. As will be discussed in chapter 13, in an initial stage all these variables will be entered in regression models to explore and identify the most important predictors of post-16 outcomes.

This chapter sets the scene for more complex analyses in the next three chapters to address the five research questions. It is an exploratory chapter and provides a full picture of the sample characteristics of interest at different life stages in different dimensions. In general, the variables are presented in respondent biographical order. The analysis only reports on the 5,192 valid cases who stayed in the Next Steps survey from Wave 1 to Wave 8 and who attended a state school in England.

The chapter first presents the results of univariate analyses of the variables. This is a simple frequency report. Most importantly, it reveals the proportion of the sample who are potentially disadvantaged.

It then shows the stability of and changes in some of these characteristics over certain waves, revealing a picture of the intra-generational social mobility of the families sampled. This is followed by the results of a univariate analysis of the changes. Next, the wider context of sample characteristics by employment status and professional occupation status at age 25 is presented.

The last two sections of the chapter present a wider picture of sample characteristics in terms of two important factors to be examined in the regression analysis – sample attitudes and aspirations, and NEET status – as informed by the literature. Differences linked to (1) attitudes and aspirations, and (2) NEET status by background and outcome are therefore presented. The patterns revealed will be used to explain some of the results at a later stage in the analysis.

For data security reasons, following the UK Data Service’s guidance on Statistical Disclosure Control, the threshold for the frequency value is set to 10 (i.e. $N = 10$). Any frequency value below 10 is displayed as “*.”

9.1 Characteristics of the analytical sample across the waves

This section examines the distributions of sample characteristics for all the variables of interest in all the waves, covering more than a decade of the sample’s lives in biographical order. It depicts an overall full picture of the sample characteristics of the 5,192 cases and indicates the stability of or changes in the distribution patterns of the characteristics.

The chapter focuses on the key variables. Readers who are also interested in the descriptive analysis of other non-key variables should refer to Appendix 11.

Birth characteristics

The first stage in this cohort’s life is their social origins, which can be indicated by their birth characteristics. Characteristics at birth are usually considered largely constant individual features. The variables related to birth characteristics are sex, ethnic origin, English as a first or main language and single-parent status at birth. There is no evidence that any individual in the sample changed these characteristics over time.

Table 9.1 shows the distribution of these four characteristics. The proportions are roughly as would be expected given the context of the population in England. There are slightly more females, most cases are of white ethnic origin, they overwhelmingly have English as a first language and the majority were not born into a single-parent family.

Table 9.1 Percentages of young people by birth characteristics

Birth characteristic	Value	Percentage
Sex	Male	45.3
	Female	54.7
	White	70.1
	Mixed	4.4
	Indian	7.5

Ethnic group		
	Pakistani	5.8
	Bangladeshi	4.8
	Black Caribbean	2.5
	Black African	2.3
	Other	2.5
	Not known	*
Whether English is first or main language	Yes	93.8
	No	6.2
Single parent status at birth	Yes	15.0
	No	85.0

Note. N = 5,192; ‘*’ = frequency value below 10.

After examining the birth characteristics, the next step is to explore the family backgrounds of the sample, which can be indicated by a wide range of factors (Sirin, 2005).

Secondary schooling stage: household SES

Economic situation at home

Family NS-SEC classes

The family’s NE-SEC class, which is indicated by parental occupation, is a key factor in household SES. Table 9.2 shows the distribution of NS-SEC classes among the cohort of households from Wave 1 (2004) to Wave 4 (2007) i.e. between ages 13 and 16.

Table 9.2 Percentages of young people by family’s NS-SEC class, Waves 1, 2, 3 & 4

Family’s NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	13.5	12.5	12.5	8.7
II Lower managerial and professional occupations	23.7	25.5	26.3	24.5
III Intermediate occupations	7.0	6.9	6.2	8.5
IV Small employers and own account workers	11.0	8.0	6.1	9.2

V Lower supervisory and technical occupations	9.8	10.7	10.5	6.8
VI Semi-routine occupations	10.0	10.4	9.1	11.5
VII Routine occupations	10.3	10.6	9.4	6.7
VIII Never worked/long-term unemployed	4.6	4.7	-	-
VIII Not currently working	-	-	15.5	18.4
Not known	9.3	10.8	4.5	5.9

Note. NS-SEC = The National Statistics Socio-economic *Classification*; Family's NS-SEC class refers to the NS-SEC class of the household reference person who best represented the socio-economic status of the family; N = 5,192; '-' = not applicable.

In general, over 30% of these families were in managerial and professional occupations in each of the first four waves, with families in lower professional occupations consistently outnumbering those in higher professional occupations. Families who were in long-term unemployment were the smallest groups in Wave 1 and 2, with the figures being slightly below 5% in each wave. In contrast, the proportions of families not working in Waves 3 and 4 were much higher.

Regarding the distributions of families' NS-SEC classes over the waves, except for the 'higher managerial and professional occupations' category – the proportion of which steadily decreases from Wave 1 to Wave 4 – the figures fluctuate, indicating some families moving into and out of NS-SEC classes II to VIII during the four years. However, as expected, these changes are relatively small.

There are five noticeable phenomena in the changes in the overall distributions of families' NS-SEC classes from Wave 1 to Wave 4: (1) the figures show a general trend of households moving from lower occupational classes to professional occupations, (2) from Wave 3 to Wave 4, approaching the year 2007, the data indicate the lowest proportions of households in professional occupations, especially the higher professional occupations. Meanwhile, 2.3% more of the sample population were out of work. One possible explanation for this can be the 2007-2008 economic crisis, when many people, especially those in the financial industry, lost their jobs.

Household income bands

Household income is related to parental occupation. Table 9.3 shows the distribution of household income bands in the first two waves.

Table 9.3 Percentages of young people by household income band, Waves 1 & 2

Household income band	Wave 1	Wave 2
<=£5,200	3.4	3.2
£5,200.01 to £10,400	4.8	4.7
£10,400.01 to £15,600	4.8	5.9
£15,600.01 to £20,800	5.4	5.0
£20,800.01 to £33,800	13.4	14.5
£33,800.01 to £41,000	5.5	7.7
£41,000.01 to £55,000	6.8	10.4
over £55,000	7.4	10.1
Not known	48.7	38.4

Note. N = 5,192.

Within the analytical sample, a high proportion of the households were middle income families. In general, there were more higher income families than lower income families in the sample whose income is known. Noticeably, a relatively high proportion of the sample population fell into the highest band of household income, i.e. a band of an annual household income of more than £55,000. In contrast, a very small proportion of the sampled households earned less than or equal to £5,200 annually, which is the lowest band for household income. This general pattern that a noticeably higher proportion of the households reported higher levels of income bands, especially the highest level, can reasonably be partly explained by the analytical sample over-representing higher household income, which was already discussed in the previous section 7.9.1.

Regarding changes in the overall distributions of household income from Wave 1 to Wave 2, the number of households falling into each household income band remained relatively stable, implying that there was no big change in the financial situation of the households for this sample cohort. From a general point of view, it can be seen that more households moved into higher household income bands, especially the highest two bands, i.e. ‘£41,000.01 to £55,000’ and ‘over £55000,’ and the corresponding percentage figures jump by 3.6 and 2.7 percentage

points from Wave 1 to Wave 2 respectively. This implies an improvement of financial situation for some households.

It is necessary to point out here that the validity of the household income variable may be relatively low compared to the other variables as income can be considered very sensitive information so some participants might not have wanted to disclose their real income and reported inaccurate figures or they might have had inaccurate memories of the real figures. As mentioned in Chapter 8, there is a very high rate of missing values for the income variable, which is very likely to be due to its sensitivity. It is possible that a proportion of respondents with a very high income did not report their household income for tax reasons. This missing data issue improves over the waves, with about 10% more households reporting their household income in Wave 2 than in Wave 1.

Free School Meal eligibility (FSMe)

FSMe is directly related to household income. 12.5% of the young people were eligible for FSM. This figure is slightly lower than the English average of about 17%. As was mentioned in section 8.3.3, in 2006 when the cohort were aged 15 the annual family income threshold for FSM entitlement was £13,480 (Table 9.4).

This distribution is to some extent consistent with the distributions of annual household income reported in Waves 1 and 2, with similar proportions (13% and 13.8% respectively) of households reporting that they had an annual income equal to or less than £15,600 (the nearest income band to £13,480).

Table 9.4 Percentages of young people by FSMe

FSMe	Wave 3
Yes	12.5
No	87.5

Note. FSMe = Free School Meal eligibility; N = 5,192.

The 12.5% of the sample who were living below the poverty line are a sub-group which this study specifically focuses on. Their post-16 outcomes will be further explored using regression analysis in Chapter 12.

While FSM eligibility is an indicator of disadvantage, another indicator is house ownership, with pupils living in a house not owned being more likely to be living in poverty.

Tenure

Household ownership

As expected, the proportions of families owning and not owning their houses remained stable from Wave 1 to Wave 4 at around 80%, with the fluctuation rate being less than 1% (Table 9.5). Around a fifth of the pupils lived in a house not owned by their family throughout the four waves.

Table 9.5 Percentages of young people by family house ownership, Waves 1, 2, 3 & 4

House ownership	Wave 1	Wave 2	Wave 3	Wave 4
Owned	77.9	78.5	78.4	78.5
Not owned	22.1	21.5	21.6	21.5

Note. N = 5,192.

While house ownership has something to do with both the economic situation at home and the home environment, what is more related to education and the home environment is material ownership at home.

Material ownership at home

Table 9.6 lists the distributions of young people owning mobile phones, telephones, home computers and home computers or laptops for school use, and also having access to the internet. In particular, not having a computer for school use or internet access is considered to result in potential educational disadvantage.

The most obvious trend is a steady increase in access to all these items over the years. Among all these items, the proportion of telephone ownership stays the highest (around 99%) from Wave 1 to Wave 3, with the figure increasing steadily every year. As for the other items, the majority of the young people owned mobile phones and had access to the internet. Similarly, an increasingly high proportion of the sample owned home computers when they were aged 13 to 15. Regarding home computers for school use, in Wave 1 92% of those who owned home

computers could use them for schoolwork and this figure accounts for 84% of the total sample population. In Wave 2, this figure increased slightly, with 94% of the home computers being used for schoolwork, which accounts for 88% of the whole sample population. These high proportions imply that home computers played an important role in helping with schoolwork from Year 9 onwards.

There is a different pattern for laptop ownership. In Wave 2, only a small proportion (about a tenth) of the sample had a laptop which could be taken for use at school, which is a relatively big contrast with the high proportion (88%) of the sample owning a home computer for schoolwork. This could be explained by the level of prevalence of laptops back in 2005: compared to home computers, laptops were still relatively new and expensive products when these young people were aged 14, and only a small proportion of the population could afford them.

Table 9.6 Percentages of young people by material ownership at home, Waves 1, 2 & 3

Material ownership	Value	Wave 1	Wave 2	Wave 3
Own mobile phone	Yes	81.7	88.0	-
	No	18.3	12.0	-
Telephone	Yes	98.4	98.9	99.4
	No	1.6	1.1	0.6
Home computer	Yes	91.6	94.0	95.4
	No	8.4	6.0	4.6
Home computer for schoolwork	Yes	84.0	88.0	-
	No	16.0	12.0	-
Internet access	Yes	79.7	84.8	90.1
	No	20.3	15.2	9.9
Laptop for school use	Yes	-	10.2	-
	No	-	89.8	-

Note. In Waves 1, 2 and 3, the young people were asked whether they had the material resources listed in the table; N = 5,192; ‘-’ = not applicable.

The minority of the sample with no access to a home computer for schoolwork or the internet are a concern in this study, as they can potentially be disadvantaged in terms of outcomes at

school and beyond. This potential disadvantage will be explored in the regression analysis in chapter 12.

Besides material ownership, having access to private tuition is regarded as another type of extra family support. This is a potential factor in life outcomes and will be assessed using regression models in chapter 12.

Private tuition

Table 9.7 therefore reports the distributions of young people in terms of their access to private tuition in both school subjects and supplementary subjects from Wave 1 to Wave 4.

Table 9.7 Percentages of young people by private lessons access, Waves 1, 2, 3 & 4

Whether had private lessons		Wave 1	Wave 2	Wave 3	Wave 4
Private lessons in subjects also taught at school	Yes	14.1	17.8	17.3	7.0
	No	85.9	82.2	82.7	93.0
Private lessons in supplementary subjects	Yes	20.5	12.5	14.7	10.3
	No	79.5	87.5	85.3	89.7

Note. The parent interviewed was asked whether he/she had paid for private lessons in subjects also taught at the young person's school and in supplementary subjects in the previous twelve months when the young person was in Years 9, 10, 11 and 12; N = 5,192.

Regarding private lessons in subjects also taught at school, the majority of the parents sampled did not pay for private classes in school subjects in the four waves, with the number fluctuating across the waves. When the cohort reached the end of KS4 (at age 16), there was a big drop in the number of parents paying for private lessons. This decrease can partly be explained by the parents paying for private lessons mainly to help their children to prepare for their GCSE exams, so there was less need for private tuition at the end of KS4.

Regarding private lessons in supplementary subjects, similarly a small proportion of parents paid for private lessons in supplementary subjects in each wave. However, the figures show a different picture regarding changes over the four waves. The proportion of parents paying for

private lessons in these subjects gradually but consistently decreased from Wave 1 to Wave 4.

I have so far focused on the economic side of the sample characteristics. Next I move on to cultural features – parental education.

Parental educational background

The highest qualification held in the family

Parental education level is indicated by the highest qualification held by the parents in this study. Table 9.8 shows the distribution of the highest qualifications held in the families. There is a relatively even spread of families among the three highest levels of qualifications (degree or equivalent, higher education below degree level and GCE A Level or equivalent).

As expected, the percentages of households with each of these three levels of qualification remained stable between the two waves, with slightly more cases falling into each category in Wave 2. Overall, slightly more families had the highest four levels of qualification in Wave 2 than in Wave 1.

In each wave, the highest proportion of the families had the median level of qualification, i.e. GCSE grades A-C or equivalent, and nearly a fifth of the families had no qualification.

Table 9.8 Percentages of young people by highest qualification held in the family, Waves 1 & 2

Highest qualification held in family	Wave 1	Wave 2
Degree or equivalent	12.9	13.9
Higher education below degree level	13.7	14.4
GCE A Level or equivalent	14.0	14.8
GCSE grades A-C or equivalent	27.0	27.5
Basic low-level qualifications	7.1	7.0
Other qualifications	1.3	2.7
No qualification	19.9	19.3
Not known	4.0	0.4

Note. N = 5,192.

Having examined parental education, the next part continues by examining the sample distribution regarding parental aspirations.

Parental aspirations

Parental expectations for young people when they reached school-leaving age

Table 9.9 shows what the parents wanted their children to do when they reached school-leaving age in Waves 1, 2 and 3. Most of the parents wanted their children to continue in post-16 full-time education, with the proportion increasing slightly from Wave 1 to Wave 3. This is a positive sign that the majority of the parents valued the importance of post-compulsory full-time education for their children. Especially when the young people were approaching school-leaving age, more parents wanted their children to continue in education.

It is interesting that only around 1% of the parents wanted their children to get a full-time paid job after age 16, implying that most of the parents considered higher or further education or training programmes more important than a full-time paid job at school-leaving age.

In Waves 1 and 2, approximately 3% of the parents were not clear about their educational expectations for their children. In Wave 3, more parents seemed to have formed their expectations.

Table 9.9 Percentages of young people by their parents' expectations for them after reaching school-leaving age, Waves 1, 2 & 3

What the main parent wanted the young person to do at school-leaving age	Wave 1	Wave 2	Wave 3
Continue in full time education	84.5	84.9	87.6
Start learning a trade/Get a place on a training course	6.9	5.8	4.2
Start an apprenticeship	3.6	4.1	4.5
Get a full-time paid job	1.0	1.5	1.2
Something else	1.1	0.9	0.8
Not known	2.8	2.7	1.6

Note. In Waves 1, 2 and 3, the parent was asked “What would you yourself like (name of the sample young person) to do when (he/she) reaches 16 and can leave school?” and choose one of the options in the table; N = 5,192.

The last household characteristic to be examined is family composition, which follows next.

Family composition – Single parent family status

Table 9.10 shows that, in general, across the first four waves, the proportion of single-parent households remained at around a fifth in each wave, with a slight increase in each wave. When the young people sampled reached age 13, 3.2% more of the households had become single parent households since the young people’s birth, and the respondents became a little more likely to be in single-parent households by Wave 4.

Table 9.10 Percentages of young people by single-parent household status (using the household grid relationship), Waves 1, 3 & 4

Single-parent household status	Wave 1	Wave 3	Wave 4
No, not single-parent household	81.7	81.4	78.7
Yes, single-parent household	18.3	18.6	21.3

Note. N = 5,192.

I have looked at household characteristics so far. The next part focuses on a broader factor relating to the households – neighbourhood deprivation.

Neighbourhood deprivation – Income Deprivation Affecting Children Index (IDACI)

Regarding the deprivation level at the small local level, Table 9.11 shows the IDACI mean, standard deviation (SD), mode and the percentiles for all pupils in the analytical sample. The households lived in areas with an average of 21% of children in income-deprived families, and the highest number of families lived in areas with 5% of children in low-income families. The lowest three IDACI deciles range from 0.28 to 0.48, indicating that approximately 30% of the

sample lived in the most deprived areas with 28% to 48% of children in low-income households.

Table 9.11 IDACI mean, SD, mode and percentiles, Waves 2 & 3

	Wave 2	Wave 3
Mean	0.21	0.21
SD	0.18	0.18
Mode	0.05	0.05
10th percentile	0.03	0.03
20th percentile	0.05	0.05
30th percentile	0.07	0.07
40th percentile	0.11	0.11
Median	0.15	0.15
60th percentile	0.21	0.21
70th percentile	0.29	0.28
80th percentile	0.37	0.37
90th percentile	0.48	0.48

Note. IDACI = Income Deprivation Affecting Children Index; N = 5,192.

After examining sample characteristics relating to the households, I now move on to school characteristics, including between-school segregation, the young people's feelings about their schools and educational attainment

School characteristics

Between-school segregation at the individual school level

As was discussed in Chapters 5 and 8, between-school segregation, or clustering of disadvantaged students in schools, is indicated by the Gorard Segregation (GS) Index.

To recap, each school's residual for the GS index is calculated as the number of disadvantaged children in school i / the total number of children in school i minus the total number of disadvantaged children in England / the total number of children in England|. These residual figures for individual schools are therefore much smaller than the GS index at the national level

because GS at the national or regional level is calculated as the sum of these residuals for all schools divided by two (Gorard, 2018).

Each school's GS residual (for FSM eligibility, SEN with a statement, SEN without a statement, non-white ethnic origin and English as a second language) is presented as a 10-decimal-point number. Table 9.12 shows the mean of these residuals. On the whole, the segregation residuals vary according to the indicator. The data indicate that in the sample there were higher average levels of school segregation in terms of FSM eligibility, non-white ethnic origin and English as an additional language than for the other two disadvantages.

Table 9.12 Mean individual school GS residuals for five indicators, 2005

	Each school's GS residual for FSM eligibility	Each school's GS residual for SEN with a statement	Each school's GS residual for SEN without a statement	Each school's GS residual for non-white ethnic origin	Each school's GS residual for English as an additional language
Mean	0.0002280783	0.0001542169	0.0001270091	0.0003397029	0.0005063047

Note. GS Indices = Gorard Segregation Indices; N = 5,192.

So how did these young people feel about their schools, i.e. how is the picture when it comes to happiness at school?

Young people's feelings about school

Happiness at school

Table 9.13 shows that in general the majority of the sample felt consistently happy at school during KS3 and KS4. In the first three waves, a stable high proportion (around 85%) of the sampled young people felt that they were happy at school, with the number fluctuating across the waves. Slightly more young people were happy at school in Year 9 and Year 11 than in Year 10.

Table 9.13 Percentages of young people by how happy they felt at school, Waves 1, 2 & 3

I am happy when I am at school	Wave 1	Wave 2	Wave 3
Strongly agree	29.5	24.4	28.4
Agree	57.9	60.1	58.7
Disagree	6.9	8.7	7.2
Strongly disagree	1.8	2.7	2.8
Not known	3.9	4.2	2.9

Note. In Wave 1 to Wave 3, the young people were asked how much they agreed or disagreed with the statement “I am happy when I am at school”; N = 5,192.

All these school factors, along with the household factors previously examined, can have a potential impact on an important school outcome – educational attainment. The next part shows a general picture of the sample’s educational attainment.

Educational Attainment

Table 9.14 shows the means, modes and standard deviations of the young people’s educational attainment at three key stages (KS2, KS3 and KS4) together with the percentiles of the scores achieved by the sample at each key stage, depicting a general picture of the overall educational attainment of the young people sampled.

Table 9.14 Descriptive statistics of KS2, KS3 and GCSE scores

	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
Mean	28.03	36.05	307.90
Mode	27.00	35.00	307.00
Std. Deviation	4.08	6.47	76.63
10th percentile	23.00	27.00	218.00
20th percentile	25.00	31.00	284.00
30th percentile	27.00	33.00	307.00
40th percentile	27.00	35.00	307.00
Median	29.00	37.00	307.00
60th percentile	29.00	39.00	311.00
70th percentile	31.00	39.00	332.00

80th percentile	31.00	41.00	359.00
90th percentile	33.00	45.00	398.00

Note. KS2 = Key Stage 2; KS3 = Key Stage 3; GCSE = General Certificate of Secondary Education; N = 5,192

Key Stage 2 (KS2) average points score and Key Stage 3 (KS3) average points score

At Key Stage 2 the sample achieved an overall average points score of 28.03, and most scored more than 27. The top 10% of the sample had scores of 33 or higher, and the bottom 10% got scores of 23 or lower. At Key Stage 3, the overall average points score was 36.05, and the score achieved by the highest proportion of the sample was 35. The top 10% achieved scores of 45 or higher. In contrast, the bottom 10% got scores of 27 or lower. In general, both scores are consistently relatively evenly spread out.

Capped General Certificate of Secondary Education (GCSE) and equivalent points score

The overall average capped GCSE and equivalent points score for the cohort was 307.9, and the highest number of the young people got a score of around 307 points. The top 10% had a score of 398 points or higher and the bottom 10% 218 points or lower. Similarly to the distributions in KS2 and KS3 attainment, in general the GCSE scores were relatively evenly distributed.

All the school-related variables have been examined so far. The next part examines a variable which is of more practical use – young people getting support from Connexions during their schooling.

Personal development support

Connexions support

Table 9.15 shows that increasing numbers of the young people sought personal support and advice from Connexions over the first three waves, and especially when they were approaching school-leaving age. This indicates an increasing popularity of the Connexions service among them. How useful it is will be assessed through regression analysis in chapter 12.

Table 9.15 Percentages of young people by whether they had talked to a Connexions Personal Advisor, Waves 1, 2 & 3

Whether ever talked to a Connexions Personal Advisor	Wave 1	Wave 2	Wave 3
Yes	33.6	43.2	69.2
No	66.4	56.8	30.8

Note. N = 5,192.

The next part begins to focus on the characteristics of the young people themselves. It first looks at the young people's own aspirations.

Young people's characteristics – aspirations

Young people's aspirations are an important factor to be examined in regression models in chapter 12. The next part takes a first look at the general pattern of the young people's post-16 plans.

Young people's aspirations

Young people's post-16 plans

As expected, the majority of the young people planned to either stay in or return to full-time education (FT education) after the age of 16. However, around 2% of them seem not to have had a clear idea about their plans after age 16 (Table 9.16).

Table 9.16 Percentages of young people by their post-age-16 plans

The young people's post-age-16 plans	Wave 3
Stay in/return to FT education	90.8
Leave/not return to FT education	6.9
Leave/not return to FT education now, but return later	0.3
Not known	1.9

Note. FT education= Full-time education; N = 5,192.

Following the young people's post-16 aspirations, the next part begins to focus on their real-life activity patterns when approaching school-leaving age.

Economic activities of the young people

From age 16 onwards, among all the possible activities, an apprenticeship can be an important one that has a bearing on future outcomes.

Apprenticeship at ages 16, 17, 18 or 19

A small proportion (8%) of the sample population were in an apprenticeship between age 16 and age 19, while more than 90% of them did no apprenticeship in this period (Table 9.17).

Table 9.17 Percentages of young people by apprenticeship status

Whether the young people were in an apprenticeship at the age of 16, 17, 18 or 19	Percentage
Been in an apprenticeship	8.3
Not been in an apprenticeship	91.7

Note. N = 5,192.

The next part moves on to an important status at age 18-19 – higher education or further education.

Qualification outcomes of young people at age 18-19

Further Education (FE)/Higher Education (HE) status at age 18-19

In Wave 6 when the sample were aged 18, about a fifth of them were in an FE institution and around 40% were in HE (Table 9.18). A year later when the group of young people were aged 19, more had entered HE and the proportion in FE had decreased. This suggests that HE was a more popular choice than FE.

Table 9.18 Percentages of young people by FE/HE status at ages 18 & 19

FE status	Wave 6	Wave 7
Yes	21.4	14.3
No	78.6	85.7
HE status	Wave 6	Wave 7
Yes	39.2	52.2
No	60.8	47.8

Note. FE = Further Education; HE = Higher Education; N = 5,192.

Among those who chose the HE route, what proportion of them attended highly selective universities?

Elite university attendance

As may be expected, less than 1% of the sample attended the University of Cambridge or the University of Oxford, and only a small proportion (about 10%) attended Russell Group universities (Table 9.19).

Table 9.19 Percentages of young people aged 18 by attendance at Oxbridge and Russell Group universities

Attending the University of Cambridge or the University of Oxford	Wave 6
Attending	0.8
Not attending	99.2
Attending Russell Group universities	Wave 6
Attending	8.8
Not attending	91.2

Note. N = 5,192.

While at age 18, some young people went into HE/FE and some chose employment or other economic activities. How about those who were neither in education, employment or training?

NEET status at age 18

At age 18 (Wave 6), 6.1% of the young people were not in education, employment or training, which could be a potential disadvantage for their future development (Table 9.20).

Table 9.20 Percentages of young people at age 18 by NEET status

NEET Status	Wave 6
NEET	6.1
Not NEET	93.9

Note. NEET = Not in education, employment or training; N = 5,192

After showing the patterns in the young people's main activities from age 16 to 19, the final part of this section examines the sample characteristics at age 25, focusing on their employment status and HE qualifications.

Life at age 25: socio-economic status

Employment status

When the sample of young people reached age 25 at Wave 8, a majority of them should have entered the labour market and started their early careers. As expected, the majority (approximately 85%) of the analytical sample were employed but about 15% were not in employment (Table 9.21).

Table 9.21 Percentages of young people at age 25 by employment status

Employment status	Wave 8
Employed	82.9
Not employed	17.1

Note. N = 5,192.

Then how about the types of jobs of those in employment?

Occupational status at age 25

Table 9.22 shows the young people's NS-SEC classes at age 25. For those who were employed, as many as 41.7% of them were in managerial, administrative or professional occupations. This is followed by smaller proportions of them having either intermediate occupations or semi-routine and routine occupations. The lowest proportions of the young people were either doing lower supervisory or technical jobs or were small employers or own account workers.

Table 9.22 Percentages of young people at age 25 by NS-SEC class

NS-SEC class	Wave 8
Higher and lower managerial, administrative & professional workers	41.7
Intermediate occupations	15.9
Small employers and own account workers	3.5
Lower supervisory and technical occupations	6.3
Semi-routine and routine occupations	15.4

Not in employment	17.1

Note. N = 5,192.

Banded weekly income at age 25

Regarding their weekly incomes at age 25, unsurprisingly the majority of the sample had a middle income. Young people who had a high income of over £800 a week accounted for about 7% of the sample population, and there was a slightly higher proportion (8.5%) of them with a low income of less than £140 a week (Table 9.23).

Table 9.23 Percentages of young people at age 25 by weekly income band

Weekly income band (£)	Wave 8
Low income (<25 to 140)	8.5
Lower middle income (140 to 400)	11.1
Higher middle income (400 to 800)	40.6
High income (above 800)	32.8
Not known/no income	7.1

Note. N = 5,192.

Higher Education degree aged 25

As for degree achievement, about 37% of the sampled young people achieved a first class or higher degree (Table 9.24).

Table 9.24 Percentages of young people at age 25 by first class or higher degree status

HE degree – first class degree or higher	Wave 8
Not first class or higher degree	63.3
First class or higher degree	36.7

Note. N = 5,192.

So how did these young people with different life outcomes feel about their lives?

Overall life satisfaction at age 25

Table 9.25 shows that at age 25 the majority of the young people were either ‘fairly satisfied’ or ‘very satisfied’ with their lives, suggesting a positive overall picture.

Table 9.25 Percentages of young people at age 25 by overall life satisfaction

Overall life satisfaction	Wave 8
Very satisfied	22.0
Fairly satisfied	50.2
Neither satisfied nor dissatisfied	15.9
Fairly dissatisfied	7.0
Very dissatisfied	1.9
Not known/Don't know	3.1

Note. In Wave 8, the young people were asked how satisfied they were with their lives overall; N = 5,192.

9.2 How did the sample characteristics change over time? Individual patterns of change

While section 9.1 presented a full picture of the sample characteristics in terms of different aspects of the young people's lives from birth to age 25, this section reports changing patterns in their individual life trajectories and mainly focuses on the young people and households in the analytical sample with changed characteristics of interest across the relevant waves.

The cross-tabulations of the data show the main individual changes in the values of the categorical variables which were collected in two or more waves. Only changes of interest and the key changes are presented. Readers who are interested in changes in the values of some other non-key variables should see Appendix 12.

The section depicts a broader picture of how the sample's characteristics changed over time. This is also very useful as an indication of which characteristic variables remained stable over the waves.

Socio-economic background characteristics

Changes in single-parent family status

While most of the families remained non-single parent families from Wave 1 to Wave 4, among the minority of families which changed status, more families moved into single-parent status than moved out of it (Table 9.26).

Table 9.26 Percentages of young people by changes in single-parent family status, from birth to Wave 1, from Wave 1 to Wave 3 and from Wave 3 to Wave 4

Change in value	Birth → Wave 1	Wave 1 → Wave 3	Wave 3 → Wave 4
Single parent status → Not single parent status	6.7	1.4	1.1
Not single parent status → Single parent status	10.0	1.8	3.8
Remained single parent status	7.9	16.5	17.1
Remained non- single parent status	74.9	79.9	77.5

Note. N = 5,192.

Changes in family NS-SEC class

This section focuses on changes in the families' NS-SEC classes from Wave 1 to Wave 4. Tables 1 to Table 7 in Appendix 7 show how the percentage of households in each NS-SEC class changed from Wave 1 to Wave 4, with each table focusing on households in one of the NS-SEC classes.

The changes in the families' NS-SEC classes in these tables can be collectively summarised as follows: (1) most of the changes were upwards, (2) among the households which managed to climb from a lower class to a higher one, most of the changes were to managerial and professional occupations, (3) a small proportion of the sample changed between the lower classes, (4) most of the changes down from higher to lower NS-SEC classes were from higher professional occupations to lower professional occupations – interestingly, more households experienced downward mobility in the last periods compared to the period from Wave 1 to Wave 2, and (5) surprisingly, from Wave 2 to Wave 4, a small proportion of the households changed from professional occupations to the bottom occupational classes and to unemployment, this is especially true from Wave 3 to Wave 4. This is a big change in occupational status. A possible explanation is the broader economic context of the 2007-2008 financial crisis.

Changes in annual household income

Tables 1 to 8 in Appendix 8 show how the percentage of households in each (self-reported) household income band changed between Wave 1 and Wave 2, with each table focusing on households in one of the income bands. As the tables collectively show, except for the top ‘over £55,000’ band, the majority of the changes in annual household income were from lower bands to higher ones. More higher income households had increases in income than lower income families. Among the households with income increases, most of them increased by one or two bands. However, among the households which self-reported an annual income of £55,000, about half had income decreases by more than two bands from Wave 1 to Wave 2.

Changes in house ownership

As expected, the majority of the households that owned their house continued to do so from Wave 1 to Wave 4. A small proportion of the households became new house owners each year from Wave 1 to Wave 4 (Table 9.27).

Table 9.27 Percentages of young people by changes in house ownership, Wave 1 to Wave 2, Wave 2 to Wave 3 and Wave 3 to Wave 4

House ownership	Wave 1 → Wave 2	Wave 2 → Wave 3	Wave 3 → Wave 4
Not owned → Owned	2.0	1.0	1.7
Remained owned	77.3	78.1	77.4

Note. N = 5,192.

Changes in material ownership at home

Table 9.28 summarises the proportions of the young people who became new owners of mobile phones, home telephones and home computers, and who gained access to the internet from Wave 1 to Wave 3.

In general, among these items, a relatively high proportion of the sample became new owners of mobile phones and home computers for school use and gained internet access. More young people made these changes from Wave 1 to Wave 2 than from Wave 2 to Wave 3.

Table 9.28 Percentages of young people by changes in material ownership, Wave 1 to Wave 2 and Wave 2 to Wave 3

Material ownership	Change	Wave 1 → Wave 2	Wave 2 → Wave 3
Own mobile phone	Not owned → Owned	9.3	-
Telephone	Not owned → Owned	1.3	0.9
Home computer	Not owned → Owned	4.8	3.3
Home computer for schoolwork	Not owned → Owned	8.3	-
Internet access	No access → Access	8.4	5.8

Note. N = 5,192; ‘-’ = not applicable.

Region

Regional changes

As Table A10 in Appendix 11 showed, there were no changes of region from Wave 2 to Wave 3.

Cultural and educational background

Changes in the highest qualification held in the family

Tables 1 to 6 in Appendix 9 collectively show changes in the highest qualification held in the family between Wave 1 and Wave 2, with each table focusing on families with one of qualification levels. As expected, families which made a change account for a relatively small proportion of the sample population and the changes were from lower levels of qualifications to higher ones. Among the families which made progress, a relatively higher proportion of the sample made progress from ‘basic low-level qualification’ to ‘GCSE grades A-C or equivalent.’

Changes in getting private lessons

In general, each year from Wave 1 to Wave 4 more young people stopped having private lessons than started having them. There is a general pattern of private lessons in supplementary

subjects becoming less popular than ones in school subjects over the waves, which is not surprising considering the possibility that some parents paid for private lessons in order to prepare their children for their school exams. For example, from Wave 1 to Wave 2, while 6.2% of the sample began to receive private tuition in school subjects, less than 1% began to have private lessons in supplementary subjects (Table 9.29).

Table 9.29 Percentages of young people by changes in getting private lessons, Wave 1 to Wave 2, Wave 2 to Wave 3, and Wave 3 to Wave 4

Change in private lesson status		Wave 1 → Wave 2	Wave 2 → Wave 3	Wave 3 → Wave 4
Private lessons in subjects also taught at school	Had private lessons → did not have private lessons	7.8	4.6	13.8
	Did not have private lessons → had private lessons	6.2	9.6	3.2
Private lessons in supplementary subjects	Had private lessons → did not have private lessons	10.8	9.1	9.4
	Did not have private lessons → Had private lessons	0.8	6.0	4.8

Note. N = 5,192.

Parental attitudes and aspirations

Changes in parental expectations for the young people when they reached school-leaving age

Table 9.30 shows a pattern of parents changing their expectations of their children following work-related routes to continuing in full-time education from Wave 1 to Wave 3. It is also evident that more parents made this change as their children neared school-leaving age. Only a very small proportion of the parents changed their expectations of their children from continuing in full-time education to other routes.

Table 9.30 Percentages of young people by changes in their parents' expectations for them when they reached school-leaving age, Wave 1 to Wave 2, and Wave 2 to Wave 3

Change in expectations	Wave 1 → Wave 2	Wave 2 → Wave 3
Start learning a trade/Get a place on a training course → Continue in full-time education	2.9	3.1
Start an apprenticeship → Continue in full-time education	1.2	12.5
Get a full-time paid job → Continue in full-time education	0.3	8.5
Something else → Continue in full-time education	0.7	0.5
Continue in full-time education → Start learning a trade	2.5	2.1
Continue in full time education → Get a place on a training course/ Start an apprenticeship/ Get a full-time paid job/ Something else	0.6 – 1.3	0.4 – 1.2

Note. N = 5,192.

Personal development support

Changes in the young people talking to a Connexions Personal Advisor

Table 9.31 shows a trend of more young people beginning to talk to a Connexions Personal Advisor as they were reaching school-leaving age, indicating that more of them became aware of the Connexions service or it became more popular over the years.

Table 9.31 Percentages of young people by changes in whether they talked to a Connexions Personal Advisor, Wave 1 to Wave 2, and Wave 2 to Wave 3

Change in talking to a Connexions Personal Advisor	Wave 1 → Wave 2	Wave 2 → Wave 3
Not having talked to a Connexions Personal Advisor → Having talked to a Connexions Personal Advisor	21.7	34.6

Note. N = 5,192.

School features

Changes in being happy at school

Both between Wave 1 and Wave 2 and between Wave 2 and Wave 3, about 4% of the young people changed from feeling unhappy at school to feeling happy. A similar proportion of the sample changed from feeling happy to feeling unhappy in the two periods (Table 9.32). This indicates a small fluctuation in the young people's feelings between KS3 and KS4.

Table 9.32 Percentages of the young people by changes in agreeing that they felt happy at school, Wave 1 to Wave 2, and Wave 2 to Wave 3

Change in agreement	Wave 1 → Wave 2	Wave 2 → Wave 3
Disagree → Agree	4.6	5.8
Agree → Disagree	5.7	3.4

Note. N = 5,192.

The young peoples' educational status

Changes in the young people's Further Education (FE) status, ages 18 to 19

Table 9.33 shows that, while about 10% of the sample remained in FE from age 18 to age 19, more left FE than entered FE.

Table 9.33 Percentages of young people by changes in their FE status, from Wave 6 to Wave 7

Change in FE status	Wave 6 → Wave 7
Not in FE → In FE	4.6
In FE → Not in FE	11.6

Remained in FE	9.8

Note. FE = Further Education; N = 5,192.

Changes in the young people's Higher Education (HE) status, age 18 to age 19

Table 9.34 shows that about 37% of the sample stayed on in HE from age 18 to age 19. In contrast to the pattern in FE, a much higher proportion of the young people entered HE than left HE.

Table 9.34 Percentages of young people by changes in their HE status, from Wave 6 to Wave 7

Change in HE status	Wave 6 → Wave 7
Not in HE → In HE	15.7
In HE → Not in HE	2.8
Remained in HE	36.5

Note. HE = Higher Education; N = 5,192.

Conclusion

In conclusion, the overall patterns of change in the individual characteristics of the analytical sample are as follows: (1) the families' socio-economic circumstances remained relatively stable across the waves; (2) more young people got access to materials which could support their education over the waves; (3) there was no change in geographical location from Wave 2 to Wave 3 and there was a very low level of school mobility, (4) there were positive patterns of improvements in parents' aspirations for the young people's education, parental involvement in schooling, and parent-child relationships; and (5) regarding the young people's labour market outcomes, more young people gradually entered the labour market after school-leaving age and more young people moved to managerial and professional occupations over the waves in their early adulthood.

9.3 Descriptive statistics – derived variables summarising changes from age 13 to age 16

After reporting detailed changes in the values of the measures repeated over the waves, this section reports the distributions of the values of the derived variables which summarise the changing characteristics of the sample from age 13 to age 16. They reflect all the changes in their compulsory secondary-school years.

These derived variables along with other constant variables will be entered in the regression models in chapter 12 to explore the most important factors predicting post-16 outcomes.

Family composition

Whether ever in a single-parent or stepfamily, ages 13 to 16

From age 13 until school-leaving age, about a fifth of the young people were in a single-parent family at some point (Table 9.35), and a lower proportion (about a tenth) were in a stepfamily at some stage (Table 9.36).

These two combined variables will be entered in the regression models in chapter 12 to explore whether and the extent to which single-parent or stepfamily status is a life outcome risk factor.

Table 9.35 Percentages of young people by whether they had ever been in a single-parent household since birth

Single-parent household status ever (combined)	Percentage
Yes, been in a single-parent household	23.5
No, never been in single-parent household	76.5

Note. N = 5,192.

Table 9.36 Percentages of young people by whether they had ever been in a stepfamily since birth

Stepfamily status ever (combined)	Percentage
Yes, been in a stepfamily	9.5
No, never been in a stepfamily	90.5

Note. N = 5,192.

Economic situation at home

Families' highest NS-SEC classes

Table 9.37 shows the highest NS-SEC classes of the families during the first four years, which is considered to best represent the SES of the family. A large proportion of the families were in professional occupations, followed by similar proportions of households in lower occupational classes. As expected, a very low proportion of the sampled households were in

long-term unemployment. The regression analysis in chapter 12 will examine the life chances of pupils from other social classes compared to those of pupils from long-term unemployed families.

Table 9.37 Percentages of young people by family's highest NS-SEC class

Families' NS-SEC classes (combined)	Percentage
I Higher managerial and professional occupations	15.1
II Lower managerial and professional occupations	27.4
III Intermediate occupations	7.0
IV Small employers and own account workers	10.5
V Lower supervisory and technical occupations	11.2
VI Semi-routine occupations	10.2
VII Routine occupations	9.4
VIII Never worked/long term unemployed	4.3
Not known	4.9

Note. N = 5,192.

Receiving EMA

There is a difference of about 10 percentage points between the proportions of the sample which had received EMA at some time and which had never, with more not having received the benefit (Table 9.38).

Table 9.38 Percentages of young people by whether they had ever received EMA

Received EMA (combined)	Percentage
Yes	44.6
No	55.4

Note. EMA = Education Maintenance Allowance; N = 5,192.

House ownership

As expected, by Wave 4 the majority (almost 80%) of the households owned their houses, while there was still a small proportion of families which did not have their own houses by the time the young people reached school-leaving age (Table 9.39).

Table 9.39 Percentages of young people by whether their families ever owned their houses

Whether families owned their house by Wave 4 (combined)	Percentage
Yes	78.5
No	21.5

Note. N = 5,192.

Material ownership

Not surprisingly, while the majority of the young people had a mobile phone, a home telephone, a home computer and internet access by Wave 3, only a minority of them owned a laptop (Table 9.40).

Table 9.40 Percentages of young people by whether they had ever owned items

Material ownership by Wave 3 (combined)	Value	Percentage
Own mobile phone	Yes	88.0
	No	12.0
Home Telephone	Yes	99.4
	No	0.6
Home computer	Yes	95.4
	No	4.6
Home computer for schoolwork	Yes	88.0
	No	12.0
Internet access	Yes	90.1
	No	9.9
Laptop for school use	Yes	10.2
	No	89.8

Note. N = 5,192.

Parental educational backgrounds

There is a clear pattern that the majority of these families had higher levels of qualifications, indicating reasonably high education levels (Table 9.41). However, 15% of the young people's parents had no qualification. They are a disadvantaged group which this study focuses on. The regression analysis in chapter 12 will examine how disadvantaged this sub-group is.

Table 9.41 Percentages of young people by the highest qualification in the family

Highest qualification in the family (combined)	Percentage
Degree or equivalent	19.6
Higher education below degree level	17.2
GCE A Level or equivalent	17.2
GCSE grades A-C or equivalent	23.5
Basic low-level qualifications	4.6
Other qualifications	2.0
No qualification	14.5
Not known	1.4

Note. N = 5,192.

Private tuition

Two general trends emerged. One is that the majority of the sample never had any private lessons during their secondary school years, and the other is that slightly more young people had private classes in supplementary subjects at some point than had private tuition in school subjects (Table 9.42 and Table 9.43). Whether having access to private tuition plays a role in inter-generational social mobility will be examined in a regression analysis in chapter 12.

Table 9.42 Percentages of young people by whether they ever had private lessons in school subjects

Whether ever had private lessons in school subjects (combined)	Percentage
Yes	29.3
No	70.7

Note. N = 5,192.

Table 9.43 Percentages of young people by whether they ever had private lessons in supplementary subjects

Whether ever had private lessons in supplementary subjects (combined)	Percentage

Yes	34.2
No	65.8

Note. N = 5,192.

Parental behaviour, attitudes and aspirations

Parental involvement in schooling and helping with homework

Table 9.44 and Table 9.45 show similar positive pictures. The majority of the parents became involved in the young people's schoolwork and provided their children with some help with their homework. Regression models in chapter 12 will explore whether parental involvement in schooling plays a role in origin-destination links.

Table 9.44 Percentages of young people by whether their parents were ever involved in their schooling

Whether parents were ever involved in schooling (combined)	Percentage
Yes	86.2
No	13.6
Not known	0.2

Note. N = 5,192.

Table 9.45 Percentages of young people by whether their parents ever helped them with their homework

Whether ever got help with homework (combined)	Percentage
Yes	88.5
No	11.5

Note. N = 5,192.

Parents' aspirations

Table 9.46 shows a very high level of parental aspirations for the young people's education, with as many as almost 95% of the parents wanting their children to continue in post-compulsory full-time education at one point before they reached age 16. This suggests parents in the sample highly valued full-time education. Regression analysis in chapter 12 will examine whether and how parental aspirations might make a difference to pupils' post-16 outcomes.

Table 9.46 Percentages of young people by whether their parents ever wanted them to continue in FT education

Whether their parents ever wanted the young people to continue in FT education when they reached school-leaving age (combined)	Percentage
Yes	94.9
No	4.9
Not known	0.2

Note. N = 5,192.

Parent-child relationships

The children in the sample had reasonably good relationships with their parents (Table 9.47). The parent-child relationship is another factor to be examined in relation to post-16 outcomes.

Table 9.47 Percentages of young people by whether their parents ever got on well with them

Whether the parents ever got on well with the young people (combined)	Percentage
Got on well	94.4
Got on badly	0.5
Not known	5.1

Note. N = 5,192.

School characteristics

School features

School mobility – whether ever changed school

Table 9.48 shows a positive picture of a low level of school mobility.

Table 9.48 Percentages of young people by whether ever changed school

Whether ever changed school (combined)	Percentage
Yes	4.3
No	95.7

Note. N = 5,192.

As expected, the majority of the young people felt happy at school in at least one school year (Table 9.49). Regression analysis in chapter 12 will explore whether feeling happy at school might play a positive role in pupils' outcomes at school and beyond.

Table 9.49 Percentages of young people by whether ever felt happy at school

Whether felt happy at school (combined)	Percentage
Happy	97.1
Not happy	2.7
Not known	0.2

Note. N = 5,192.

Connexions help

Table 9.50 shows that by age 16 more than 80% of the young people had talked to a Connexions Personal Advisor at least once, implying that most of them got some kind of personal development advice from the Connexions service. Regression modelling will be used in chapter 12 to examine the practical value of the Connexions service.

Table 9.50 Percentages of young people by whether they ever talked to a Connexions Personal Advisor

Whether ever talked to a Connexions Personal Advisor (combined)	Percentage
Yes	82.6
No	17.4

Note. N = 5,192.

9.4 Descriptive statistics – derived variables summarising changes from age 17 to age 19 in young people's economic activities

While the derived variables on the young people's secondary schooling stage relate to family background and schooling characteristics, the derived variables on the period from age 17 to age 19 focus on the sample's economic activities and their FE and HE participation. A general trend is that slightly more than half the young people did some paid work at some point during this post-16 period (Table 9.51) while only a very low proportion of them ever did an

apprenticeship (Table 9.52). As expected, a very small proportion of the sample were ever economically inactive (Table 9.53).

Table 9.51 Percentages of young people by whether they had ever been employed or ever done any paid work by age 19

Whether the young people were ever employed or did any paid work (combined)	Percentage
Yes	63.1
No	36.9

Note. N = 5,192.

Table 9.52 Percentages of young people by whether they had ever done an apprenticeship by age 19

Whether the young people ever did an apprenticeship (combined)	Percentage
Done an apprenticeship	8.3
Not done an apprenticeship	91.7

Note. N = 5,192.

Table 9.53 Percentages of young people by whether they had ever been NEET by age 19

NEET Status (combined)	Percentage
NEET	6.1
Not NEET	93.9

Note. NEET = Not in Education, Employment or Training; N = 5,192.

Regression analysis will be used in chapter 12 to assess (1) whether work experience by age 19 plays a role in occupational status at age 25; (2) whether an apprenticeship helps employment status or having a professional occupation at age 25; and (3) whether NEET status at age 19 is a risk factor related to occupational status at age 25.

Another potential factor relating to labour market outcomes at age 25 is HE or FE status. At age 18-19, many more young people entered HE than entered FE (Table 9.54 and Table 9.55). Regression analysis will be used in chapter 12 to examine whether HE or FE entry plays a role in the young people's later occupation status.

Table 9.54 Percentages of young people by FE entry at age 18 or 19

FE Entry (combined)	Percentage
Yes	25.9
No	74.1

Note. FE = Further Education; N = 5,192.

Table 9.55 Percentages of young people by HE entry at age 18 or 19

HE Entry (combined)	Percentage
Yes	54.9
No	45.1

Note. HE = Higher Education; N = 5,192.

9.5 A broader picture of sample characteristics by occupational status

Since occupation status is an outcome of interest in this study, this section explores the outcome characteristics of the young people in relation to their occupations in terms of income and satisfaction with life. It presents a broader picture of sample characteristics.

As expected, the data show a clear pattern of those in professional occupations being more likely to have higher middle income and high income than those who did not have a professional job (Table 9.56).

Table 9.56 Percentages of young people's levels of income by their professional occupation status

Weekly income band (£)	Professional occupation	Non-professional occupation
Low income (<25 to 140)	4.0	16.2
Lower middle income (140 to 400)	34.6	44.9
Higher middle income (400 to 800)	43.6	25.0
High income (above 800)	12.2	3.4

Note. N = 5,192.

Table 9.57 further shows a consistent trend of those employed being more likely to feel satisfied with their lives. Among the young people in work, those in professional occupations were more likely to be satisfied with their lives than their peers with non-professional jobs. This is probably because being employed and having a professional career make people more financially secure and bring them a sense of achievement.

Table 9.57 Percentages of young people in terms of their levels of life satisfaction by labour market outcomes

Overall life satisfaction	Employed	Unemployed	Professional	Non-professional
Very satisfied	22.6	19.0	25.7	19.3
Fairly satisfied	52.7	38.2	55.7	46.3
Neither satisfied nor dissatisfied	15.0	20.0	11.6	18.9
Fairly dissatisfied	6.1	11.4	4.3	8.9
Very dissatisfied	1.2	5.3	0.5	2.9
Not known/Don't know	2.4	6.1	2.2	3.7

These two patterns in terms of income and life satisfaction confirm result from Gallie et al. (2017) that negative life outcomes including economic insecurity and poor life satisfaction are related to people having lower skills and being in lower categories of occupational class.

9.6 Differences among the contextual variables linked to parental behaviour, attitudes and aspirations

Variables relating to parental behaviour, attitudes and aspirations will be entered into regression models in chapter 12 to explore whether they play a role in intergenerational social mobility in terms of HE participation and further labour market outcomes. This section first explores differences in parental behaviour, attitudes and aspirations according to wider family background characteristics to see whether they vary among different family backgrounds. Some of the patterns discovered here will be used to explain bivariate and regression analysis results in a later stage.

The section examines these differences according to three key contextual variables: (1) the family's NS-SEC class; (2) the young person's HE participation; and (3) the young person's own NS-SEC class at the age of 25.

The parental behaviours, attitudes and aspirations considered are parental involvement in schooling, helping with homework, parent-child relationships, opinions on the quality of their children's education, aspirations for the children to go on to post-16 full-time education and opinions on the likelihood of their going into HE.

First, Table 9.58 shows these differences by family background.

Table 9.58 Percentages of young people in terms of parental behaviour, attitudes and aspirations by parental NS-SEC class

Parents were involved in schooling	Percentage
Higher managerial and professional occupations	87.1
Lower managerial and professional occupations	86.6
Intermediate occupations	87.3
Small employers and own account workers	84.2
Lower supervisory and technical occupations	83.9
Semi-routine occupations	86.3
Routine occupations	86.0
Never worked/long term unemployed	90.2
Not known	85.4
Parents helped with homework	
Higher managerial and professional occupations	93.5
Lower managerial and professional occupations	92.1
Intermediate occupations	88.9
Small employers and own account workers	86.3
Lower supervisory and technical occupations	88.0
Semi-routine occupations	83.8
Routine occupations	84.2
Never worked/long term unemployed	76.8
Not known	86.6

Parents wanted the young person to have a better education than they had

Higher managerial and professional occupations	84.6
Lower managerial and professional occupations	87.3
Intermediate occupations	92.2
Small employers and own account workers	91.4
Lower supervisory and technical occupations	93.3
Semi-routine occupations	94.5
Routine occupations	95.3
Never worked/long term unemployed	96.5
Not known	83.0

Parents wanted the young person to continue in FT education when he/she reached school-leaving age

Higher managerial and professional occupations	98.2
Lower managerial and professional occupations	96.3
Intermediate occupations	95.0
Small employers and own account workers	92.5
Lower supervisory and technical occupations	93.5
Semi-routine occupations	91.5
Routine occupations	92.4
Never worked/long term unemployed	98.7
Not known	93.3

Parents thought the young person was likely to go to HE

Higher managerial and professional occupations	84.9
Lower managerial and professional occupations	76.1
Intermediate occupations	68.2
Small employers and own account workers	67.8
Lower supervisory and technical occupations	62.3
Semi-routine occupations	57.4
Routine occupations	57.8
Never worked/long term unemployed	73.7
Not known	63.7

Parents got on well with their children

Higher managerial and professional occupations	99.0

Lower managerial and professional occupations	99.2
Intermediate occupations	97.8
Small employers and own account workers	96.0
Lower supervisory and technical occupations	96.1
Semi-routine occupations	92.3
Routine occupations	88.9
Never worked/long term unemployed	65.6
Not known	82.2
Parents hardly ever or never argued with the young people	
Higher managerial and professional occupations	44.0
Lower managerial and professional occupations	40.3
Intermediate occupations	39.9
Small employers and own account workers	43.3
Lower supervisory and technical occupations	39.6
Semi-routine occupations	39.7
Routine occupations	37.0
Never worked/long term unemployed	26.8
Not known	36.3

Note. FT education = full-time education; NS-SEC = National Statistics Socio-economic Classification.

There is no obvious difference in parental involvement in schooling according to family background. Interestingly, parents who were long-term unemployed were slightly more likely than those who were employed to become involved in their children's schooling. However, there is a different pattern in parents helping with homework: parents with higher NS-SEC class jobs, especially those in professional occupations, were more likely to help their children with their homework while long-term unemployed parents were the least likely to help with homework. This might be because parents with higher level occupations were more likely to have the knowledge and ability to help their children with homework.

Parents with intermediate and 'working class' jobs were more likely than those in professional occupations to want their children to have a better education than they had. Parents in higher

professional occupations had the highest probability of having high expectations for their children to continue into HE, and in contrast parents who were long-term unemployed had the highest probability of wanting their children to have a better education than they had. This might be explained by the possibility that parents with lower NS-SEC class jobs received education of lower quality themselves than those who were in higher level occupations so they hoped their children would have better education.

It is also interesting that while those who had occupations in middle and lower NS-SEC classes were the least likely to want their children to continue in post-16 education, while parents in the top class (professional occupation) and those in the bottom class (long-term unemployment) were equally most likely to want their children to pursue post-compulsory education. A possible explanation is that parents in professional occupations were likely to have benefited from post-16 education themselves in terms of career success and to value its importance so they wanted the same educational route for their children. In contrast, parents with lower socio-economic status and who were in a vulnerable position might have had high aspirations for their children's post-16 education because, having struggled to find a job for a long period of time because of a lack of post-compulsory education, they hoped their children would have this opportunity that they did not have. There is a similar pattern in differences in parents' opinions on the likelihood of their children going to HE according to their backgrounds.

In terms of parent-child relationships, the data show hierarchical patterns in how well the parents got on with their children and parents arguing with their children. Parents in higher occupational classes were more likely to have formed a good relationship with their children and have fewer arguments with them than those in the lower classes. And there is a clear pattern that parents who were long-term unemployed were much less likely to have formed a good relationship with their children than those who had a job. This implies a possibility that the parent-child relationship is somehow linked to the parents' happiness.

Second, Table 9.59 shows these differences according to the young people's HE participation.

Table 9.59 Percentages of young people in terms of parental behaviour, attitudes and aspirations by their HE participation status

Parents were involved in schooling	Percentage

Entered HE	88.1
Did not enter HE	83.8
Parents helped with homework	
Entered HE	89.9
Did not enter HE	86.8
Parents wanted their child to have a better education than they had	
Entered HE	89.7
Did not enter HE	90.3
Parents wanted their child to continue in FT education when he/she reached school-leaving age	
Entered HE	99.3
Did not enter HE	89.6
Parents thought their child was likely to go into HE	
Entered HE	86.8
Did not enter HE	49.7
Parents got on well with their child	
Entered HE	94.1
Did not enter HE	94.8
Parents hardly ever or never argued with their child	
Entered HE	44.0
Did not enter HE	34.9

Note. FT education = full-time education; NS-SEC = National Statistics Socio-economic Classification

The figures show no big differences in parental involvement in schooling according to HE participation, with the young people who entered HE being slightly more likely to have parents who were involved in their schooling and who helped them with their homework. Similarly, it seems that whether parents wanted their children to have a better education than they had and the parent-child relationship are largely unrelated to the young people's HE participation. Among the other factors, there is a clear pattern of young people who entered HE being more likely to have parents who valued post-16 education, who thought they were likely to go into HE during their secondary school years and who hardly ever argued with them.

Third, Table 9.60 shows these differences according to the young people's labour market outcomes as indicated by their own NS-SEC classes at age 25.

Table 9.60 Percentages of young people in terms of parental behaviour, attitudes and aspirations by their NS-SEC class at the age of 25

Parents were involved in their child's schooling	Percentage
Managerial, administrative & professional occupations	86.9
Intermediate occupations	85.8
Small employers and own account workers	86.9
Lower supervisory and technical occupations	90.3
Semi-routine and routine occupations	83.3
Not in employment	85.8
Parents helped with homework	
Managerial, administrative & professional occupations	90.2
Intermediate occupations	90.2
Small employers and own account workers	85.2
Lower supervisory and technical occupations	88.1
Semi-routine and routine occupations	86.9
Not in employment	85.0
Parents wanted their child to have a better education than they had	
Managerial, administrative & professional occupations	89.9
Intermediate occupations	89.6
Small employers and own account workers	91.3
Lower supervisory and technical occupations	90.5
Semi-routine and routine occupations	89.9
Not in employment	90.2
Parents wanted their child to continue in FT education when he/she reached school-leaving age	
Managerial, administrative & professional occupations	97.9
Intermediate occupations	97.0
Small employers and own account workers	81.4
Lower supervisory and technical occupations	87.2
Semi-routine and routine occupations	90.5

Not in employment	95.2
Parents thought their child was likely to go into HE	
Managerial, administrative & professional occupations	82.3
Intermediate occupations	73.0
Small employers and own account workers	61.2
Lower supervisory and technical occupations	52.6
Semi-routine and routine occupations	49.1
Not in employment	64.9
Parents got on well with their child	
Managerial, administrative & professional occupations	95.4
Intermediate occupations	93.2
Small employers and own account workers	97.8
Lower supervisory and technical occupations	96.7
Semi-routine and routine occupations	93.6
Not in employment	92.3
Parents hardly ever or never argued with their child	
Managerial, administrative & professional occupations	43.3
Intermediate occupations	37.1
Small employers and own account workers	41.0
Lower supervisory and technical occupations	38.0
Semi-routine and routine occupations	36.5
Not in employment	38.7

Note. FT education = full-time education; NS-SEC = National Statistics Socio-economic Classification

Parental involvement in their child's schooling, whether parents wanted their children to have a better education than they had, the parent-child relationship and parents arguing with their child do not seem to be related with the young people's labour market outcomes. Among the other factors, there is a general pattern of young people in professional and intermediate occupations being slightly more likely to have parents who helped them with their homework. However, this pattern is not very clear. Clearer trends emerged in differences in parental aspirations for their children's post-16 education. Young people in professional and intermediate occupations were more likely to have parents who wanted them to continue in

post-compulsory full-time education, and young people in higher NS-SEC class occupations were more likely to have parents who thought they were likely to go into HE when they were in secondary school.

Conclusion

Among all the factors relating to parental behaviour, attitudes and aspirations, while some factors such as parental involvement in schooling seem to be largely unrelated to the contextual variables, other factors, especially parents' aspirations for the young people's post-16 education, are patterned by both family background and the young people's own post-16 outcomes. These links will be further explored in more complex analyses – regression models in Chapter 12.

9.7 Differences linked to young people's attitudes and aspirations in key contextual variables

This section examines differences in young people's wider outcomes of schooling – their aspirations for their careers and post-16 education, and their attitudes to success in life and social justice in British society – associated with the following three key contextual variables: (1) their family's NS-SEC class, which was identified as the key indicator of family background, (2) young people's HE participation and (3) the young people's own NS-SEC classes at age 25. It presents a broader picture of how pupil attitudes and aspirations vary among different family backgrounds and pupils with different outcomes. Some of the patterns revealed here will be helpful in explaining bivariate and regression analysis results in a later stage.

First, Table 9.61 shows these differences by family background.

Table 9.61 Percentages of young people agreeing with the following statements, by their family's NS-SEC class

Statement: Having a job or career in the future is important to me	Percentage
Higher managerial and professional occupations	99.0
Lower managerial and professional occupations	99.1
Intermediate occupations	98.6
Small employers and own account workers	98.9
Lower supervisory and technical occupations	97.7

Semi-routine occupations	98.6
Routine occupations	97.9
Never worked/long term unemployed	98.2
Not known	95.7

Statement: People like me don't have much of a chance in life

Higher managerial and professional occupations	4.0
Lower managerial and professional occupations	4.1
Intermediate occupations	6.9
Small employers and own account workers	7.1
Lower supervisory and technical occupations	8.7
Semi-routine occupations	9.0
Routine occupations	10.3
Never worked/long term unemployed	13.9
Not known	6.0

Statement: I can pretty much decide what will happen in my life

Higher managerial and professional occupations	63.9
Lower managerial and professional occupations	61.9
Intermediate occupations	60.3
Small employers and own account workers	60.9
Lower supervisory and technical occupations	62.4
Semi-routine occupations	59.4
Routine occupations	58.1
Never worked/long term unemployed	53.2
Not known	58.8

Statement: In Britain today, people are usually treated fairly regardless of their background

Higher managerial and professional occupations	53.0
Lower managerial and professional occupations	53.4
Intermediate occupations	46.3
Small employers and own account workers	54.2
Lower supervisory and technical occupations	54.0
Semi-routine occupations	53.5
Routine occupations	53.9

Never worked/long term unemployed	63.8
Not known	57.3
Statement: I want to continue in FT education	
Higher managerial and professional occupations	95.5
Lower managerial and professional occupations	92.9
Intermediate occupations	90.0
Small employers and own account workers	89.7
Lower supervisory and technical occupations	87.8
Semi-routine occupations	88.7
Routine occupations	84.2
Never worked/long term unemployed	92.4
Not known	90.1

Note. FT education = full-time education; NS-SEC = National Statistics Socio-economic Classification

Comparing these attitudes and aspirations of young people from different family backgrounds, first, there is no big difference in the young people's values related to their future careers. Young people from different family backgrounds all tended to agree on the importance of having a job or career in the future regardless of differences in their family backgrounds.

Second, there is a clear hierarchical pattern of parental occupational differentiation in terms of young people's prior attitudes to life chances. Young people from lower NS-SEC family classes, especially those with parents in semi-routine and routine occupations and in long-term employment, were more likely to lack confidence in their life chances. And young people with parents in professional occupations were the most likely to think that they would have good life chances. A similar hierarchical pattern emerged of different degrees of confidence in deciding on their future lives, with those from higher occupational classes more likely to have confidence than those from lower classes. Young people whose parental occupation is unknown were slightly less likely than average to have confidence in their life chances. Further research can be conducted to examine whether these differences in attitudes to life chances were formed under the influence of their parents or of their own life experiences.

Third, in general, among the young people with parents who were in employment, there is no big difference in their attitudes to social justice in Britain by family background, with slightly more than half of them having had a positive view of social fairness. However, there is a clearer and interesting pattern that those from long-term unemployed families were more likely than average to think that society is fair for everyone. Cases with missing data on their family backgrounds were also more likely than average to agree that society is fair.

Finally, among young people with parents who were in employment, there is a general hierarchical trend that young people from higher socio-economic family backgrounds were consistently more likely to have planned to continue in post-16 full-time education before school leaving age than those from lower NS-SEC family classes. Again, it is interesting that young people with parents who had never worked were more likely than average to have planned to pursue post-16 education.

Second, Table 9.62 shows these differences by HE participation.

Table 9.62 Percentages of young people agreeing with the following statements by their HE participation status

Statement: Having a job or career in the future is important to me	Percentage
Entered HE	99.0
Did not enter HE	97.9
Statement: People like me don't have much of a chance in life	
Entered HE	3.9
Did not enter HE	10.2
Statement: I can pretty much decide what will happen in my life	
Entered HE	64.5
Did not enter HE	56.4
Statement: In Britain today, people are usually treated fairly regardless of their background	
Entered HE	55.2
Did not enter HE	51.8
Statement: I want to continue in FT education	
Entered HE	98.1

Did not enter HE	81.9

Note. HE = Higher Education; FT education = full-time education

There is a consistent pattern that young people who entered HE were slightly more likely to have had confidence in their life chances and positive attitudes to society than those who did not enter HE. This same pattern is stronger in terms of the young people's aspirations for post-16 education, with those who participated in HE being much more likely to have planned to continue in post-16 full-time education before they reached school-leaving age.

Table 9.63 shows these differences by young people's labour market outcomes.

Table 9.63 Percentages of young people agreeing with the following statements, by their own NS-SEC classes at age 25

Statement: Having a job or career in the future is important to me	Percentage
Managerial, administrative & professional occupations	99.0
Intermediate occupations	99.2
Small employers and own account workers	97.3
Lower supervisory and technical occupations	99.1
Semi-routine and routine occupations	98.9
Not in employment	96.4
Statement: People like me don't have much of a chance in life	
Managerial, administrative & professional occupations	3.2
Intermediate occupations	6.6
Small employers and own account workers	10.3
Lower supervisory and technical occupations	9.4
Semi-routine and routine occupations	9.9
Not in employment	10.8
Statement: I can pretty much decide what will happen in my life	
Managerial, administrative & professional occupations	63.7
Intermediate occupations	59.3
Small employers and own account workers	57.9
Lower supervisory and technical occupations	60.2
Semi-routine and routine occupations	59.8

Not in employment	57.5
Statement: In Britain today, people are usually treated fairly regardless of their background	
Managerial, administrative & professional occupations	55.0
Intermediate occupations	54.1
Small employers and own account workers	53.0
Lower supervisory and technical occupations	47.1
Semi-routine and routine occupations	52.1
Not in employment	54.0
Statement: I want to continue in FT education	
Managerial, administrative & professional occupations	96.0
Intermediate occupations	93.8
Small employers and own account workers	73.2
Lower supervisory and technical occupations	81.5
Semi-routine and routine occupations	84.9
Not in employment	87.7

Note. NS-SEC = National Statistics Socio-economic Classification; FT education = full-time education

First, the majority of the young people agreed on the importance of a future career regardless of differences in their own occupations. As expected, those who were employed at the age of 25 were more likely to hold the opinion that a future career would be important than those who were unemployed.

Second, a hierarchical pattern emerged that young people with a higher NS-SEC class were more likely to have confidence in their life chances than those with lower NS-SEC classes. A similar pattern emerged for differences in young people's opinions on whether they could decide what would happen in their lives.

Third, there seems to be no big difference in young people's attitudes to social justice in British society according to their occupational status.

Finally, there is a clear pattern that those in professional and intermediate occupations were more likely to have planned to continue in post-16 education than those who had lower NS-SEC class occupations and those who were unemployed.

Conclusion

The results collectively show an overall positive picture of these young people's attitudes to life chances and society, and their post-16 aspirations.

While among those with parents in employment the young people's aspirations and attitudes were more likely to show a hierarchical pattern according to their family's NS-SEC class, it is interesting that those with parents in long-term unemployment tended to be more likely than average to have positive attitudes to social justice and higher aspirations for their post-16 education.

It would be useful to further explore the motivations for such high aspirations among these young people with more disadvantaged family backgrounds. In terms of differences in young people's attitudes and aspirations by their post-16 outcomes, those who entered HE and had professional jobs were more likely to have had positive attitudes to their own life chances and society as a whole, and higher post-16 aspirations.

However, it is not clear at this stage whether some of the young people's attitudes and aspirations played a role in their post-16 outcomes, which will be further explored in more complex analyses – regression models in Chapter 12.

9.8 Differences linked to young people's NEET status in key contextual variables

Besides parental and pupil attitudes and aspirations, young people's NEET status is another important factor to be examined in the regression analysis in chapter 12. This section examines differences in the young people's NEET status (i.e. whether they had ever been NEET by age 19) according to the following two contextual variables: (1) the family's NS-SEC class, which was identified as the key indicator of family background, and (2) the young person's own NS-SEC class at the age of 25. It explores the diversity of the different socio-economic groups making up the NEET population within the sample and presents the characteristics of the NEET sub-group.

Table 9.64 shows a very clear pattern of parental occupational class differentiation in terms of NEET status. Young people who had ever been NEET were more likely to have parents with a lower NS-SEC class. This is especially true for parents in routine occupations and in long-term unemployment. In contrast, young people with NEET status were the least likely to have parents in professional occupations.

Table 9.64 Percentages of young people with NEET status at or before age 19 by their family's NS-SEC class

Family's NS-SEC class	Ever been NEET by age 19
Higher managerial, admin & professional occupations	2.4
Lower managerial, admin & professional occupations	3.6
Intermediate occupations	8.0
Small employer and own account workers	5.1
Lower supervisory and technical occupations	7.2
Semi-routine occupations	9.0
Routine occupations	11.5
Never worked/long term unemployed	12.1
Not known	6.7

Note. NS-SEC = National Statistics Socio-economic Classification; NEET = Not in Education, Employment or Training

In terms of labour market outcomes, it is also very clear that young people with NEET status were much less likely to be employed in early adulthood. Among those NEET young people who managed to be employed, they were much more likely to be in semi-routine and routine occupations and were the least likely to have a professional job (Table 9.65).

Table 9.65 Percentages of young people with NEET status at or before age 19 by their own NS-SEC class at age 25

Young people's NS-SEC class at age 25	Ever been NEET by age 19
Managerial, administrative & professional occupations	1.7
Intermediate occupations	4.0
Small employers and own account workers	7.7

Lower supervisory and technical occupations	4.9
Semi-routine and routine occupations	10.6
Not in employment	14.9

Note. NS-SEC = National Statistics Socio-economic Classification; NEET = Not in Education, Employment or Training

Conclusion

The young people's NEET status at or before age 19 was clearly patterned by both their family background and their own employment and occupational status. It seems that young people from disadvantaged family backgrounds were more likely to be NEET at some point by age 19 and were more likely to be disadvantaged themselves in the labour market.

However, it is still not clear at this stage whether the role of NEET status in post-16 outcomes is largely because of links to family background or any other potential prior factors. Regression models will be used to explore the potential role played by NEET status in labour market outcomes when controlling for all the related prior factors. The results will be reported in Chapter 12.

Chapter 10 Differential educational attainment and post-16 outcomes by socio-economic group

This chapter reports the results of analyses of differences in school outcomes and beyond for different socio-economic groups of the young people. These outcomes are indicated by the following three outcome variables of interest in biographical order: (1) educational attainment, (2) HE participation and degree outcomes, and (3) labour market outcomes indicated by employment status and professional occupation status. The RQ addressed here is:

- 1. How do educational attainment, HE participation, HE degree outcomes and labour market outcomes vary between different socio-economic groups of young people?*

The bivariate analysis results from comparing means (presented as effect sizes, which are calculated as the difference between means divided by the overall standard deviation) are presented for the patterns of differential educational attainment, and cross-tabulation results are reported for the patterns of differential post-16 outcomes. Possible explanations of these patterns are also provided.

10.1 Differences in educational attainment by key contextual variables

This section reports the differences in national tests at KS2, KS3 and KS4 associated with the contextual variables indicating the young people's birth characteristics, household SES, parents' behaviour, attitudes and aspirations, region, school features, own aspirations and post-16 outcomes. Two key messages are revealed here: (1) educational attainment is clearly stratified by some background factors; and (2) educational attainment is disproportionately linked to young people's HE and career outcomes.

It is necessary to point out here that all the relative attainment figures presented are averages, and there are high attainers and low attainers in every sub-group. However, they collectively show general patterns that largely represent the characteristics of every sub-group in the sample.

10.1.1 Differences in educational attainment by background characteristics

Attainment gaps by sex

The attainment gaps associated with sex are, as would be expected, minor in all the stages (KS2, KS3 and KS4) of education, with girls scoring slightly higher than boys, a gap that is slightly bigger at KS4 (Table 10.1).

Table 10.1 Mean attainment scores of young people by sex

Sex	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Male	27.92	35.91	302.17
Female	28.12	36.16	312.64
Overall standard deviation	4.08	6.47	76.63
Effect size, in favour of females	+0.05	+0.04	+0.14

Note. N = 5,192.

Attainment gaps by ethnic group

The gaps associated with ethnicity show a complex picture (Table 10.2). At KS2 and KS3, the figures show relatively stable differences in the average scores for different ethnic groups. White and mixed pupils scored consistently higher than other ethnic minority groups, and Pakistani, Bangladeshi, black Caribbean and black African groups had the lowest scores. At KS2, the largest attainment gap was between white and Pakistani pupils, with whites achieving 2.37 points more than their Pakistani peers. At KS3, the largest gap is between mixed and Pakistani pupils, with mixed pupils scoring 4.14 points higher than Pakistani students.

While being white seems to give an attainment advantage at KS2 and KS3, possibly because of a language advantage, when it comes to KS4 white pupils fell a little behind compared to the Indian, mixed and other groups. For example, on average Indian-origin pupils achieved about 13.44 capped GCSE points higher than the white group, with an effect size of 0.18. Meanwhile, as in their performances in the previous stages, Pakistani, Bangladeshi and black pupils still obtained lower than average scores. The only group with consistently low scores

across all three stages were Pakistani pupils. Pupils with missing ethnic group data achieved an average level of KS2, KS3 and GCSE scores. These differences by ethnicity are possibly because of economic reasons, as Pakistani, Bangladeshi and black pupils are more likely to come from lower-income families.

Table 10.2 Mean attainment scores of young people by ethnic group

Ethnic group	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of White	Mean	effect size, in favour of White	Mean	effect size, in favour of White
White	28.41	-	36.62	-	307.63	-
Mixed	28.31	-0.02	36.71	+0.01	313.46	+0.08
Indian	27.75	-0.16	36.02	-0.09	321.07	+0.18
Pakistani	26.04	-0.58	32.57	-0.63	288.91	-0.24
Bangladeshi	26.62	-0.44	33.28	-0.52	303.71	-0.05
Black Caribbean	27.27	-0.28	34.21	-0.37	301.01	-0.09
Black African	26.19	-0.54	33.71	-0.45	307.23	-0.01
Other	27.74	-0.16	36.12	-0.08	325.49	+0.23
Not known	27.00	-0.35	36.00	-0.10	307.74	+0.00
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; ‘-’ = not applicable.

Attainment gaps by first language

First language status is a constant characteristic in this sample cohort, i.e. there are no individual changes in the initial language status at each stage. Pupils with English as a first or main language consistently scored higher than those with English as an additional language (Table 10.3). Compared to the attainment difference linked to sex, the language gaps are larger,

especially for KS2 (a gap of 2.28 points) and KS3 scores (a gap of 4.22 points). This suggests that English as a first or main language might confer an attainment advantage particularly in the early years of schooling.

By KS4, this difference becomes smaller, suggesting that pupils whose first language is not English made progress from the early stages to KS4. This partly explains the pattern of white pupils obtaining higher scores than most minority ethnic group pupils at KS2 and KS3 but falling behind later in KS4, as was discussed in the previous section.

This pattern in attainment gaps by first language suggests that English not being the first language can be a temporary disadvantage in the early stages of schooling. However, once English fluency is reached the disadvantage can be largely reduced.

Table 10.3 Mean attainment scores of young people by first language

English as first or main language	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Yes	28.17	36.31	309.16
No	25.89	32.09	288.82
Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP with English as first or main language	-0.56	-0.65	-0.27

Note. N = 5,192; YP = young people.

Attainment gaps by single-parent household status at birth

When it comes to single-parent household status at birth, the attainment gaps show a slightly different pattern (Table 10.4) to those for the first language. Young people who were born into a single-parent family consistently had slightly lower scores than those born into traditional two-parent families. This attainment gap becomes larger over the stages, suggesting that being born in a single-parent household can be an attainment risk factor throughout the school career.

Table 10.4 Mean attainment scores of the young people by single-parent household status at birth

Single parent household status at birth	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Yes	27.23	34.49	288.12
No	28.17	36.32	311.38
Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP born to single parent	+0.23	+0.28	+0.30

Note. N = 5,192; YP = young people.

Attainment gaps by family composition

As expected, attainment gaps according to whether the young people ever lived in a single-parent household (Table 10.5) show a similar pattern to the gaps for single-parent households at birth (Table 10.4). Young people who at some stage lived in a single-parent household consistently had lower attainment than those who never lived in a single parent family, and the gap gradually gets slightly larger over the school career.

Table 10.5 Mean attainment scores of the young people by single-parent household status at some stage

Single parent household status at some stage	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Yes	27.23	34.46	286.45
No	28.28	36.53	314.49

Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP with single parent household status	+0.26	+0.32	+0.37

Note. N = 5,192; YP = young people.

A similar pattern but with smaller gaps emerges for whether the young person ever lived in a stepfamily (Table 10.6), which shows that living in a stepfamily is a weaker attainment risk factor than living in a single-parent family.

Table 10.6 Mean attainment scores of the young people by living in a stepfamily at some time

Stepfamily status at some time	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Yes	27.87	35.34	295.23
No	28.05	36.12	309.23
Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP with stepfamily status	+0.04	+0.12	+0.18

Note. N = 5,192; YP = young people.

The patterns for family composition presented here suggest that single-parent and stepfamily statuses can put young people at a disadvantage in their attainment, and this disadvantage tends to slightly increase over time as they move towards the end of KS4.

Attainment gaps in terms of the economic situation at home

Attainment gaps by the family's NS-SEC class

Table 10.7 shows a clear pattern of parental occupation class differentiation in terms of attainment at all three stages – young people with parents in higher occupational classes consistently achieved higher scores than those with parents in lower NS-SEC classes. This was especially true for young people with parents in higher professional occupations, who consistently performed the best in the three stages of schooling.

These gaps are largest between young people with parents in higher managerial and professional occupations and those with parents who were long-term unemployed in all the school stages. The effect sizes at KS2 and KS3 are bigger than those at KS4. This suggests that having parents in professional occupations gives children a big advantage in terms of school attainment, especially in the early stages of the school career. In contrast, the young people with parents in long-term unemployment tended to start school with much lower attainment, meaning that they were already left behind at the very beginning of their school careers.

In the analytical sample, cases whose parental occupation is unknown had below average levels of attainment at KS2 and KS3 and slightly above average levels at KS4.

Table 10.7 Mean attainment scores of the young people by their family's NS-SEC class

Family's NS-SEC class	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of YP with long- term unemployed parents	Mean	effect size, in favour of YP with long- term unemployed parents	Mean	effect size, in favour of YP with long- term unemployed parents
Higher managerial and professional occupations	29.84	+1.10	39.81	+1.27	334.94	+0.82

Lower managerial and professional occupations	28.91	+0.87	37.67	+0.94	321.75	+0.64
Intermediate occupations	28.32	+0.78	36.48	+0.75	311.84	+0.52
Small employers and own account workers	27.75	+0.59	35.65	+0.62	305.54	+0.43
Lower supervisory and technical occupations	27.45	+0.51	34.66	+0.47	299.18	+0.35
Semi-routine occupations	26.49	+0.28	33.19	+0.24	285.25	+0.17
Routine occupations	26.44	+0.26	32.65	+0.16	274.03	+0.02
Never worked/long-term unemployed	25.36	-	31.62	-	272.37	-
Not known	27.73	+0.58	35.04	+0.53	309.76	+0.49
Overall standard deviation		4.08		6.47		76.63

Note. NS-SEC = National Statistics Socio-economic *Classification*; YP = young people; N = 5,192; ‘-’ = not applicable.

Attainment gaps by household income and managing on income

Table 10.8 shows a general pattern that young people from higher-income families obtained higher key stage scores than those from poorer families at all three stages. This can be partly explained by the occupational class differentiation discussed in the previous section, as parents with professional occupations tend to have higher income than those in lower-status jobs and, of course, those who are long-term unemployed.

One noticeable pattern is that the effect sizes for these differences are consistently smaller than those for differences by parental occupation (cf. Table 10.7). This suggests that some factors other than income which are related to parental occupation, such as parental behaviour and aspirations, might also play a role in school attainment.

Young people whose household income is unknown consistently scored lower than average in all three key stages.

Table 10.8 Mean attainment scores of young people by household income band

Household income band	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of YP with household income band $\leq$ £5200	Mean	effect size, in favour of YP with household income band $\leq$ £5200	Mean	effect size, in favour of YP with household income band $\leq$ £5200
$\leq$ £5200	26.86	-	33.35	-	284.90	-
£5200.01 to £10400	27.03	+0.04	33.99	+0.10	284.98	+0.00
£10400.01 to £15600	27.44	+0.14	34.65	+0.20	298.03	+0.17
£15600.01 to £20800	27.40	+0.13	35.01	+0.26	295.88	+0.14

£20800.01 to £33800	27.88	+0.25	35.88	+0.39	308.02	+0.30
£33800.01 to £41000	28.80	+0.48	37.51	+0.64	320.32	+0.46
£41000.01 to £55000	29.05	+0.54	38.00	+0.72	324.96	+0.52
over £55000	29.99	+0.77	40.02	+1.03	336.60	+0.67
Not known	27.19	+0.08	34.35	+0.15	295.92	+0.14
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; YP = young people; ‘-’ = not applicable.

Attainment gaps by the family’s level of managing on its income show a picture consistent with that for household income – young people from families which managed well on their income performed better at all stages than those from families which were unable to save money or which had financial difficulties (Table 10.9). Although parents managing well on their income does not necessarily mean the household has a high income, a good level of managing on income indicates that the household is reasonably well-off.

Table 10.9 Mean attainment scores of young people by level of the family managing on its income

Level of managing on income	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of YP with families managing income well	Mean	effect size, in favour of YP with families managing income well	Mean	effect size, in favour of YP with families managing income well

Managing quite well, able to save or spend on leisure	28.83	-	37.49	-	319.71	-
Just getting by, unable to save if wanted to	27.26	-0.38	34.69	-0.43	296.90	-0.30
Getting into difficulties	26.37	-0.60	32.81	-0.72	277.92	-0.55
Not known	27.66	-0.29	34.81	-0.41	306.06	-0.18
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; YP = young people; ‘-’ = not applicable.

Attainment gaps by FSM eligibility

While the previous section reported attainment gaps by specific family income bands, this section presents patterns in terms of family poverty, indicated by FSM eligibility.

As Table 10.10 shows, in all of the three school stages there is a substantial attainment gap between FSM-eligible pupils and non-eligible pupils. FSM-eligible pupils scored significantly lower. This is an indication that pupils with FSM eligibility are significantly disadvantaged in educational attainment. This pattern further confirms educational research findings that children from deprived families tend to obtain lower examination marks than their richer peers (Gorard, 2018).

Table 10.10 Mean attainment scores of young people by FSM category

Whether eligible for FSM	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
FSM-eligible	25.83	31.72	269.90
Not FSM-eligible	28.35	36.67	313.33
Overall standard deviation	4.08	6.47	76.63

effect size, in favour of FSM-eligible YP	+0.62	+0.77	+0.57

Note. FSM = free school meals; YP = young people; N = 5,192.

Attainment gaps by EMA status

A similar pattern to that for FSM eligibility emerges for EMA status, with a smaller gap at each stage (Table 10.11). Young people who ever received EMA scored consistently lower than those who never received EMA. The attainment gap narrowed at KS4. One possible explanation for this smaller gap is that although receiving EMA indicates low family income, unlike FSM eligibility receiving EMA also indicates high aspirations to continue in post-compulsory education on the part of the young people or their parents. These aspirations may partly explain the better performance at school of those receiving EMA than that of those eligible for FSM.

Table 10.11 Mean attainment scores of young people by EMA category

Whether ever received EMA	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Received EMA	27.25	34.58	300.86
Did not receive EMA	28.67	37.23	313.56
Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP with EMA status	+0.35	+0.41	+0.17

Note. EMA = Education Maintenance Allowance; YP = young people; N = 5,192.

Attainment gaps by house ownership

Table 10.12 shows a clear school attainment pattern according to house ownership. Young people who lived in houses which were not owned by their families consistently scored lower than those living in owned houses at all three stages of schooling. Families not owning their house when the young person was aged 13 onwards are likely to have had low household income, the family being new arrivals in the country or a traveller family.

Table 10.12 Mean attainment scores of young people by household tenure

House tenure	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
House owned	28.51	36.94	317.23
House not owned	26.30	32.80	273.87
Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP lived in owned house	-0.54	-0.64	-0.57

Note. N = 5,192; YP = young people.

Attainment gaps by material ownership

Table 10.13 shows a consistent picture of a lack of items at home being linked to lower educational attainment at all school stages. This is especially true for items which can be used as educational aids such as a home computer for schoolwork and internet access. For example, Regarding the KS2 average points score, pupils with no home computer for school use scored 3.49 points lower than those who had. This gap was -6.77 points in the KS3 average points score and -82.06 points in capped GCSE results.

Lacking any of the items listed at home indicates potentially lower family income, which partly explains the link with lower attainment. Having items which can be used for education

indicates a potentially higher family income, and the education aids at home themselves might play a role in helping pupils improve their attainment, maybe through more effective learning or access to information. These two factors might explain the higher attainment gaps of the young people with a home computer for school use and internet access.

Table 10.13 Mean attainment scores of young people by material ownership

Material ownership	Value	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
		Mean	Mean	Mean
Own mobile phone	Yes	28.25	36.41	310.81
	No	26.41	33.34	286.47
	effect size, in favour of YP owned a mobile phone	-0.45	-0.47	-0.32
Home telephone	Yes	28.04	36.06	308.03
	No	26.93	33.32	286.47
	effect size, in favour of YP had a home telephone	-0.27	-0.42	-0.28
Home computer	Yes	28.19	36.34	311.29
	No	24.82	29.95	238.15
	effect size, in favour of YP owned a	-0.83	-0.99	-0.95

	home computer			
Home computer for schoolwork	Yes	28.45	36.86	317.75
	No	24.96	30.09	235.74
	effect size, in favour of YP owned a home computer for schoolwork	-0.86	-1.05	-1.07
Internet access	Yes	28.36	36.69	314.36
	No	25.69	31.47	261.90
	effect size, in favour of YP with internet access	-0.65	-1.05	-0.68
Laptop for school use	Yes	28.82	37.63	320.30
	No	27.94	35.87	306.49
	effect size, in favour of YP owned a laptop for school use	-0.22	-0.27	-0.18
Overall standard deviation		4.08	6.47	76.63

Note. N = 5,192; YP = young people.

Attainment gaps by access to private tuition

Not having private lessons does not necessarily imply a disadvantage, but having private lessons seems to give an advantage. Table 10.14 shows a clear pattern of young people having private lessons, either in school subjects or supplementary subjects, consistently scoring higher than those who never had any private tuition. There are two main trends: (1) the advantage from taking private lessons in school subjects tends to slightly increase over the stages; (2) the gaps for private tuition in supplementary subjects are bigger than the gaps for private lessons in school subjects. This might be the result of a positive effect of rich cultural knowledge or even curiosity. Parents not paying for private lessons does not necessarily indicate low family income but paying for private lessons suggests a reasonably high income, parental willingness to invest in their children's education or both.

Table 10.14 Mean attainment scores of the young people by access to private tuition

Private tuition	Value	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
		Mean	Mean	Mean
Private lessons in school subjects	Yes	28.66	37.61	328.29
	No	27.77	35.40	299.45
	effect size, in favour of yes	-0.22	-0.34	-0.38
Private lessons in supplementary subjects	Yes	29.36	38.77	329.67
	No	27.34	34.63	296.58
	effect size, in favour of yes	-0.50	-0.64	-0.43
Overall standard deviation		4.08	6.47	76.63

Note. N = 5,192.

Attainment gaps by the highest qualification held in the family

Table 10.15 shows a clear pattern at all stages of schooling of pupils with parents with higher qualifications consistently scoring higher than those whose parents had lower qualifications. Pupils born to parents with no qualification consistently had the lowest score. The gaps are largest between pupils with parents who were graduates and those whose parents had no qualification. This further implies that having parents with no qualification is a risk factor in pupils' educational performance.

Very interestingly, the effect sizes indicating the largest gaps by parental education are almost the same as those for the largest attainment gaps by parental occupational class at each stage (cf. Table 10.7). This indicates a very close link between parental educational level and occupational class, these two variables playing very similar roles in children's attainment at school, or both.

The young people whose parents' educational level is unknown had lower than average scores at all the stages.

Table 10.15 Mean attainment scores of young people by the highest qualification held in the family

Highest qualification held in family	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of YP born to parents with no qualification	Mean	effect size, in favour of YP born to parents with no qualification	Mean	effect size, in favour of YP born to parents with no qualification
Degree or equivalent	29.94	+1.00	40.06	+1.27	338.30	+0.82
Higher education	28.67	+0.69	37.42	+0.86	319.93	+0.58

below degree level						
GCE A Level or equivalent	28.38	+0.62	36.36	+0.70	312.23	+0.48
GCSE grades A-C or equivalent	27.62	+0.43	35.05	+0.49	300.26	+0.33
Basic low-level qualifications	26.19	+0.08	33.17	+0.20	278.71	+0.04
Other qualifications	26.50	+0.16	33.06	+0.19	288.20	+0.17
No qualification	25.86	-	31.85	-	275.32	-
Not known	26.95	+0.27	33.02	+0.18	271.04	-0.06
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; YP = young people; ‘-’ = not applicable.

Attainment gaps by region

Table 10.16 shows that in general there were relatively stable attainment differences by region across the three stages and all the gaps are relatively small. The clearest pattern is that for all the national tests pupils living in the north of England obtained lower scores than those living in the south. This is expected as the lower average attainment in the north can be partly explained by well-known long-standing economic disadvantage in the north of England. Pupils in the East and West Midlands tended to have achieved about average attainment. Living in London was not linked to advantage in KS2 and KS3 attainment, but it was linked to better GCSE outcomes. Pupils in London performing the best in KS4 exams is not surprising considering the economic advantages in London and the extra funding that London schools received.

In fact, these differences by region are more likely to be economic ones, as attainment is clearly stratified by the economic situation in each region, which can be considered an extension of the well-established link between income and educational attainment.

Table 10.16 Mean attainment scores of young people by Government Office Region

Government Office Region	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of YP lived in London	Mean	effect size, in favour of YP lived in London	Mean	effect size, in favour of YP lived in London
North East	27.85	-0.04	35.52	-0.10	300.91	-0.24
North West	27.80	-0.05	35.22	-0.15	298.23	-0.28
Yorkshire and Humber	27.65	-0.09	35.13	-0.16	295.53	-0.31
East Midlands	28.05	+0.01	36.21	+0.00	302.59	-0.22
West Midlands	28.10	+0.02	36.00	-0.03	312.48	-0.09
East of England	28.15	+0.04	36.30	+0.02	315.41	-0.05
London	28.00	-	36.19	-	319.37	-
South East	28.38	+0.09	38.83	+0.41	310.06	-0.12
South West	28.19	+0.05	36.76	+0.09	307.05	-0.16
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; YP = young people; '-' = not applicable.

Correlations between previous educational attainment and neighbourhood deprivation

This section evaluates the link between neighbourhood deprivation indicated by the IDACI index and educational attainment. Table 10.17 presents the results of a correlation analysis of the links between IDACI and KS2 average points score, KS3 average points score and capped GCSE points score. The IDACI is negatively correlated with educational attainment at every KS, with the strongest link being a relatively high correlation of -0.323 with KS3 attainment. This indicates that living in a poor area is linked to lower attainment throughout the school career. Again, this pattern reflects the link between income and educational attainment identified in the literature.

Table 10.17 Correlations between neighbourhood deprivation and educational attainment variables relating to individual IDACI-level educational attainment

Individual average attainment	IDACI
Individual KS2 average points score	-0.244
Individual KS3 average points score	-0.323
Individual capped GCSE and equivalent points score	-0.207

Note. KS2 = Key Stage 2; KS3 = Key Stage 3; GCSE = General Certificate of Secondary Education; IDACI = Income Deprivation Affecting Children Index; N = 5,192.

10.1.2 Differences in educational attainment by behaviour, attitudes and aspirations

This section moves on to report differential school performance according to parental behaviour, attitudes and aspirations.

Attainment gaps by parental involvement

Table 10.18 shows that having parents involved in their schooling does not seem to be linked to the young people's attainment at school, which is a little different from what may be expected. There are very small attainment gaps between the young people whose parents were involved in their schooling and those whose parents were not. This lack of evidence of a link between parents' involvement in their child's schooling and attainment contributes to the long debates on whether parental involvement helps school performance and confirms Gorard's result that there is no evidence of the effectiveness of parental involvement in secondary education (2018).

However, parents helping with homework seems to be linked to slightly higher attainment scores at all stages. This can possibly be explained by the hierarchical pattern revealed in the univariate analysis in Chapter 9 of parents in professional occupations being most likely to help with homework and long-term unemployed parents the least likely to help. To some extent, this suggests that it might not be parental help with homework that matters but parental social class.

Table 10.18 Mean attainment scores of the young people by parental involvement in their schooling

Parental involvement in schooling	Value	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
		Mean	Mean	Mean
Parents involved in schooling	Yes	27.99	36.02	308.37
	No	28.38	36.35	305.68
	effect size, in favour of yes	+0.10	+0.05	-0.04
Parents helped with homework	Yes	28.10	36.20	310.45
	No	27.51	34.82	288.23
	effect size, in favour of yes	-0.14	-0.21	-0.29
Overall standard deviation		4.08	6.47	76.63

Note. N = 5,192.

Attainment gaps by parental educational aspirations

Table 10.19 shows an encouraging pattern of high parental educational aspirations being related to better school attainment at all stages. Young people with parents who wanted them to continue in post-16 formal education consistently scored higher than those whose parents did not want them to do so.

Since parents who were long-term unemployed had equally high aspirations as those in professional occupations, as was discussed in Chapter 9, it can be reasonably hypothesised that parental aspirations might play a positive role in children's attainment.

While parents wanting the young people to pursue post-compulsory education indicates that they valued the importance of post-16 education, parents lacking such aspirations does not necessarily suggest that they did not value post-compulsory education. It is also possible that some parents who wanted their children to follow other routes equally valued the importance of post-compulsory education but in practice needed their child to get a job to help support the family economically.

Table 10.19 Mean attainment scores of the young people by parental educational aspirations

Whether parents wanted the young people to continue in FT education	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of yes	Mean	effect size, in favour of yes	Mean	effect size, in favour of yes
Yes	28.17	-	36.33	-	311.19	-
No	25.46	-0.66	30.82	-0.85	246.06	-0.85
Not known	24.78	-0.83	29.00	-1.13	261.20	-0.65
Overall standard deviation	4.08		6.47		76.63	

Note. FT education = full-time education; N = 5,192; '-' = not applicable.

Attainment gaps by parent-child relationship

Table 10.20 shows that young people who had a good relationship with their parents had higher scores at all stages than those who did not get on well with their parents. This pattern can again

be possibly attributed to a hierarchical link between the parent-child relationship and parental occupational class, as reported in Chapter 9.

Table 10.20 Mean attainment scores of the young people by parent-child relationship

How well the parents got on with the young people	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of well	Mean	effect size, in favour of well	Mean	effect size, in favour of well
Well	28.15	-	36.29	-	309.12	-
Badly	26.96	-0.29	33.32	-0.46	249.54	-0.78
Not known	25.98	-0.53	31.79	-0.70	290.83	-0.24
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; ‘-’ = not applicable.

Attainment gaps by the young people’s aspirations

Table 10.21 shows a very clear pattern of young people who planned to stay on in post-16 education consistently achieving higher scores than those who did not. This is particularly true when it comes to GCSE scores, as GCSEs are the qualifications which are key to continuing in post-16 education.

As discussed in Chapter 9, the young people’s educational aspirations were clearly and hierarchically patterned by parental occupational class for those whose parents were employed. Additionally, the young people with parents in long-term unemployment had equally high aspirations to those whose parents were in professional occupations. This makes possible explanations of the link between higher pupil aspirations and higher educational outcomes a little complex. The link can partly be explained by the family background but it can also be

explained by a potential effect of high pupil aspirations themselves regardless of socio-economic disadvantage, which is an encouraging sign. It is likely that both effects matter.

Table 10.21 Mean attainment scores of the young people by their educational aspirations

Whether the young person planned to stay on in FT education post-16	KS2 average points score		KS3 average points score		Capped GCSE and points score	
	Mean	effect size, in favour of yes	Mean	effect size, in favour of yes	Mean	effect size, in favour of yes
Yes	28.27	-	36.53	-	314.54	-
No	25.86	-0.59	31.31	-0.81	240.68	-0.96
Not known	25.30	-0.73	31.22	-0.82	248.62	-0.86
Overall standard deviation	4.08		6.47		76.63	

Note. FT education = full-time education; N = 5,192; ‘-’ = not applicable.

10.1.3 Differences in educational attainment by schooling features

This section moves on to schooling factors and reports differential attainment according to two schooling features: school mobility and the young people’s feelings of happiness at school.

According to Table 10.22, pupils who changed school(s) could be at a potential risk of lower attainment. They had lower average scores than those who stayed at the same school, and they made less progress over the stages. This pattern can possibly be explained by their family backgrounds, with them being more likely to be new arrivals or from traveller families.

Table 10.22 Mean attainment scores of young people by school mobility

Whether ever changed school	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Yes	26.56	33.57	266.15
No	28.10	36.16	309.78
Overall standard deviation	4.08	6.47	76.63
effect size, in favour of YP changed school	+0.38	+0.40	+0.57

Note. N = 5,192.

Table 10.23 shows a clear link between young people feeling happy at school and higher school attainment. This suggests that not only did pupils who were happy at school perform better in school examinations but they also made more progress during their school careers. The question here is whether this pattern can be explained by background characteristics associated with pupils feeling happy at school. Cross-tabulations (Appendix 10) show that there is no clear pattern of background stratification in young people feeling happy at school or not. This suggests a possibility that the young people felt happy at school for various reasons such as positive personal characteristics, positive school experiences or positive teacher-student relationships, etc.

This pattern contributes to the literature, which seldom touches on the link between happiness at school and school performance. This link should be considered a possible factor in future research on school performance.

Table 10.23 Mean attainment scores of young people by feelings at school

Whether ever felt	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score

happy at school	Mean	effect size, in favour of yes	Mean	effect size, in favour of yes	Mean	effect size, in favour of yes
Yes	28.11	-	36.16	-	310.09	-
No	25.93	-0.53	32.34	-0.59	238.01	-0.94
Not known	21.09	-1.72	28.53	-1.18	177.89	-1.73
Overall standard deviation	4.08		6.47		76.63	

Note. N = 5,192; ‘-’ = not applicable.

10.1.4 Differences in educational attainment by post-16 outcomes

Attainment gaps by HE participation

Not surprisingly, young people who entered HE consistently previously achieved better results at school (Table 10.24). Higher key stage scores lead to better opportunities for HE participation, which is a well-known phenomenon. What is more interesting is whether and how school attainment is related to labour market outcomes at a later stage, which will be reported in the next section.

Table 10.24 Mean school attainment scores of the young people by HE participation

HE participation	KS2 average points score	KS3 average points score	Capped GCSE and equivalent points score
	Mean	Mean	Mean
Entered HE	29.43	38.86	338.02
Did not enter HE	26.33	32.61	271.18
Overall standard deviation	4.08	6.47	76.63

effect size, in favour of YP entered HE	-0.76	-0.97	-0.87

Note. HE = Higher Education; N = 5,192.

Attainment gaps by the young people's own NS-SEC class at age 25

Table 10.25 shows two main clear patterns of differential attainment by labour market outcome at age 25, one which emerged in the sub-group of young people who were in employment and one between those who were employed and those who were not.

First, among those in the sample who were in employment, in all the school stages there is a general pattern of occupational class differentiation in terms of previous school attainment. Young people in managerial and professional occupations previously achieved the highest scores. There are consistently large attainment gaps for all the test scores between the young people who were in professional occupations and those who were in semi-routine and routine jobs.

Second, although in general the young people who were employed scored higher than those who were not employed, unemployed young people had had slightly higher average attainment than those in semi-routine and routine occupations. This applies to attainment at all the stages. One possible explanation is that while the majority of the young people who were unemployed had previously had lower scores than those who got a job, some high attainers among the unemployed young people might have been doing a higher level of qualification such as a PhD, or they might have chosen to have a gap year.

Table 10.25 Mean attainment scores at school of the young people by their NS-SEC class at age 25

NS-SEC class	KS2 average points score		KS3 average points score		Capped GCSE and equivalent points score	
	Mean	effect size, in favour of YP in	Mean	effect size, in favour of YP in	Mean	effect size, in favour of YP in

		professional occupation		professional occupation		professional occupation
Managerial, admin & professional	29.33	-	38.59	-	334.06	-
Intermediate occupations	28.42	-0.22	36.40	-0.34	320.48	-0.18
Small employers and own account	26.85	-0.61	33.74	-0.75	288.66	-0.59
Lower supervisory and technical	27.05	-0.56	34.34	-0.66	284.13	-0.65
Semi- routine and routine occupations	26.35	-0.73	32.47	-0.95	273.00	-0.80
Not in employment	26.64	-0.66	33.85	-0.73	276.67	-0.75
Overall standard deviation		4.08		6.47		76.63

Note. NS-SEC = National Statistics Socio-economic *Classification*; N = 5,192; ‘-’ = not applicable.

10.1.5 Conclusion

In conclusion, the young people’s educational attainment was clearly stratified by their socio-economic backgrounds. This pattern tended to be consistent across KS2, KS3 and KS4. This is especially true of the family’s NS-SEC class, the parental education level, household income, single-parent household status, and educational item ownership such as a home computer for schoolwork. Young people from low NS-SEC class families, those with parents with low

educational qualifications, those with single-parent status, those with lower income and those with fewer educational resources were all disadvantaged in their educational attainment. This pattern is in line with well-established findings that children from higher socio-economic family backgrounds and higher-income families tend to have higher educational attainment (Gorard, 2018). This stratification tended to be stronger in the pupils' early years of schooling.

Many of the variables can be interrelated. For example, children from families in long-term unemployment were more likely to be eligible for FSM, and young people who were entitled to FSM were less likely to own a home computer for schoolwork, etc. However, the core message is clear: these differential attainments are largely closely linked to income-related background factors. Young people living in poverty are at the most disadvantage in terms of educational outcomes.

Besides socio-economic factors, other factors such as the young people feeling happy at school and high parental and pupil educational aspirations were also related to higher attainment at school. However, there is no clear pattern in terms of parental involvement in schooling, the effect of which on school attainment various studies have tried to detect, but failed (See & Gorard, 2015a, b). These patterns make two contributions to the literature: (1) pupil happiness at school needs to be considered a potential school factor in educational attainment, and there should be more literature on this; and (2) whether parental involvement in schooling plays a positive role in educational attainment remains a subject of dispute. While some intervention studies claim it has positive effects, the pattern revealed in this study provides no evidence of this widely claimed link.

Another key pattern is that the young people's HE participation and labour market outcomes were also clearly linked to their previous schooling attainment. Young people with positive post-16 outcomes had better performance in all the school examinations. This begins to suggest possible links between socio-economic background, certain other factors and the young people's post-16 education and career trajectories, which will be discussed in the following sections and later will be further explored through regression modelling.

10.2 Differences in higher education (HE) participation and degree outcomes by key contextual variables

After examining patterns of differential educational attainment as outcomes of schooling, this section continues by exploring HE participation and degree outcomes as further outcomes of schooling. Participation in HE and degree outcomes are predictably linked to higher previous educational attainment. There are three outcomes of interest: HE entry, Russell Group university entry and first degree or higher achievement. The section examines differences in these outcomes associated with key contextual variables indicating the young people's characteristics at birth, household SES, prior educational attainment, parental behaviour, attitudes and aspirations, school features, the young people's aspirations, geographical location and neighbourhood deprivation, and labour market outcomes.

10.2.1 Differences in Higher Education (HE) participation and degree outcomes by background characteristics

Gaps in HE participation and degree outcomes by sex

The gaps between males and females in continuing with HE are small. While females had a slightly higher probability of entering HE (including attending Russell group universities), they were slightly less likely to obtain a first degree or higher (Table 10.26).

Table 10.26 Percentages of young people continuing with HE by sex

Sex	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Male	51.7	8.5	64.2
Female	57.6	9.0	62.5

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by ethnic group

Table 10.27 shows a mixed picture. Among all the known ethnic groups, Indian and black African young people were the most likely to enter HE, while their white and mixed peers were the least likely to continue in HE. This can be partly explained by Indian-origin pupils having made good progress in their attainment across the stages, especially in KS4, while white students tended to fall behind in their attainment in the later stages at school, as was discussed

earlier. It may also be because families with an immigrant background, having already invested in emigrating, have strong work and self-improvement ethics.

The pattern is slightly different when it comes to Russell Group university entry. While Indians and black Africans were still more likely to enter the elite universities, white and mixed-origin pupils were more likely than average to do so, suggesting that regardless of the relatively low rate of HE entry among whites and mixed-origin students, among those who did end up in HE, they were more likely to enter a more selective university. Black Caribbean students were the least likely to enter a Russell Group university.

In terms of degree outcomes, the patterns change again. White pupils had the highest probability of obtaining a first degree or higher, which is consistent with their high performance in entering Russell Group universities. This pattern supports Smith and White's (2015) finding that being white increases the chance of graduating with a higher degree. Surprisingly, although Bangladeshi pupils were much less likely than average to enter Russell group universities, they were more likely than average to achieve a higher degree once they entered HE. Again, interestingly, although Indian-origin students performed well in HE entry (including elite university entry), they were the least likely to obtain a first degree or higher.

Cases with missing data on their ethnicity were less likely than average to enter HE and achieve a first degree or higher but more likely than average to enter Russell group universities.

Table 10.27 Percentages of young people continuing with HE by ethnic group

Ethnic group	Entered HE	Entered a Russell group university	Achieved first degree or higher
White	49.6	8.8	66.1
Mixed	50.7	7.9	64.2
Indian	82.0	12.9	47.4
Pakistani	61.3	7.7	59.0
Bangladeshi	65.2	5.3	64.4
Black Caribbean	53.9	3.9	60.9
Black African	81.0	9.1	47.9
Other	73.6	10.1	55.8

Not known	62.5	12.5	50.0

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by first language

As Table 10.28 shows, having English as a first or main language was not linked to an advantage in entering HE and receiving a first degree or higher, suggesting that language advantage tends to disappear once fluency is achieved. However, speaking English as a first language is linked to an advantage in entry to a Russell group university.

Table 10.28 Percentages of young people continuing in HE by language

English as first or main language	Entered HE	Entered a Russell group university	Achieved a first degree or higher
Yes	54.5	8.9	36.6
No	60.9	6.2	39.1

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by single-parent household status at birth

Being born in a single-parent household is clearly linked to disadvantage in HE participation and outcomes. The young people who were born in a single-parent family were much less likely to enter HE (including Russell group universities) and to get a first degree or higher (Table 10.29). As with attainment gaps, being born into a single-parent household is a HE entry risk factor.

Table 10.29 Percentages of young people continuing with HE by single-parent household status at birth

Single-parent household status at birth	Entered HE	Entered a Russell group university	Achieved a first degree or higher
Yes	42.1	5.0	27.2
No	57.2	9.4	38.4

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by family composition

Consistently with the gaps for single-parent status at birth, young people ever living in a single-parent or stepfamily was clearly associated with negative HE participation and outcomes (Table 10.30 and Table 10.31).

Table 10.30 Percentages of young people continuing with HE by single-parent household status at some time

Single parent household status at some time	Entered HE	Entered a Russell group university	Achieved a first degree or higher
Yes	41.1	4.8	27.2
No	59.2	10.0	39.7

Note. HE = Higher Education; N = 5,192.

Table 10.31 Percentages of young people continuing with HE by stepfamily status at some time

Stepfamily status at some time	Entered HE	Entered a Russell group university	Achieved a first degree or higher
Yes	37.8	4.4	25.9
No	56.7	9.2	37.9

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by the family's NS-SEC class

Table 10.32 shows the relationship between continuing in HE and the parents' occupational class. As expected, there is a general pattern of young people from higher NS-SEC class backgrounds being more likely to enter HE and have a positive outcome than those from lower occupational class backgrounds. This was particularly true for young people with parents in professional occupations. For example, compared to their peers with long-term economically inactive parents, those whose parents were in higher professional occupations were almost twice (odds ratio = 1.6) as likely to enter HE, almost 6 times (odds ratio = 5.7) as likely to attend a Russell group university and almost twice (odds ratio = 1.9) as likely to achieve a first degree or higher.

However, an interesting pattern emerges for the young people whose parents were in long-term unemployment. Although they were still disadvantaged in continuing in HE, they were likely to perform better in HE than those whose parents had routine jobs, and this applies to all three HE indicators. One possible explanation is the high parental and pupil aspirations for post-16 education associated with these households, as was discussed in Chapter 9. This is a hopeful pattern and it will be further explored through regression analysis when both parental occupation and aspiration factors are entered in regression models.

Young people whose parental occupations are unknown were less likely than average to enter HE but slightly more likely than average to go to Russell group universities and obtain a first degree or higher.

Table 10.32 Percentages of young people continuing with HE by the family's NS-SEC class

Family's NS-SEC class	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Higher managerial, admin & professional occupations	73.1	20.4	52.0
Lower managerial, admin & professional occupations	63.2	10.1	41.3
Intermediate occupations	51.8	5.5	37.1
Small employer and own account workers	54.4	7.9	33.2
Lower supervisory and technical occupations	42.4	4.5	30.7
Semi-routine occupations	43.0	3.9	26.9
Routine occupations	38.9	2.9	24.7
Never worked/long term unemployed	46.4	3.6	26.8
Not known	50.2	7.9	37.5

Note. NS-SEC = National Statistics Socio-economic Classification; HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by household income and managing on income

In Table 10.33 there is a general pattern of higher family income being related to HE participation and positive degree outcomes. This is especially true for Russell group university entry. Young people from low-income families were much less likely than average to continue in HE. Even those who managed to enter HE were much less likely than average to achieve a first degree or higher. For example, young people from a family with an annual income of more than £55,000 were almost twice (odds ratio = 1.9) as likely to participate in HE, almost 5 times (odds ratio = 4.7) as likely to enter a Russell group university and almost twice (odds ratio = 1.8) as likely to achieve a first degree or higher than those from households with an annual income equal to or less than £5,200.

Table 10.33 Percentages of young people continuing with HE by household income band

Household income band	Entered HE	Entered a Russell group university	Obtained a first degree or higher
≤£5,200	40.4	3.9	29.2
£5,200.01 to £10,400	45.2	3.9	27.8
£10,400.01 to £15,600	46.0	5.0	30.3
£15,600.01 to £20,800	48.1	4.8	27.6
£20,800.01 to £33,800	49.4	7.6	33.5
£33,800.01 to £41,000	59.0	10.4	41.8
£41,000.01 to £55,000	60.6	11.6	41.8
over £55,000	75.3	18.2	52.6
Not known	52.8	6.7	34.0

Note. HE = Higher Education; N = 5,192.

The same pattern applies to managing on household income. Young people from families which managed on their income well were much more likely than those from families which had financial difficulties to continue in HE and obtain a good degree (Table 10.34).

Table 10.34 Percentages of young people continuing with HE by level of managing on household income

Level of managing on income	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Managed quite well, able to save or spend on leisure	60.3	11.4	41.2
Just got by, unable to save if wanted to	49.0	6.0	32.0
Getting into difficulties	46.9	5.1	29.1
Not known	60.2	6.1	37.8

Note. HE = Higher Education; N = 5,192.

At this point, a clearer pattern of socio-economic stratification of HE participation and outcomes begins to emerge. The next part focuses on poverty-related gaps.

Gaps in HE participation and degree outcomes by FSM eligibility

Table 10.35 shows that being eligible for FSM was linked to a clear disadvantage in HE participation. FSM-eligible pupils were much less likely to enter HE, to attend a Russell group university and to receive a first degree or higher than their non-FSM-eligible peers. This is especially true for attending a Russell group university. FSM-eligible pupils were less than half (odds ratio = 0.4) as likely as non-FSM-eligible students to enter a Russell group university. This confirms the pattern of a link between income and HE continuation which was discussed earlier.

Table 10.35 Percentages of the young people continuing in HE by FSM eligibility

FSM eligibility	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Yes	41.6	3.9	25.1
No	56.8	9.5	38.4

Note. HE = Higher Education; FSM = free school meals; N = 5,192.

Gaps in HE participation and degree outcomes by EMA status

Table 10.36 shows a similar pattern (with smaller gaps for each indicator) in gaps by EMA status, with young people in receipt of EMA consistently disadvantaged in HE participation and outcomes. Again, as discussed in section 10.1, compared to the gaps by FSM category, these smaller gaps might be due to the potential higher educational aspirations of EMA students.

Table 10.36 Percentages of the young people continuing with HE by EMA category

Received EMA	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Yes	53.4	6.1	34.2
No	56.2	10.9	38.8

Note. EMA = Education Maintenance Allowance; HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by house tenure

Table 10.37 shows that living in a house not owned by the family was a high-risk factor for not continuing in HE and poor degree outcomes. For example, compared to those living in an owned house, young people living in a house which was not owned were a fifth (odds ratio = 0.2) as likely to enter a Russell group university. This gap is more likely to be for economic reasons, as not owning a house is highly likely to be related to low family income.

Table 10.37 Percentages of the young people continuing in HE by house tenure

House tenure	Entered HE	Entered a Russell group university	Obtained a first degree or higher
House owned	59.9	10.6	40.2
House not owned	36.7	2.1	24.2

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by material ownership

Regarding material ownership, Table 10.38 highlights a link between a lack of educational facilities (e.g. home computer for school work) at home and a big disadvantage in HE entry and outcomes. For example, young people who did not have a home computer for schoolwork during secondary school were less than two-fifths (odds ratio = 0.39) as likely to continue in

HE, a tenth (odds ratio = 0.2) as likely to enter a Russell group university and two-fifths (odds ratio = 0.4) as likely to obtain a first degree or higher. These big gaps apply to other items like internet access as well. The only exception is that not having a mobile phone does not seem to be related to a disadvantage in HE.

This pattern indicates a potential role of educational facilities in HE continuation, which will be further assessed in Chapter 12 through logistic regression models with other previous background-related factors being controlled for.

Table 10.38 Percentages of young people continuing in HE by material ownership

Material ownership	Value	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Own mobile phone	Yes	54.8	8.9	36.6
	No	56.2	7.4	37.4
Home telephone	Yes	55.0	8.8	36.7
	No	45.2	3.2	35.5
Home computer	Yes	56.5	9.0	37.7
	No	22.8	4.1	15.8
Home computer for schoolwork	Yes	59.3	9.7	39.6
	No	23.1	2.2	15.7
Internet access	Yes	58.2	9.6	39.0
	No	32.0	2.5	20.5
Laptop for school use	Yes	64.1	12.7	44.4
	No	53.9	8.3	35.9

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by access to private tuition

Table 10.39 shows a very clear pattern of an advantage in HE participation and degree outcomes being linked to having access to private lessons, either in school subjects or in supplementary subjects.

However, it is still not clear at this stage whether this advantage is linked to the potentially high family income associated with parents paying for private lessons, the extra academic support provided by private tuition, or both. This will be further explored in Chapter 12 when regression models are adopted to control for previous socio-economic factors.

Table 10.39 Percentages of young people continuing in HE by access to private tuition

Private tuition	Value	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Private lessons in school subjects	Yes	71.8	11.7	49.9
	No	47.9	7.5	31.3
Private lessons in supplementary subjects	Yes	68.1	14.9	47.7
	No	48.1	5.6	31.0

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by highest qualification held in family

Table 10.40 shows a clear pattern of having parents with a degree conferring a big advantage in the young people's HE trajectories. This is especially true for Russell group university entry. Young people with parents with a degree consistently had a much higher than average chance of entering HE, attending a Russell group university and obtaining a first degree or higher. For example, compared to those whose parents had only very basic qualifications, those with parents who were graduates were more than twice (odds ratio = 2.2) as likely to enter HE, 13 times (odds ratio = 13.1) as likely to enter a Russell group university and more than twice (odds ratio = 2.3) as likely to obtain a first degree or higher.

Although young people whose parents had no qualification had a very low chance of HE participation and high degree achievement, they performed better than those whose parents had very basic qualifications. This might be partly explained by their potentially high educational aspirations. The young people whose parents' educational attainment is unknown appear to be the most disadvantaged.

Table 10.40 Percentages of young people continuing in HE by the highest qualification held in the family

Highest qualification held in the family	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Degree or equivalent	78.5	22.2	55.9
Higher education below degree level	62.5	9.3	42.5
GCE A Level or equivalent	51.2	6.8	32.9
GCSE grades A-C or equivalent	42.9	3.7	28.5
Very basic low-level qualifications	36.0	1.7	24.7
Other qualifications	45.1	5.9	31.4
No qualification	48.1	3.9	28.7
Not known	28.0	1.3	14.7

Note. HE = Higher Education; N = 5,192.

So far, gaps by household related factors have been examined. The next part begins to focus on a wider factor – regional differences.

Gaps in HE participation and degree outcomes by region

Table 10.41 shows a clear regional differentiation in HE participation. Living in London clearly conferred an advantage in HE participation and achieving a first degree or higher. For example, young people from London were 1.4 times (odds ratio = 1.4) as likely as those from the north east to enter HE and exactly 1.4 times (odds ratio = 1.4) as likely as those from the south west to obtain a first degree or higher. This is not surprising as there are several possible explanations of these gaps in HE outcomes between London and the rest of the country. For example, there are more higher income households in London, schools in London have received more funding per pupil than the average for a long time and there are more universities in Greater London. Young people living in the other regions had similar (lower) chances of entering HE and getting a first degree or higher.

The young people from London and the Midlands were more likely than average to attend a Russell group university. Those from the most economically disadvantaged areas such as the north east were the least likely to secure a Russell group university place. For instance, young people from the Midlands were 1.6 times (odds ratio = 1.6) as likely to enter a Russell group

university as those from the north east. This situation has existed historically and can be partly explained by the established link between educational attainment and family background, as has been discussed in earlier sections.

Table 10.41 Percentages of the young people continuing in HE by Government Office Region

Government Office Region	Entered HE	Entered a Russell group university	Obtained a first degree or higher
North East	50.4	6.3	37.5
North West	52.5	9.3	34.2
Yorkshire and Humber	51.6	8.1	36.6
East Midlands	55.0	10.4	37.8
West Midlands	54.6	10.4	34.7
East of England	53.1	8.6	37.3
London	70.4	9.0	44.0
South East	49.5	8.4	34.2
South West	48.9	6.4	32.1

Note. HE = Higher Education; N = 5,192.

The next part further explores this regional gap by focusing on local deprivation.

Gaps in HE participation and degree outcomes by neighbourhood deprivation

Table 10.42 shows an even clearer pattern of the link between regional deprivation and not continuing in HE and poorer degree outcomes. Young people living in a deprived area were less likely to enter HE (including Russell group universities) and less likely to obtain a first degree or higher. This begins to suggest neighbourhood deprivation is a more important factor in predicting HE entry than region of residence.

Table 10.42 Mean IADCI by HE participation and degree outcome

HE participation and degree outcome	IDACI (mean)
Entered HE	0.1893
Did not enter HE	0.2355
Entered a Russell group university	0.1424

Did not enter a Russell group university	0.2166
Obtained a first degree or higher	0.1834
Did not obtain a first degree or higher	0.2256

Note. HE = Higher Education; IDACI = Income Deprivation Affecting Children Index; N = 5,192.

So far, HE gaps have been largely examined looking at economic-related factors. The next section moves on to focus on behaviour, attitudes and aspirations.

10.2.2 Differences in higher education (HE) participation and degree outcome by behaviour, attitudes and aspirations

Gaps in HE participation and degree outcomes by parental involvement in schooling

According to the figures in Table 10.43 alone, parental involvement in schooling and parents helping with homework seem to be related to positive HE outcomes. Whether this link can be explained by certain characteristics associated with parental involvement such as family background or aspirations or simply the involvement itself is still unknown at this stage. This will be further explored later.

Table 10.43 Percentages of young people continuing in HE by involvement in schooling and helping with homework

Parental involvement in schooling	Value	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Parents involved in schooling	Yes	56.2	9.0	37.7
	No	47.5	7.5	31.0
Parents helped with homework	Yes	55.8	8.9	37.2
	No	48.1	7.4	33.3

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by parental educational aspirations

HE gaps by parental aspirations show a clearer picture. Table 10.44 shows a large gap in HE entry and outcomes by parental educational aspirations, which is consistent for all the HE indicators. Young people whose parents wanted them to continue in post-compulsory education

were almost 8 times (odds ratio = 7.8) as likely to enter HE, almost 12 times (odds ratio = 11.5) as likely to enter a Russell group university and almost 8 times (odds ratio = 7.5) as likely to achieve a first degree or higher than those whose parents lacked this aspiration.

This shows an encouraging possibility of a potential role of parental aspirations in young people's HE trajectories. Regression analysis will later be used to further explore this role after controlling for family background.

Table 10.44 Percentages of young people continuing in HE by parents' aspirations

Parents wanted the young person to continue in FT education	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Yes	57.5	9.2	38.4
No	7.4	0.8	5.1
Not known	22.2	0.0	22.2

Note. FT education = full-time education; HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by parent-child relationships

A good parent-child relationship seems to be linked to positive HE participation and outcomes (Table 10.45). However, the gaps are narrower compared to those by parental aspirations.

Table 10.45 Percentages of young people continuing in HE by parent-child relationships

How well the parents got on with the young people	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Well	54.7	9.0	36.9
Badly	32.0	8.0	24.0
Not known	60.8	3.8	34.7

Note. HE = Higher Education; N = 5,192.

Gaps in HE participation and degree outcomes by the young people's aspirations

Table 10.46 shows a very similar pattern in HE trajectories by pupil aspirations to that by parental aspirations. Young people having high educational aspirations was also highly related to positive HE trajectories. Noticeably, the young people who planned to continue in post-16 education were 8 times (odds ratio = 8.0) as likely to enter HE, as much as 19 times (odds ratio = 19.2) as likely to attend a Russell group university and almost 7 times (odds ratio = 6.8) as likely to obtain a first degree or higher.

At this stage, the patterns begin to indicate that educational aspirations might play a role in HE participation and outcomes. This will be further investigated using logistic regressions in Chapter 12.

Table 10.46 Percentages of young people continuing in HE by the young people's educational aspirations

Whether the young person planned to stay on in post-16 FT education	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Yes	59.3	9.6	39.6
No	7.4	0.5	5.8
Not known	26.7	1.0	19.8

Note. HE = Higher Education; FT education = full-time education; N = 5,192.

So far, HE gaps by parental and pupil factors have been revealed. The next section moves on to focus on schooling features.

10.2.3 Differences in Higher Education (HE) participation and degree outcomes by schooling features

This section presents differences linked to HE entry and outcomes in terms of two key schooling features: school mobility and the young people's feelings about their school experiences.

Gaps in HE participation and degree outcomes by school mobility

As can be seen from Table 10.47, changing school put the young people at a disadvantage in terms of HE. They were 0.7 times (odds ratio = 0.7) as likely to continue in HE, 0.6 times (odds

ratio = 0.6) as likely to enter a Russell group university and 0.8 times (odds ratio = 0.8) as likely to obtain a first degree or higher than students who did not change school.

Again, this disadvantage might be explained by certain background characteristics associated with changing school such as low family income or being a traveller family, as was discussed in section 10.1.

Table 10.47 Percentages of young people continuing with HE by school mobility

Whether ever changed school	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Yes	38.4	4.9	29.5
No	55.7	8.9	37.1

Note. HE = Higher Education; N = 5,192.

Section 10.1 has shown that happiness at school might be an important factor in educational attainment. The next part continues to explore whether this pattern also applies in HE trajectories.

Gaps in HE participation and degree outcomes by schooling experiences

Table 10.48 depicts an encouraging picture of positive schooling experiences indicated by the young people feeling happy at school being clearly linked to positive HE trajectories. Compared to the young people who had negative experiences at school, those with positive schooling experiences were almost three times (odds ratio = 2.7) as likely to participate in HE, more than three times (odds ratio = 3.1) as likely to enter a Russell group university and again almost three times (odds ratio = 2.9) as likely to achieve a first degree or higher.

This begins to suggest a potentially important role of positive schooling experiences in HE trajectories, which will be further explored using regression models.

Table 10.48 Percentages of young people continuing in HE by feeling happy at school

Whether ever felt happy at school	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Yes	55.9	8.9	37.4

No	21.0	2.9	13.0
Not known	27.3	0.0	36.4

Note. HE = Higher Education; N = 5,192.

10.2.4 Correlations between prior educational attainment, neighbourhood deprivation and HE participation and degree outcomes

This section evaluates the link between two important previous factors – educational attainment and neighbourhood deprivation – and HE participation and degree outcomes.

Table 10.49 shows how KS2 average points score, KS3 average points score, capped GCSE average points score and IDACI are linked to HE participation and degree outcomes. As expected, higher educational attainment is positively related to HE participation. KS3 average points score has the strongest association with HE entry. Regarding local deprivation, there is a negative link between IDACI and HE participation, suggesting that pupils from more deprived areas were less likely to go into HE, confirming the findings in Chapter 10.

The patterns are similar for Russell group university entry and degree outcomes. Higher prior educational attainment is consistently linked to entering a Russell group university and achieving a higher degree, confirming Smith and White's finding (2015) that prior attainment is closely associated with academic success at university. Living in a poor area is linked to a lower chance of attending a Russell group university and also a lower chance of graduating with a higher degree.

Table 10.49 Correlations between educational attainment, neighbourhood deprivation and HE participation and degree outcomes

Individual indicators	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Individual KS2 average points score	0.378	0.261	0.295
Individual KS3 average points score	0.480	0.335	0.377
Individual capped GCSE and equivalent average points score	0.434	0.205	0.309

IDACI	-0.128	-0.119	-0.110

Note. KS = Key Stage; GCSE = General Certificate of Secondary Education; IDACI = Income Deprivation Affecting Children Index; HE = Higher Education; N = 5,192.

10.2.5 Differences in Higher Education (HE) participation and degree outcomes by labour market outcomes

After reporting the differences in HE by pre-16 factors, this section focuses on the relationship between the young people's HE trajectories and their labour market outcomes.

Gaps in HE participation and degree outcomes by the young people's NS-SEC class at age 25

Table 10.50 shows differential HE participation and degree outcomes between young people in different occupational classes. As expected, the young people in professional occupations were far more likely than average to have entered HE, attended a Russell group university and achieved a first degree or higher. Those in intermediate occupations were also more likely than average to have had positive HE trajectories.

In contrast, those in semi-routine and routine occupations were the least likely to have gone into HE and obtained a high degree. For example, young people in professional occupations were 2.5 times (odds ratio = 2.5) as likely to enter HE, 6.5 times (odds ratio = 6.5) as likely to attend a Russell group university and 3.2 times (odds ratio = 3.2) as likely to gain a first degree or higher compared to those in semi-routine and routine occupations.

Those who were unemployed were slightly less likely than average to have entered HE and slightly more likely than average to have entered a Russell group university and gained a first degree or higher. One possible reason for the unemployed young people having had better HE trajectories than those doing manual and routine jobs is that some of these unemployed young people may have still been studying for a higher level degree in HE at the age of 25, or some of them were not willing to take a technical or routine job and were still applying for jobs.

On the whole, the pattern begins to suggest HE attendance might enhance the chance of getting a professional job. This will be further explored through regression analysis.

Table 10.50 Percentages of young people continuing in HE by the young people's NS-SEC

classes at age 25

Young people's NS-SEC class	Entered HE	Entered a Russell group university	Obtained a first degree or higher
Managerial, administrative & professional occupations	74.5	14.4	52.3
Intermediate occupations	58.3	5.2	36.0
Small employers and own account workers	31.7	2.2	16.9
Lower supervisory and technical occupations	31.0	3.0	15.5
Semi-routine and routine occupations	30.3	2.2	16.3
Not in employment	39.9	7.8	29.8

Note. NS-SEC = National Statistics Socio-economic Classification; HE = Higher Education; N = 5,192.

10.2.6 Conclusion

In conclusion, following the patterns of differences linked to educational attainment, HE participation and degree outcomes were also stratified by socio-economic background, and this stratification was more strongly patterned by some deprivation-related factors, particularly indicators such as FSM eligibility, lacking a home computer for school work and neighbourhood deprivation. These results confirm long-established results that participation in post-compulsory education is strongly linked to family background in the UK (Pettigrew, Hendry, & Sparrow, 1989). Young people from lower income families, those with parents in manual and routine occupations or long-term unemployed and those with parents with lower levels of educational qualifications had a much lower than average chance of continuing in HE and obtaining a first degree or higher. The gaps were even larger for the chance of entering Russell group universities, which are more selective than others.

However, some encouraging patterns have also emerged, as parental and pupil aspirations and young people feeling happy at school have all been shown to be strongly linked to HE participation and positive HE outcomes. Although other possible factors, such as family

background, associated with these aspirations and feelings can potentially contribute to this link, there is also a possibility that these aspirations and positive feelings at school might play a (most likely important) role in HE participation. This will be further explored with logistics regression models in Chapter 12.

HE participation is also clearly stratified by the young people's own occupational statuses in their early adulthood, suggesting that HE entry might play a positive role in intergenerational occupational mobility.

All these patterns begin to collectively suggest that young people's labour market outcomes might possibly be systematically linked to socio-economic background and other factors such as happiness at school, neighbourhood deprivation and HE participation, which will be discussed in the next section.

10.3 Differences in labour market outcomes by key contextual variables

Following the HE gaps, this section takes a further step and reports gaps in young people's outcomes at a later life stage beyond school – labour market outcomes at age 25. There are two outcomes of interest: (1) whether the young people were employed or not, which to some extent reflects their employability, and (2) whether they were in professional occupations or not. These outcomes are examined in relation to the contextual variables indicating the young people's birth characteristics, household SES, prior educational attainment, geographical location and neighbourhood deprivation.

10.3.1 Differences in employment status by key contextual variables

10.3.1.1 Differences in employment status by background characteristics

Differences in employment status by birth characteristics

According to Table 10.51, males were slightly more likely than females to be employed at age 25. Regarding ethnic groups, white and Indian young people were more likely than average to get a job, while there were no big differences in the chances of getting employed among the other ethnic minority groups. Young people whose ethnicity information is unknown were the least likely to be in employment.

Speaking English as a first language was positively linked to being employed, although the link seems weak, which is in line with the pattern of white young people having a higher chance of being employed. Being born into a single-parent family is linked to a lower chance of employment.

Table 10.51 Percentages of young people in employment at the age of 25 by birth characteristics

Birth characteristics	Percentage in employment
Sex	
Male	85.0
Female	81.2
Ethnic group	
White	84.2
Mixed	79.9
Indian	86.1
Pakistani	76.0
Bangladeshi	76.1
Black Caribbean	81.3
Black African	78.5
Other	78.3
Not known	75.0
English as a first or main language	
Yes	83.6
No	72.7
Single parent household at birth	
Yes	77.7
No	83.8

Note. N = 5,192.

The next part continues to explore employment gaps by socio-economic background factors.

Differences in employment status by household SES

Table 10.52 shows differences in being employed by various socio-economic factors. The interest here is in the chance of being employed by different SES characteristics, with a specific focus on the sub-group who are economically disadvantaged.

Table 10.52 Percentages of young people in employment by SES characteristics

SES characteristics	Percentage in employment
Whether ever in a single-parent household	
Yes	78.4
No	84.3
Whether ever stepfamily status	
Yes	82.8
No	82.9
Family's NS-SEC Class	
Higher managerial and professional occupations	84.6
Lower managerial and professional occupations	87.5
Intermediate occupations	84.8
Small employers and own account workers	83.9
Lower supervisory and technical occupations	83.5
Semi-routine occupations	79.3
Routine occupations	74.3
Never worked/long term unemployed	72.3
Not known	79.1
Household income band	
<=£5200	77.5
£5200.01 to £10400	79.7
£10400.01 to £15600	80.7
£15600.01 to £20800	84.9
£20800.01 to £33800	85.7
£33800.01 to £41000	86.2
£41000.01 to £55000	85.9
over £55000	88.4
Not known	77.7

Level of family managing on income	
Managing quite well, able to save or spend on leisure	85.7
Just getting by, unable to save if wanted to	80.8
Getting into difficulties	73.8
Not known	77.6
FSM eligibility	
Yes	70.3
No	84.7
EMA status	
Received EMA	80.0
Did not receive EMA	85.3
Whether house was owned or not	
Yes	85.2
No	74.3
Material ownership	
Own mobile phone	
Yes	84.3
No	72.3
Home telephone	
Yes	83.0
No	71.0
Home computer	
Yes	83.8
No	63.5
Home computer for schoolwork	
Yes	84.7
No	69.9
Internet access	
Yes	84.6
No	70.9
Laptop for school use	
Yes	86.0
No	82.5

Whether ever had private lessons in school subjects	
Yes	84.9
No	82.1
Whether ever had private lessons in supplementary subjects	
Yes	86.2
No	81.2
Highest qualification in family	
Degree or equivalent	83.9
Higher education below degree level	86.9
GCE A Level or equivalent	86.1
GCSE grades A-C or equivalent	84.4
Basic low-level qualifications	76.6
Other qualifications	81.4
No qualification	74.5
Not known	65.3

Note. NS-SEC = National Statistics Socio-economic *Classification*; EMA = Education Maintenance Allowance; FSM = free school meals; N = 5,192.

First, while young people living in a single-parent household at some stage were slightly less likely to be employed than those who had never lived in a single-parent household, no such difference is shown for step-family status. Second, while a higher-level parental occupation is not shown to be linked to a clear advantage in being employed, being born to parents in long-term unemployment is linked to slightly lower employability. For example, young people with long-term unemployed parents were 0.8 times (odds ratio = 0.8) as likely as those with parents in higher professional occupations to be employed. Those whose parents' occupations are unknown were less likely than average to be employed at age 25.

A similar pattern applies for parents' education qualifications: having parents with higher qualifications was not linked to an advantage in employment, but having parents with no qualification was a risk factor for not being able to get employed. Young people whose parents' education qualifications are unknown were the least likely to be employed.

Third, in general, young people from higher income families were slightly more likely to get a job than those from lower income families. Similarly, those from families which managed on their household income well were more likely than those from families with financial difficulties to be employed. However, these gaps are very small.

Fourth, family poverty was a risk factor for being unemployed. For example, FSM-eligible young people were 0.8 times (odds ratio = 0.8) as likely as their non-FSM-eligible peers to get a job. Consistently, young people who received EMA were slightly less likely to be employed than those who never did. This is also true for young people who lived in a house not owned.

Fifth, there is clear but weak link between a lack of items at home such as a home computer and internet access and being unemployed. For example, young people who did not have a home computer for schoolwork were 0.8 times (odds ratio = 0.8) as likely as those who owned one to be employed. Finally, having had private lessons is linked to a slightly higher chance of being employed.

These patterns collectively suggest that differences in employment status by family background are small. However, household poverty seems to be a risk factor in employability.

How about regional differences?

Differences in employment status by geographical location and neighbourhood deprivation

While there is no big difference by economic region in general (Table 10.53), living in a deprived area was clearly linked to being unemployed (Table 10.54). This pattern suggests that local deprivation can be a more important factor in predicting chances of being employed, which will be further explored through regression analysis.

Table 10.53 Percentages of the young people in employment by Government Office Region

Government Office Region	Percentage in employment
North East	82.5
North West	81.7
Yorkshire and Humber	81.3
East Midlands	83.9

West Midlands	84.4
East of England	85.4
London	81.3
South East	83.8
South West	81.7

Note. N = 5,192.

Table 10.54 Mean IDACI by employment status

Employment status	IDACI (mean)
In employment	0.1999
Not in employment	0.2592

Note. IDACI = Income Deprivation Affecting Children Index; N = 5,192.

By exploring regional differences, this section further indicates that poverty, either in the household or at the region level, can be a risk factor in employment chances.

10.3.1.2 Differences in employment status by schooling features

This section moves on to school factors and presents differences linked to employment status by two key factors relating to schooling: changing school and school experiences.

Gaps in employment status by school mobility

Table 10.55 shows that young people who had changed school were slightly less likely to be employed than those who stayed at the same school. Again, this difference is likely to be attributable to possible socio-economic disadvantages associated with changing school.

Table 10.55 Percentage of the young people in employment by school mobility

Whether ever changed school	Percentage in employment
Yes	70.5
No	83.5

Note. N = 5,192.

Gaps in employment status by school experiences

Table 10.56 shows a positive picture of young people who felt happy at school being slightly more likely to be employed, which is consistent with the positive link between young people being happy at school and HE participation.

Table 10.56 Percentages of young people in employment by feeling happy at school

Whether ever felt happy at school	Percentage in employment
Yes	83.4
No	65.9
Not known	54.5

Note. N = 5,192.

10.3.1.3 Correlations between previous educational attainment, neighbourhood deprivation, NEET status and employment status

The bivariate analysis in Chapter 9 showed that differences in labour market outcomes were stratified by whether the young people had ever been NEET before age 19. This section therefore brings in NEET status and assesses correlations between educational attainment, neighbourhood deprivation, NEET status and the young people's employment status at age 25. Table 10.57 presents the results of correlations between educational attainment, IDACI, NEET status and employment status.

Table 10.57 Correlations between educational attainment, neighbourhood deprivation, NEET status and employment status at age 25

Variables relating to individual-level educational attainment	NEET Status	Employed aged 25
Individual KS2 average points score	-0.165	0.155
Individual KS3 average points score	-0.211	0.154
Individual capped GCSE and equivalent average points score	-0.270	0.185
IDACI	0.084	-0.125

Note. KS = Key Stage; GCSE = General Certificate of Secondary Education; NEET = Not in Education, Employment or Training; IDACI = Income Deprivation Affecting Children Index; N = 5,192.

Higher educational attainment at all key stages is consistently linked to the young people never being NEET. The corresponding correlation effect size grows with each KS, suggesting that lower educational attainment at a later stage might have a bigger influence on whether young people are NEET or not at some point between the ages of 16 and 19. Higher grades are linked to the young people being employed. However, the links are weaker than those between educational attainment and NEET status.

Regarding neighbourhood deprivation, as expected local poverty is associated with young people being NEET at some point by age 19. However, this link is also relatively weak. Again, as expected, living in a deprived area is associated with unemployment ($R = -0.125$). This implies that residential segregation by poverty might be one of the factors in young people being NEET by age 19 and being unable to be employed later at age 25, which implies a similar impact that school segregation by poverty might have on later employment status, as was discussed earlier in Chapter 9.

At this point, the patterns begin to suggest NEET status can be an important factor in predicting employment status and this will be explored through regression modelling.

10.3.1.4 Conclusion

In conclusion, birth characteristics do not make much difference in employment chances, although being white and having English as a first language are related to a slightly higher chance of getting a job.

The important message here is that a clear deprivation gap in terms of family poverty appears in employment status. Poverty indicated by different factors is linked to lower chances of the young people being employed. This link is relatively weak but it is clear. Although poverty is evidenced as a risk factor in being unemployed, there is no clear evidence showing advantages in employment relating to higher socio-economic status.

Besides poverty, NEET status can be a risk factor in employability. Given that NEET status is stratified by family background, as was shown in Chapter 9, regression analysis will be used

to explore the role of NEET status in employment chances when socio-economic background is taken into account.

10.3.2 Differences in professional occupation status by key contextual variables

This section moves on from employment status to further explore gaps in professional occupation status, which is also an outcome of interest in this study.

10.3.2.1 Differences in professional occupation status by background characteristics

Differences in professional occupation status by birth characteristics

Table 10.58 shows the percentages of young people in professional occupations at age 25 by birth characteristics. First, females were as likely as males to have a professional occupation, which is a positive trend suggesting gender equality in professional occupations in this generation. Second, Indian-origin young people were the most likely to have a professional job, which might be explained by the Indian pupils having higher chances of entering HE and Russell group universities (section 10.2.1), the kind of education which provides the qualifications and opportunities to gain the necessary knowledge and skills to get a professional occupation. White pupils were slightly less likely than average to have a professional job. The young people whose ethnicity information is unknown were less likely than average to be in professional occupations. Third, not having English as a first language seems to be linked to a disadvantage in getting a professional job, as is being born in a single-parent family.

Table 10.58 Percentages of young people in professional occupations by birth characteristics

Birth characteristics	Percentage in professional occupations
Sex	
Male	41.6
Female	41.8
Ethnic group	
White	41.0
Mixed	41.9
Indian	52.8
Pakistani	38.7
Bangladeshi	42.1

Black Caribbean	29.7
Black African	43.8
Other	45.7
Not known	37.5
English as a first or main language	
Yes	42.0
No	38.5
Single-parent household at birth	
Yes	32.7
No	43.3

Note. N = 5,192.

Differences in professional occupation status by household SES

Moving on from origins, Table 10.59 shows the differences in having a professional occupation by various socio-economic factors. The interest here is in the probability of having a professional occupation by different SES characteristics.

Table 10.59 Percentages of young people in professional occupations by SES characteristics

SES characteristics	Percentage in professional occupations
Whether ever single-parent household	
Yes	31.6
No	44.9
Whether ever step-family status	
Yes	38.8
No	42.0
Family's NS-SEC Class	
Higher managerial and professional occupations	50.6
Lower managerial and professional occupations	49.5
Intermediate occupations	40.4
Small employers and own account workers	42.3
Lower supervisory and technical occupations	37.7
Semi-routine occupations	34.0

Routine occupations	26.1
Never worked/long term unemployed	29.0
Not known	37.9
Household income band	
<=£5200	34.8
£5200.01 to £10400	33.5
£10400.01 to £15600	35.6
£15600.01 to £20800	34.0
£20800.01 to £33800	40.0
£33800.01 to £41000	45.4
£41000.01 to £55000	45.8
over £55000	60.1
Not known	37.3
Level of managing on income	
Managing quite well, able to save or spend on leisure	46.2
Just getting by, unable to save if wanted to	37.1
Getting into difficulties	34.2
Not known	40.8
FSM eligibility	
Yes	27.4
No	43.8
EMA status	
Received EMA	36.3
Did not receive EMA	46.1
Whether house was owned or not	
Yes	45.3
No	28.7
Material ownership	
Own mobile phone	
Yes	42.7
No	34.3
Home telephone	
Yes	41.9

No	12.9
Home computer	
Yes	43.0
No	16.6
Home computer for schoolwork	
Yes	44.9
No	18.6
Internet access	
Yes	44.3
No	23.6
Laptop for school use	
Yes	49.1
No	40.9
Whether ever had private lessons in school subjects	
Yes	50.8
No	38.0
Whether ever had private lessons in supplementary subjects	
Yes	51.4
No	36.7
Highest qualification in family	
Degree or equivalent	54.9
Higher education below degree level	47.8
GCE A Level or equivalent	40.7
GCSE grades A-C or equivalent	37.5
Basic low-level qualifications	29.7
Other qualifications	34.3
No qualification	31.9
Not known	18.7

Note. NS-SEC = National Statistics Socio-economic *Classification*; EMA = Education Maintenance Allowance; FSM = free school meals; N = 5,192.

Unlike gaps in employment status, there is a clearer socio-economic gradient pattern of professional occupation status. Higher social class and economic advantages are linked to higher chances of having a professional occupation and family poverty is related to not being able to land a professional job.

First, single-parent and stepfamily statuses are linked to a lower chance of having a professional job. Second, there is a clear pattern of parental occupational class differentiation in terms of professional occupation status. Young people from professional family backgrounds were the most likely to be in professional occupations themselves in their early adulthood. In contrast, those whose parents were in routine occupations or in long-term unemployment were the least likely to have a professional job. For example, compared to those from families in long-term unemployment, the chances of the young people from professional family backgrounds having a professional job were nearly double (odds ratio = 1.7). This is also true in terms of parental educational background. Young people born to graduate parents were also almost twice (odds ratio = 1.7) as likely as those whose parents had no qualifications to be professionals. Young people whose parental education is unknown were the least likely to be in professional occupations. Third, young people from higher income families were more likely than those from lower income families to be professionals. Similarly, those from families which managed on their income well were more likely than those from families in financial difficulties to be in professional occupations. Fourth, poverty is evidenced to be linked to a big disadvantage in having a professional job. For example, FSM-eligible pupils were only 0.6 times (odds ratio = 0.6) as likely as non-FSM-eligible pupils to be in a professional occupation. Those living in a house not owned were also 0.6 times (odds ratio = 0.6) as likely as those whose family owned the house to be professionals. This gap is even larger for lack of educational facilities at home. For instance, compared to those who had a home computer for schoolwork, young people who did not have one were less than half (odds ratio = 0.4) as likely to have a professional job. Finally, young people who had had private lessons were more likely than those who never had any private tuition to have a professional job. Again, this gap can partly be explained by the potential higher income linked to parents being able to afford private lessons.

Differences in professional occupation status by geographical location and neighbourhood deprivation

In terms of geographical factors, there are no big differences in the young people from different regions getting a professional occupation (Table 10.60). The young people from London and the east of England had a slightly higher than average chance of being in professional occupations. It is well-known that London has more professional job opportunities than the rest of England. However, living in London did not confer a big advantage in having a professional job. People are mobile. What matters most here seems to be socio-economic status at home.

Table 10.60 Percentages of young people in employment by Government Office Region

Government Office Region	Percentage in professional occupations
North East	40.0
North West	36.1
Yorkshire and Humber	40.5
East Midlands	41.2
West Midlands	41.4
East of England	45.2
London	46.6
South East	40.6
South West	42.8

Note. N = 5,192.

However, living in a deprived area is related to a lower chance of having a professional job (Table 10.61). It is possible that neighbourhood deprivation is linked to family poverty. Whether it does play a role in professional occupation chances will be explored through regression analysis when family background is controlled for.

Table 10.61 Mean IADCI by professional occupation status

Professional occupation status	IDACI (mean)
In professional occupations	0.1797
Not in professional occupations	0.2319

Note. IDACI = Income Deprivation Affecting Children Index; N = 5,192.

10.3.2.2 Differences in professional occupation status by schooling features

This section moves on from household and regional characteristics to schooling factors and presents differences in professional occupation status by two key schooling factors: school mobility and school experiences.

Gaps in professional occupation status by school mobility

The young people disadvantaged by changing school tended to be about half (odds ratio = 0.6) as likely as those that did not change school to get a professional occupation in their early 20s (Table 10.62). Again, this can be caused by potential family poverty relating to school mobility such as coming from a traveller family.

Table 10.62 Percentages of young people in professional occupations by school mobility

Whether ever changed school	Percentage in a professional occupation
Yes	24.6
No	42.5

Note. N = 5,192.

Gaps in professional occupation status by school experiences

Consistently with all the patterns relating to school experience, the young people who felt happy at school were almost twice (odds ratio = 1.7) as likely as the unhappy students to get a professional job (Table 10.63).

This is a valuable discovery which contributes to the literature, as school experiences have seldom been touched on in intergenerational occupational mobility studies. The pattern shown here indicates that happiness at school might contribute to positive career trajectories. Whether it does play a role in professional occupation chances will be explored through regression modelling when all the prior factors are controlled for.

Table 10.63 Percentages of young people in professional occupations by feeling happy at school

Whether ever felt happy at school	Percentage in a professional occupation

Yes	42.2
No	24.6
Not known	36.4

Note. N = 5,192.

10.3.2.3 Correlations between prior educational attainment, neighbourhood deprivation and professional occupation status

This final section continues to evaluate correlations between educational attainment, neighbourhood deprivation and the young people's professional occupation status at age 25. Table 10.64 presents the results of correlations between professional occupation status, educational attainment and IDACI.

Table 10.64 Correlations between educational attainment, neighbourhood deprivation and professional occupation status at age 25

Variables relating to individual-level educational attainment	In a professional occupation
Individual KS2 average points score	0.268
Individual KS3 average points score	0.332
Individual capped GCSE and equivalent average points score	0.289
IDACI	-0.144

Note. KS = Key Stage; GCSE = General Certificate of Secondary Education; IDACI = Income Deprivation Affecting Children Index; N = 5,192.

The young people's educational attainment is closely linked to their professional occupation status. This correlation analysis shows that those who had higher educational attainment at school were more likely to get a professional job at the age of 25. At the same time, neighbourhood deprivation is negatively associated with professional occupation status. Pupils living in more deprived local areas were less likely to get a professional job. Again, this result is in line with the findings in Chapter 9 and points to local deprivation being a risk factor in professional occupation chances.

10.3.2.4 Conclusion

Compared to differences in employment status, gaps in professional occupation status show a clearer pattern. The most obvious pattern is that pupil poverty is linked to a big disadvantage in having a professional job, while a prestigious occupational and educational background is clearly linked to a big advantage in getting into a professional occupation.

One positive pattern which needs to be highlighted here is that happiness at school seems to enhance the chance of having a professional job.

10.3.3 Conclusion

In summary, there is a general trend of labour market outcomes being stratified by various socio-economic background factors, and this stratification is stronger for the young people's professional occupation outcomes. Indicators linked with disadvantages in getting a professional occupation are normally also linked with a disadvantage in employability. Poverty, both at the individual and local level, is the most important single indicator associated with this disadvantage. Although being born to graduate parents in professional occupations does not seem to link to a clear advantage in being employed, it is strongly associated with an advantage in getting a professional occupation.

There is also positive evidence that three main factors – parental and pupil educational aspirations (which was discussed in sections 9.6 and 9.7) and happiness at school – are clearly linked to a positive labour market outcome. These links are stronger in terms of the chances of having a professional occupation.

10.4 Conclusion

There is a clear pattern of socio-economic stratification of learning and post-16 trajectories. Educational attainment, HE participation and outcomes, and labour market outcomes are all patterned, to different extents, by socio-economic indicators such as ethnicity, single-parent status, first language, household SES and the local deprivation level. Pupil deprivation is a key indicator which is consistently associated with lower educational attainment and negative post-16 outcomes. Poorer pupils started school with lower attainment than their richer peers, made less progress during their school careers and then continued to lose ground from school-leaving age to adulthood. They were more likely than average to choose not to continue in HE at the

earliest opportunity. They tended to gradually fall behind in their outcomes at school and beyond.

However, there is good evidence that high educational aspirations on the part of both parents and the young people and positive schooling experiences tend to have a strong link with outcomes at school and beyond. This is remarkable, suggesting that educational aspirations and positive school experiences might contribute to a narrowing of deprivation-related gaps. This is encouraging, especially if these wider factors play a role in post-16 outcomes when the other key previous factors are taken into account (which will be examined using regression models), as there is a better chance for interventions and policies to help the most disadvantaged to level up in their careers both at school and in the labour market.

The factors covered in this chapter can be interrelated to some extent. The regression analysis in Chapter 12 will further explore which factors are the most important ones predicting post-16 outcomes and the extent to which the patterns revealed here still remain when prior factors are controlled for.

Chapter 11 Does school segregation matter? Its potential role in post-16 outcomes

The previous chapter (Chapter 10) illustrated a clear pattern of socio-economic stratification of differences at school and beyond in terms of birth characteristics and a wide range of other factors. This chapter brings in the potential role of ‘school segregation’ in individuals’ post-16 trajectories. It considers whether who goes to school with whom plays a role in young people’s outcomes beyond school, especially when individual socio-economic background factors are taken into account. As was explained in Chapter 8, the focus here is on school segregation by disadvantage. The outcomes of interest are HE participation, and labour market outcome indicated by employment status and professional occupation status.

The idea is that the extent to which pupils with similar birth characteristics and socio-economic backgrounds are clustered in the same schools might play an additional (possibly smaller) role to individual characteristics, in the differences in young people’s post-16 trajectories.

The chapter addresses the study’s second RQ:

- Is the level of SES (socio-economic) segregation experienced at school linked to an individual’s post-16 destination once their birth and background characteristics are taken into account? If so, what role does school segregation play in post-16 trajectories?

The main concern of this RQ is whether school segregation by disadvantage – individual disadvantage aggregated at the school level – further strengthens or weakens (or makes no difference to) the link established between individuals’ socio-economic backgrounds and post-16 outcomes. This could be an important issue in improving fair access to HE and the labour market, especially for disadvantaged students.

The results of correlation analyses are presented to show the relationship between school segregation and three outcomes: HE entry, in employment and in a professional occupation. This is followed by logistic regression analyses which show the percentage of variation explained by segregation in each model when birth and background characteristics are taken into account. The interest here is in the increase in the correctness of the percentage in each stage, i.e. the explanatory power of each batch of analysis.

11.1 Who is more likely to go to a school with a higher level of disadvantage?

Before the main analysis, this section examines the characteristics of young people in schools with higher levels of disadvantage. Table 11.1 shows the correlations between the school segregation level indicated by FSM eligibility, EAL and non-white ethnic origin of the school attended by each young person (indicated by GS intake segregation levels) and that young person's individual level of disadvantage using the same indicator (individual information on SEN is not available in the Next Steps data, so analysis relating to SEN is not included here). The figures demonstrate noticeable and consistent links between each measure of school-level clustering of disadvantage and individuals' disadvantage. This applies to all the indicators of disadvantage in the table. For example, there is a correlation of 0.340 between young people being eligible for FSM and the segregation level by FSM eligibility of the school attended by the same young people. The correlation is even stronger for the EAL indicator ($R = 0.522$). This implies that young people who are eligible for FSM, who speak English as an additional language and who are non-white are more likely to be clustered in schools with peers who also have these characteristics.

Table 11.1 Correlations (R) between school-level segregation (GS) by indicators of disadvantage (FSM eligibility, EAL and non-white) and individuals' disadvantage indicated by the same indicator

Indicator of level of segregation experienced at school	GS for FSM eligibility	GS for EAL	GS for non-white ethnic origin
Correlation with possible individual disadvantage indicated by the same indicator	0.340	0.522	0.249

Note. GS = Gorard segregation index; FSM = Free School Meals; EAL = English as an additional language

Similarly, Table 11.2 shows the correlations between school-level segregation (GS) indicated by potential disadvantage (FSM eligibility, SEN with a statement, SEN without a statement, non-white and EAL) and measures of individuals' background disadvantage (living in a house not owned by the family, long-term unemployed parents, parents with no educational qualifications and the deprivation level in the area of residence).

Table 11.2 Correlations (R) between school-level segregation measures and individuals' disadvantage measures

Individuals' background indicator	GS for FSM eligibility	GS for SEN with a statement	GS for SEN without a statement	GS for non-white ethnic origin	GS for EAL
House not owned	0.178	0.066	0.057	0.103	0.091
Parents in long-term unemployment	0.244	0.042	0.057	0.192	0.219
Parents with no qualification	0.321	0.068	0.058	0.289	0.322
IDACI	0.439	0.103	0.112	0.335	0.333

Note. GS = Gorard segregation index; FSM = Free School Meals; SEN = Special educational needs or additional needs; EAL = English as an additional language; IDACI = Income Deprivation Affecting Children Index

As Table 11.2 shows, young people's background characteristics are consistently linked to school-level segregation for all of the possible kinds of disadvantage listed in the table. This is especially true for the aggregated level of disadvantage for FSM eligibility, non-white ethnic origin and English as an additional language. For example, there is a strong correlation of 0.321 between the young people's parents having no educational qualifications and the level of segregation by FSM eligibility of the school attended by the same young people. This correlation is 0.322 for English as an additional language. Similarly, having parents in long-term unemployment is closely linked to attending a school with a high segregation level by FSM eligibility, non-white ethnic origin and English as an additional language. The same pattern also applies to family house ownership. For instance, living in a house not owned by the family is associated with going to a school with a higher level of segregation by FSM

eligibility. Regarding neighbourhood characteristics, the deprivation level of the area where the young people live (the IDACI) is strongly linked to the school level of segregation by all the potential disadvantages – the strongest link being a correlation of 0.439 for school segregation by FSM eligibility, which is followed by strong correlations for school segregation by non-white ethnic origin and by English as an additional language. Young people who live in poorer areas are thus shown to be more likely to attend disadvantage schools.

Overall, as can be seen from Table 11.1 and Table 11.2, disadvantaged students are more likely to go to schools with higher levels of disadvantage, and so they have a higher proportion of classmates who are also disadvantaged. Non-white students, those eligible for FSM, those speaking English as an additional language, those in a household with parents in long-term unemployment and/or with no qualifications, and those who live in a house not owned by the family are all more likely to be clustered in disadvantaged schools with higher levels of segregation by disadvantage. This is an example of pupils with similar backgrounds tending to attend schools together (Gorard, 2018).

As was shown in Chapter 10, socio-economically disadvantaged young people tend to be disadvantaged in all post-16 outcomes. This section has shown that they also tend to be clustered in schools segregated by disadvantage and have disadvantaged classmates. The next question is whether and how this clustering of school intakes, i.e. aggregated disadvantage, links to post-16 destinations.

11.2 School segregation and post-16 outcomes: bivariate analysis results

This section begins to assess the relationship between the level of school segregation and post-16 outcomes. Table 11.3 shows the correlations between the level of school segregation by five disadvantage measures and the HE entry and labour market outcome status of the students attending the school. The detailed correlation figures indicate the extent to which the level of school segregation by each indicator of disadvantage is linked with the school's pupils' chances of entering HE, being in employment at age 25 and having a professional occupation at age 25. School segregation is consistently linked to a lower chance of HE participation and negative labour market outcomes (unemployment and non-professional occupation status). The link is stronger for HE entry and weaker for labour market outcomes, possibly because HE participation is the most immediate outcome beyond school. However, the link between school

segregation level and labour market outcomes can be influenced by other potential factors between HE entry and labour market entry, such as university experiences and the subjects studied in HE, which are not available in the data and so are not included in the analysis.

Table 11.3 Correlations (R) between school-level segregation by five disadvantage measures and post-16 outcome statuses of the school's pupils

School segregation index	HE Entry	In employment	In professional occupation
GS for FSM eligibility	-0.045	-0.076	-0.010
GS for SEN with statement	-0.046	-0.012	-0.024
GS for SEN without statement	0.000	-0.048	-0.023
GS for non-white ethnic origin	-0.113	-0.048	0.008
GS for EAL	-0.097	-0.061	0.007

Note. GS = Gorard segregation index; HE = higher education; FSM = Free School Meals; SEN = Special educational needs or additional needs; EAL = English as an additional language

School segregation is consistently, but relatively weakly, linked to a lower chance of HE participation and being employed. For example, going to school with more children who are non-white is linked to a lower probability of HE participation. Similarly, going to school with pupils who speak English as an additional language is associated with a lower chance of continuing in HE. This finding confirms previous research evidence that a racially and socio-economically balanced school setting is positively linked to participation in HE (Mickelson, Nkomo, & Wimberly, 2012). Regarding employment status, going to school with economically disadvantaged children might put children at risk of being unemployed or even being NEET later in life. As section 11.1 suggested, pupils who are non-white and who live in poverty are more likely to go to school with children who are also non-white and who also come from low-income families. This begins to suggest that segregation might further harm the disadvantaged. Although the links shown in Table 11.3 are relatively weak, the patterns are clear, suggesting that segregation can be a risk factor for negative outcomes beyond school. Young people,

especially the most disadvantaged ones, need to be put in more mixed schools to minimise the risks of missing HE opportunities and not being able to get a job. These links are likely to be stronger if the figures could be analysed for the nationwide sample (if full information were available). As was assessed in section 7.9.1, the final analytical sample used in this study contains those who were more likely to enter HE and be employed.

Regarding professional occupation status, the picture becomes mixed and less clear. The figures suggest that there is a very weak link between going to school with children eligible for FSM and children with SEN and a lower chance of having a professional occupation.

On the whole, the analysis shows that there is a link between school intake clustering and post-16 destinations, which leads to the next question: does this link still exist when birth and background characteristics are taken into account? In other words, what role does school segregation play in the established link between individual disadvantaged origins and negative outcomes beyond school? This is explored in the next section using logistic regression analysis.

11.3 Logistic regression model results predicting HE participation

Table 11.4 shows the results of a logistic regression model distinguishing between the 54.9% of the young people who entered HE and those who did not. The model predicts young people's HE participation. 54.9% is the predictive accuracy of the null model before accounting for any baseline variables. The young people's birth characteristics – sex, ethnic group, whether English is a first or main language and single parent status at birth – were entered in the first stage. This improves the prediction accuracy of the model from 54.9% to 58.9%, which explains 9% (4/45.1) of the variation in HE participation. The school segregation indices – GS indices for FSM eligibility, GS indices for SEN with statement, GS indices for SEN without a statement, GS indices for EAL and GS indices for non-white ethnicity – were entered in the second stage. In each stage, the new batch of variables can only explain the variation remaining from the previous stage(s).

As was discussed in Chapter 10, males, whites, young people whose English is a first or main language and those born with single-parent status were less likely to enter HE. Once these stratifying birth characteristics are accounted for, adding school segregation factors improves the prediction accuracy of the model from 58.9% to 60.2% for HE participation, and this

explains a further 3% of the remaining variation, which is a third of the outcome stratification predicted by individual birth characteristics.

Table 11.4 Predictive accuracy of a logistic regression model to predict HE participation explained by each stage of analysis

Stage	Block	Percentage correctness (N=5,192)	Percentage of remaining variation explained
0	Base	54.9	-
1	Young people's characteristics at birth	58.9	9
2	School segregation	60.2	3

Note. HE = higher education

The effects of school segregation beyond school still exist when further taking the young people's family background factors and their prior attainment into account (see Table 11.5). These background factors are the characteristics which most reflect the young people's family backgrounds during secondary schooling when they were aged 13 to 16.

Table 11.5 Predictive accuracy of a logistic regression model to predict HE participation explained by each stage of analysis

Stage	Block	Percentage correctness (N=5,192)	Percentage of remaining variation explained
0	Base	54.9	-
1	Young people's characteristics at birth	58.9	9
2	Family background factors and prior attainment	67.1	18
3	School segregation	67.4	0.7

Note. HE = higher education

In the second regression model, the main family background factors (FSM eligibility, parental occupation, parental education, house ownership and neighbourhood deprivation) and the pupils' prior school attainment (Key Stage 2 average points score and Key Stage 3 average points score) were further factored in. As would be expected, after controlling for birth characteristics, family background and prior attainment explain a further 18% of the variation. As was assessed in Chapter 10, young people who were not eligible for FSM, those whose parents had higher status occupations and held higher level educational qualifications were more likely to go into HE. When further controlling for these individual stratifying factors, school segregation still accounts for about 1% of the variation in HE participation. One interpretation of this is that there can be a small school mix effect on HE entry. Schools with high proportions of students from richer and more prestigious family backgrounds and who were born to graduate parents tended to have more pupils who then participated in HE regardless of their own family background. Similarly, pupils attending schools with a high proportion of pupils born in single-parent families and living in poverty tended to have lower chances of HE entry. This suggests that the school mix potentially plays a small role in HE participation.

One explanation of this potential weak role for school segregation in HE entry is that teachers in more disadvantaged schools tend to be less qualified or less experienced than those in more advantaged schools (OECD, 2018), leading to further worse learning opportunities for those who are already disadvantaged (Schmidt et al., 2015).

This result supports previous findings that a higher level of school mix is linked to more successful school outcomes and higher aspirations. Most previous studies have not taken group of background and other factors into consideration so the links found seem stronger than those found in the present study. Mixing pupils speaking English as an additional language with pupils speaking English as a first language can help to improve their English fluency and therefore help them make more progress at school. This has been shown to be a key factor in successful learning (Lee & Madyun, 2008). The same logic applies to mixing non-white and white pupils. Mixing students born to parents in lower status jobs or who are long-term unemployed with ones whose parents are in professional occupations can potentially encourage them to learn about more possible opportunities arising from HE and to be more inspired to go into HE. This view is also supported by previous research which shows that there is an intake

mix effect on educational aspirations (Gorard & Smith, 2010; Thomas & Webber, 2009). In addition, a mixed school intake might help advantaged students too. As was discussed in Chapter 4, learning in a more diverse school environment can also challenge advantaged students' thinking ability (Piaget, 1983) and improve their intellectual potential (Gurin et al., 2003), which can be important abilities for HE application. All these promising results can happen through peer interactions and inspirations in school life.

11.4 Results from logistic regression models predicting employment status

To create a binary logistic regression model for employment status, three regression models were analysed and the average figure resulting from them was finally adopted. The justification for using this method can be found in Chapter 8. Table 10.6 is like Table 10.4, but this time it illustrates logistic regression models distinguishing between young people in employment (82.9%) at the age of 25 and those who were unemployed (17.1%). As was discussed in Chapter 10, males, white-origin young people and those speaking English as a first or main language were more likely to be employed. Young people born in single-parent families were less likely to be employed. Once these stratifying birth characteristics are accounted for, school segregation explains 2.3% of the remaining variation in employment outcomes.

Table 11.6 Predictive accuracy of logistic regression models to predict employment status at age 25 explained by each stage of analysis

Stage	Block	Model 1 Percentage correctness (N=1,818)	Model 2 Percentage correctness (N = 1992)	Model 3 Percentage correctness (N = 1,799)	Average of models	Percentage of remaining variation explained
0	Base	51.2	54.8	50.6	52.2	-
1	Young people's characteristics at birth	56.2	56.0	56.4	56.2	8.4
2	School segregation	56.7	57.4	57.9	57.3	2.3

Again, like the regression model in Table 11.5, the model in Table 11.7 further adds family background factors and prior attainment. Family background characteristics and prior attainment explain a further 5.6% of the variation when birth characteristics are controlled for. As was reported in Chapter 10, young people whose parents were long-term unemployed and had no qualifications were more likely to be unemployed. Once all these stratifying family background factors are controlled for, there is still 1.3% of the variation explained by the level of segregation experienced at school, which is about a fifth of the employment outcome stratification predicted by individual characteristics. Going to schools with a high proportion of disadvantaged young people is associated with being unemployed, regardless of one's background. This suggests that school segregation might play a small role in young people's employment status.

Table 11.7 Predictive accuracy of logistic regression models to predict employment status at age 25 explained by each stage of analysis

Stage	Block	Model 1 Percentage correctness (N=1,818)	Model 2 Percentage correctness (N = 1992)	Model 3 Percentage correctness (N = 1,799)	Average of models	Percentage of remaining variation explained
0	Base	51.2	54.8	50.6	52.2	-
1	Young people's characteristics at birth	56.2	56.0	56.4	56.2	8.4
2	Family background factors and prior attainment	58.7	58.8	59.3	58.9	5.6
3	School segregation	59.0	59.4	60.0	59.5	1.3

This further implies that segregation experienced by students at school can be a potential barrier to their employability, especially that of disadvantaged students, and that a mixed school intake might potentially improve their chances of getting a job in early adulthood, possibly by increasing their awareness of future opportunities (Halstead & Taylor, 2000), their aspirations (Casey et al, 2006; Gorard & Rees, 2002) or even their civic awareness (Schagen, 2002) and civic knowledge (Collado, Lomos, & Nicaise, 2015). Such diversity within a school provides a context of social interaction among students from different socio-economic backgrounds (OECD, 2019) which might have a potential positive impact on social cohesion (Borgonovi & Pokropek, 2017). Such schools can act as “cooperative ventures” (Gorard, 2018, p.144) for students.

Furthermore, mixing disadvantaged students with parents in lower status jobs or long-term unemployment with ones from professional family backgrounds can help them to be aware of a wider range of possibilities and opportunities after school, or maybe improve social and communication skills which can be useful in the labour market. For more advantaged students, being educated in a heterogenous school environment can help them to raise their awareness of others, be more tolerant and be respectful of cultural differences (Mickelson, Nkomo, & Wimberly, 2012), which are also valuable characteristics in the job market. This awareness and these skills can be developed through school experiences, through peer influence and through communicating with peers from different socio-economic backgrounds.

11.5 Logistic regression model results predicting professional occupation status

The two logistic regression models in this section are like the ones in section 11.4, but this time they are models predicting the young people’s professional occupation status at age 25. They distinguish the 41.7% of the young people who got professional jobs from those who did not (58.3%). 58.3% is the predictive accuracy of the null model, which includes no explanatory variables. School segregation explains 0.2% of the variation when birth characteristics are controlled for (Table 11.8) and still 0.2% of the variation when all prior stratifying factors – birth origin, family background factors and prior school attainment – are accounted for (Table 11.9).

Table 11.8 Predictive accuracy of logistic regression models to predict having a professional occupation at age 25 explained by each stage of analysis

Stage	Block	Percentage correctness (N=5,192)	Percentage of remaining variation explained
0	Base	58.3	-
1	Young people's characteristics at birth	58.8	2.4
2	School segregation	58.9	0.2

Table 11.9 Predictive accuracy of logistic regression models to predict professional occupation status at age 25 explained by each stage of analysis

Stage	Block	Percentage correctness (N=5,192)	Percentage of remaining variation explained
0	Base	58.3	-
1	Young people's characteristics at birth	58.8	2.4
2	Family background factors and prior attainment	60.6	3.4
3	School segregation	60.7	0.2

Compared to employment status, when it comes to professional occupation status, school segregation seems to play an even smaller role. This is not surprising. Compared to getting employed, being able to get a professional job tends to be more competitive and is likely to be related to many other external factors not covered in the analysis such as geographical limitations, the availability of professional positions or even pure 'luck' when applying for jobs. All these factors have potential associations with the chances of getting a professional occupation. Additionally, while coming from a more prestigious class background does not seem to be linked to an advantage in getting employed, it is closely linked to an advantage in getting a professional occupation (as was discussed in Chapter 10), possibly also through other associated characteristics such as one's parents' social network, parental guidance and parents' professional knowledge that they could pass on to their children. This can possibly explain the smaller proportion of variation explicable by school segregation factors in predicting young

people's professional job status. It is also possible that, other things being equal, being able to get a professional job is more related to students' experiences and development during the HE stage. However, there is positive evidence that a mixed school intake is positively related to pupils' professional aspirations regardless of their parents' occupations (Gorard & Smith, 2010), which can partly explain this 0.2% of the remaining variation explained by school segregation. Although aspirations for professional occupations might not be realistic for some pupils, particularly for low attainers, having high occupational aspirations is obviously a good thing, both in terms of pupils' well-being and future development.

In terms of professional occupation outcomes, at this stage it is still not clear whether the very small percentage of variation explained by school segregation can be interpreted as an effect which can be ignored or not, given that the nature of the sample means that they were more likely than the national average to get a professional job (as was discussed in section 7.9.1). To make a fair judgement, future research on a more nationally representative sample needs to be conducted.

The other implication at this stage is that even though the role of segregation in getting a professional occupation is very small, a more mixed school intake can do more good than harm. There is still a possibility that mixing disadvantaged students (who are less likely to have parents in professional occupations or who are graduates) with their more advantaged peers might help them to broaden their views, to be aware of more possible opportunities that they might have in the future, to study a wider range of subjects or even to build a broader social network through their classmates (the kind of network that they would not be able to build through their own family members and which can be useful in the job market), thus giving them a higher chance of getting a high status job than they would be able to get if clustered with pupils from similar backgrounds at school. All these possibilities are the potential opportunities that a disadvantaged student might gain from studying in an integrated school. For advantaged students, studying with peers from different backgrounds can prepare them for work in a diverse working environment in the future, which can contribute to their labour market success too.

11.6 Further discussion

Pupils who are socio-economically disadvantaged are more likely to grow up in a segregated setting in which they generally interact with pupils from similar backgrounds. This is partly

because of residential segregation in some parts of England (Gorard, 2018) and the relatively high level of geographical inequality in England (The Economist, August 2020). Residential segregation is one obvious reason why pupils with similar backgrounds go to school together, as children living in the same area tend to go to the same local schools (Camina & Iannone, 2013). Young people living in more economically disadvantaged areas, especially deprived areas, are more likely to attend segregated schools (Table 10.2) and to have a more difficult learning environment. They might grow up less prepared for academic challenges beyond school or unprepared for the diversity in society (Gorard & Smith, 2010) or be less aware of their future opportunities. Lacking preparedness for academic challenges might have a negative impact on their efforts to do well in school exams, or their aspirations to enter HE, and this might be one of the reasons that some of them might decide not to continue into HE. Meanwhile, being unprepared for social diversity might inhibit their awareness of and efforts to develop social and communication skills which can be important in the job market. Viewed in this light, providing diversity in national school provision can help to break the link between housing segregation and the potential negative outcomes caused by a segregated living environment. The quality of secondary schooling and of the school experiences associated with it should not depend on where a pupil lives. The residential gap, along with the poverty gap in education, can be reduced by creating a more mixed school environment.

11.7 Conclusion

In all three models, birth and family background factors explain a large amount of the variation in outcomes. This is because the outcomes are stratified by socio-economic factors, confirming the previous results in Chapter 10. When birth and background characteristics and prior attainment are taken into account, school-level segregation still explains a small proportion of the variation in all post-16 outcomes, suggesting that school segregation plays a small role, which can be explained by a group of individual factors. This is especially true for HE participation and employment status. Schooling experiences can be an important factor in pupils' trajectories later in life by shaping their orientation towards learning in the long term and providing the qualifications needed for further and higher education and training in life (Gorard, 2018). These experiences can be influenced by different factors, including peer interaction, which is highly related to who goes to school with whom.

The analyses in this chapter show that segregation tends to worsen the deprivation gap in differential post-16 outcomes a little bit further. It is especially linked to worse opportunities for the most disadvantaged students. This deprivation-specific gap in education can be narrowed with a more mixed school intake. An integrated school system seems to lead to fairer post-16 outcomes, with young people's HE participation and labour market outcomes depending less on their birth characteristics and socio-economic backgrounds, while a higher level of segregation experienced at school seems to strengthen the well-established link between social origin and family background factors and post-16 destinations.

The results confirm well-established findings from previous research worldwide that school segregation seems to lead to unfair cognitive (e.g. OECD, 2014a; Parker et al., 2016) and non-cognitive outcomes (e.g. Clotfelter, 2001; Gorard & See, 2013; Muller & Hofmann, 2016). The findings in this chapter contribute to this research area by adding the element of labour market outcomes. It would be valuable and interesting to see the results from similar research on a more nationally representative sample (if the data became available at some point). The hypothesis is that school segregation factors might be shown to play a bigger potential role in post-16 outcomes.

One of the functions of compulsory education is to help disadvantaged children to level up (Gorard & Smith, 2010). Levelling up, which is an important item on the current government's agenda, means bringing everyone in society up to speed (The Economist, August 2020). To achieve this, the key is to help the most disadvantaged to overcome social barriers, in education and later in the labour market. This leads to an important implication of these results: schools can play a role in weakening the socio-economic stratification in differential post-16 outcomes by simply mixing pupil intakes. Mixing pupils from different social origins and different socio-economic backgrounds would cost little and could potentially improve HE participation and employability. It is worth taking this into consideration as it would help to give equal opportunities to every student regardless of socio-economic background. There needs to be socio-economic, racial and cultural diversity in schools, just as there is in modern British society. Such a school mix effect in post-16 destinations should not be ignored and can be made good use of.

Chapter 12 Socio-economic correlates of intergenerational social mobility: Correlation and regression findings

Chapter 10 illustrated differential post-16 outcomes by birth characteristics, socio-economic background and other factors. Chapter 11 brought in school segregation as one factor and used logistic regression analysis to assess the potential role of school clustering in post-16 outcomes when birth and background characteristics are accounted for. This chapter considers a wide range of other socio-economic variables and uses logistic regression models to further probe into intergenerational social mobility in England. It presents the results for the young people's opportunities to participate in HE, to enter the labour market and occupational attainment.

First, it reveals the most important predictors of post-16 destinations captured by examining all the confounding variables established in the regression models. Second, based on the important predictors identified, it reports the results from the final multi-stage logistic regression models and presents the systematic relationships between opportunities in post-16 trajectories and birth characteristics, socio-economic background and other socio-economic factors. It also provides some possible reasons for the patterns revealed. The patterns reported in Chapter 10 could be due to some variables acting as proxies for others. To obtain a full picture of the complex interrelationships, all the variables were entered in the regression models in strict life order. Third, it pays particular attention to the sub-group of disadvantaged students in the cohort and reviews the gaps in post-16 outcomes between the disadvantaged young people and their peers. It further contextualises the results in terms of impacts and implications arising for these sub-groups. Finally, it revisits the missing data and reveals that missing data can be an indication of hidden disadvantage, which makes a methodological contribution to the social mobility literature.

Section 12.1 addresses the third RQ of the study:

- What factors are important predictors of HE participation? How does HE participation link to birth characteristics, socio-economic background and other socio-economic factors?

Following this, sections 12.2 and 12.3 address the fourth RQ of the study:

- What factors are important predictors of labour market outcomes? How do young people's labour market outcomes link to birth characteristics, socio-economic background and other socio-economic factors?

By revisiting and summarising the results from sections 12.1 to 12.3, section 12.4 addresses the fifth RQ:

- What are the deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers?

The chapter builds a full picture of the young people's post-16 life trajectories. It examines the socio-economic correlates of intergenerational social mobility in England.

12.1 Relationships between birth characteristics, socio-economic background and other socio-economic factors and HE participation by age 19

This section focuses on HE participation, the first important post-16 stage. It presents the link between HE participation and birth characteristics, socio-economic background (parental occupation, parental education and FSM eligibility) and other socio-economic factors (educational attainment and parental and pupil educational aspirations).

12.1.1 Important predictors of HE participation – Results from a binary logistic regression model

Among socio-economic factors, this section first captures the important predictors of HE entry. Table 12.1 presents the results of a logistic model predicting HE participation.

To recap, in this stage, all the potential variables available in the data are included in the regression models because confounding variables can influence both the causes and the effects of the independent variables. Omitting confounding variables could therefore bias the coefficient estimates.

As was shown in the descriptive analysis in Chapter 9, 54.9% of the young people in the analytical sample entered HE. 54.9% is the predictive accuracy of the null model before accounting for any baseline variables.

Stage 1 only includes the young people's characteristics at birth, which are constant variables (see Chapter 9). In stage 2, different aspects of the young people's lives in the secondary schooling stage when they were aged 13 to 16 were entered in batches. They were entered sequentially to avoid the predictive ability of one batch overlapping with that of a different batch. Starting with stage 1, each element in stage 2 is added separately. This was to identify which aspects of life during the young people's secondary schooling stage are powerful predictors of HE participation while controlling for birth characteristics.

The model in this section is used to illustrate the most important predictors of HE participation and also to reveal the factors which make little or no difference to the model's predictability. This also applies to the models in section 12.2.1 and section 12.3.1. Therefore, the interest here is in the increase in the correctness of the percentage in each stage, i.e. the explanatory power of each batch of analysis. Readers who are interested in the Exp (B) of each variable included will find this information in Appendix 13.

Table 12.1 Predictive accuracy of logistic regression models in predicting HE participation

Stage	Block	Percentage correctness
0	Base	54.9
1	Young person's characteristics at birth	58.9
2	Family composition	61.1
Age 13-16	Economic status at home	67.9
	Parental educational background	64.8
	Material ownership	64.1
	Private tuition	63.2
	Parental involvement in schooling	60.0
	Parental attitudes and aspirations	73.5
	Geographical location	64.8
	Connexion personal advisor	58.9
	School features	64.7
	KS1, 2 and 3 educational attainment	76.7
	Young person's attitudes and aspirations	67.4

Note. KS = Key Stage; N = 5,192.

Based on the null model, after adding young people's birth characteristics in the first stage, the predictive accuracy of the model increases from 54.9% to 58.9%. This reveals that birth characteristics account for 9% (4/45.1) of the variation in HE participation. The regression analysis revealed that, after controlling for birth characteristics, the most powerful predictor is educational attainment, which is not surprising. Adding educational attainment increases the prediction accuracy from 58.9% to 76.7%, which is a big increase of 17.8 percentage points. This is followed by parental attitudes and aspirations, which leads to an extra increase of 14.6 percentage points in prediction accuracy. In addition, economic status at home gives an extra increase of 9 percentage points. Among other factors, pupil attitudes and aspirations, parental educational background, geographical location, schooling features and material ownership at home also seem to be moderately important.

In contrast, parental involvement in schooling does not seem to make any big difference to the model's predictiveness, confirming the findings in Chapter 10. Moreover, help from a Connexion personal advisor adds no increase to the predictiveness, suggesting that the Connexion service might not be as effective in helping pupils go into HE as is hoped. Compared to other factors, private tuition seems to make much less difference to HE participation.

At this stage, the model suggests that economic status at home, parental attitudes and aspirations and educational attainment play the biggest roles in HE participation when birth characteristics are controlled for. Meanwhile, parental involvement in schooling, a factor which is traditionally and widely considered important, is shown to make much less difference to the outcome indicator.

12.1.2 How HE participation links to birth characteristics, socio-economic background and other socio-economic factors – Results from a binary logistic regression model

While section 12.1.1 paid attention to exploring the factors important in predicting HE participation while also revealing the less important factors, this section further examines in detail how HE participation is linked to the most powerful factors identified. The following regression analysis elucidates the detailed relationships between HE entry and young people's birth and background characteristics and other factors in a systematic way.

Table 12.2 and Table 12.3 present the results of the final logistic regression model predicting HE participation, which, after trying various combinations of variables, turned out to be the

simplest one (with the fewest independent variables) with the highest predictive power. All the variables included in this model were linked with HE entry when analysed separately (see Chapter 10). As mentioned in Chapter 8, the interest lies in 1) the increase in the predictive accuracy at each stage, which reveals how each set of variables increases the predictive ability of the model, and 2) the Exp (B) of each baseline variable in the last column, which provides the odds ratio of the probability of entering HE after accounting for other variables at each stage.

Table 12.2 Predictive accuracy of the logistic regression model in predicting HE participation

Stage	Block	Percentage correctness
0	Base	54.9
1	Young person's characteristics at birth	58.9
2	Socio-economic background	69.9
3	Schooling features and educational attainment	77.1
4	Parental aspirations	78.0
5	Young person's aspirations	78.3

Table 12.2 presents the predictive accuracy of the logistic regression model in predicting HE participation. 54.9% is the predictive accuracy of the null model, which includes no explanatory variables. Adding the young person's birth characteristics (sex, first language, ethnicity and single-parent status at birth) leads to an increase of 4 percentage points in the predictive accuracy of the null model, which explains 9% (4/45.1) of the remaining variation in HE participation. Adding socio-economic background variables leads to an extra 11 percentage point increase in the predictive accuracy. This is followed by educational attainment, which adds 8 more percentage points to the model's predictiveness. Finally, adding parental aspirations and the young people's aspirations increases the predictiveness by 0.9 and 0.3 percentage points respectively. The most pronounced growth in predictive accuracy was when the educational attainment variables were entered. Overall, adding these predictor variables achieved an overall prediction accuracy of 78.3%, improving the accuracy by around 43% compared to the baseline.

Table 12.3 Regression coefficients obtained from the binary logistic regression model to predict HE participation

Stage	Block	Variables in the block	Exp (B)
1	Young person's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		India (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Socio-economic background	Higher managerial and professional (vs long-term unemployed)	1.594
		Lower managerial and professional (vs long-term unemployed)	1.521
		Intermediate (vs long-term unemployed)	1.258
		Small employer and own account workers (vs long-term unemployed)	1.398
		Lower supervisory and technical (vs long-term unemployed)	1.077
		Semi-routine (vs long-term unemployed)	1.328
		Routine (vs long-term unemployed)	1.166

		Not known (vs long-term unemployed)	0.991
		Degree or equivalent vs (no qualification)	1.765
		Higher education below degree (vs no qualification)	1.372
		GCE A level (vs no qualification)	0.972
		GCSE grades A-C (vs no qualification)	0.872
		Basic low-level qualifications (vs no qualification)	0.792
		Other qualifications (vs no qualification)	1.016
		Not known (vs no qualification)	0.541
		FSM (vs non-FSM)	0.795
		Home computer for schoolwork (vs no home computer)	1.468
		IDACI	0.561
3	Schooling features and educational attainment	Being happy at school (vs not happy at school)	2.139
		Not known (vs not happy at school)	1.037
		KS3 average points score	1.158
		GCSE and equivalent average points score	1.008
4	Parental aspirations	High parental aspirations for FT education (vs low	2.412

		parental aspirations for FT education)	
		Parental aspirations not known (vs low parental aspirations for FT education)	1.474
5	Young person's aspirations	High pupil aspirations for FT education (vs low pupil aspirations for FT education)	3.680
		Pupil aspirations not known (vs low pupil aspirations for FT education)	3.077

Note. FSM = Free school meals; KS = Key Stage; GCSE = General Certificate of Secondary Education; IDACI = Income Deprivation Affecting Children Index; FT education = Full-time education; N = 5,192.

Table 12.3 shows the regression coefficients obtained from the logistic regression model to predict HE participation. The following analysis systematically elucidates the relationship between HE participation and a wide range of factors. Males were less likely than females to go to university, with an odds ratio of 0.8. Those who speak English as a first language were also less likely. Young people born in a single-parent family had lower chances of HE participation (odds ratio = 0.9). At the same time, all the ethnic minority groups enjoyed higher HE participation rates than their white peers. In other words, white pupils were the least likely to enter HE when other personal variables were equal. For example, Indian-origin pupils were about 9 times as likely as white-origin pupils to go to university. This result is consistent with the findings in Lu's (2019) study using NPD and HESA datasets on England.

When birth characteristics are controlled for, young people from the poorest areas were only about half as likely as those living in the wealthiest areas to go to university, with the odds ratio for the IDACI score being 0.561. A similar pattern applies to poor young people. FSM-eligible pupils were about 80% as likely as non-FSM-eligible students to enter HE. These patterns

begin to indicate that the sub-group of poor pupils may be systematically different to other groups and they have a lower chance of entering HE.

When other personal variables are equal, young people whose parents were employed had an advantage in their chances of HE participation compared to those with unemployed parents. This is especially true for young people from professional occupation family backgrounds. Young people whose parents had professional jobs were about 1.5 times as likely as those whose parents were long-term unemployed to enter HE.

Similarly, higher levels of parental education were connected with higher chances of going to university. Compared to young people whose parents had no qualifications, those born to parents who were graduates were nearly 1.8 times as likely to enter HE and those whose parents had higher education below degree level were almost 1.4 times as likely to go to university. However, having parents with lower educational levels (GCE A level, GCSE grades A-C, and basic low-level qualifications) did not confer an advantage in HE participation over those whose parents had no qualification. However, the young people whose parent's occupation and education are unknown seem to be the most disadvantaged in their HE trajectories. For example, pupils whose parents' education is missing were only half as likely to go into HE compared to those whose parents had no qualification.

Young people who had a computer for schoolwork were about 1.5 times as likely as those who did not have one to go into HE, suggesting that access to educational facilities might play a positive role in helping some students be better prepared for HE entry. Of course, ownership of educational items can depend on the economic situation at home. Lacking a home computer can indicate lower household income. However, policy interventions can help economically disadvantaged pupils by providing them with more educational facilities at school or even providing deprived pupils with free computers or laptops for schoolwork at home.

The patterns revealed so far convey a consistent picture: after birth characteristics are taken into account, the sub-group from lower socio-economic classes, especially those born to parents in long-term unemployment and without a qualification, consistently have a lower chance of HE entry. This trend is most likely to be related to poverty associated with lower social class, and the model equally highlights that pupils who lived below the poverty line and who lived in a deprived area were less likely to go to university. Despite policies to widen HE

participation for more than five decades in the UK, it seems that poor pupils are still under-represented in HE. Improving fair access to university, therefore, by tackling family poverty is still key.

For young people with similar birth characteristics and socio-economic backgrounds, those with higher KS3 and KS4 attainment enjoyed better chances of attending HE institutions. This is especially true for KS3 attainment. Given that the bivariate analysis in Chapter 10 showed a close link between early attainment and socio-economic background, this pattern is a positive sign. It implies that schools can help poor children to increase their chance of HE entry by improving their school performance by means of higher teacher quality and better school equipment, etc.

The figures also show that young people who had positive school experiences enjoyed higher chances of HE participation. Pupils who felt happy at school were twice as likely as those who never felt happy at school to go to university. This is in line with the findings in Chapter 10. However, considering the high level of stratification in educational attainment by family background, it is noticeable that when modelled in biographical order the link between KS3 attainment and HE participation appears to be weaker, and KS4 attainment makes little difference to the subsequent HE trajectory (the odds ratio is close to 1). This implies that positive school experiences might play a bigger role in HE entry than educational attainment does. This is a valuable finding, as previous empirical work seldom touches on school experiences as a potential factor predicting HE entry (possibly because of a lack of available data). This finding has further important implications for the sub-group of disadvantaged pupils: simply improving their school experiences might make a big difference to their chance of entering HE.

For some disadvantaged students, the chances of going into HE might not only depend on their educational qualifications. What is more important might be their decisions to continue in post-16 education or not. Family poverty, being clustered in deprived local areas and being segregated from more advantaged peers can also possibly create negative experiences of schooling which might influence decisions on HE participation. For example, as was mentioned in Chapter 11, school segregation by disadvantage might have a negative impact on pupils' aspirations and preparedness for future academic challenges. This might partly explain the little difference made by KS4 attainment to HE entry.

The other important positive factor is aspirations. According to the model, parents' and young people's educational aspirations seem to be strong predictors of HE participation, even when all the pupil background factors and prior attainment are accounted for. Pupils whose parents wanted them to continue in full-time post-16 education were almost 2.5 times as likely as those whose parents wanted them to take a different route to enter HE.

Again, once all the preceding variables are factored into account, high young people's aspirations for post-compulsory education are still strongly linked to entering HE. Young people who planned to continue in post-16 full-time education were more than 3 times as likely as those who did not have this educational aspiration to go to university.

The last two patterns have important implications for pupils from poorer families. Comparing the odds ratios relating to socio-economic background and those relating to aspirations, aspirations play a bigger role in HE chances. For some poor pupils, it might not be poverty which is the biggest barrier to their participation in HE. Instead, it may be they or their parents not having aspirations which prevents them applying for university.

12.1.3 Conclusion

In sum, the chances of participating in HE varied among the different socio-economic groups of young people. Birth characteristics and parental background were, to different extents, linked to HE trajectories. Young people with parents in professional/managerial occupations and whose parents were graduates enjoyed much higher chances of HE participation. In contrast, poor pupils and ones living in deprived areas were disadvantaged in their opportunities to go to university. This implies that HE opportunities are still heavily distributed among different socio-economic groups of young people. After background characteristics are controlled for, educational attainment was an important factor in HE participation, as expected. This points to the importance of secondary schools improving school performance, especially for poorer pupils.

However, there is good evidence that positive school experiences, high parental aspirations and young people's high aspirations for post-16 education play bigger roles in HE participation once family background factors are controlled for. Although this role is smaller compared to

previous educational attainment, this has key implications for policymakers to help to mitigate the link established between social origins and HE participation and improve intergenerational social mobility. What interventions and policies can do to widen participation in HE and improve fair access to university will be discussed in the next chapter.

12.2 Relationships between birth characteristics, socio-economic background, other socio-economic factors and employment status at the age of 25

This section moves on from HE entry to labour market entry. The focus is the employment status of the young people at age 25. It examines the detailed links between the young people's employment status and birth characteristics, socio-economic background (parental occupation, parental education and FSM eligibility) and other socio-economic factors (educational attainment, parental educational aspirations, HE entry and economic activity).

12.2.1 Important predictors of employment status – Results from three binary logistic regression models

This section captures important predictors of employment status, i.e. whether the young people had a job or not at the age of 25. Table 11.4 reports the results from a logistic regression model to predict the young people's employment status. It presents the predictive accuracy increase for each batch of variables compared to the predictive accuracy that birth characteristics contribute to the model.

This time, HE and FE entry and economic activity during the post-16 period, which were identified as being related to labour market outcomes, were also added to the model. Starting with stage 1, each batch in stage 2 was added separately. This was to identify which aspects of life during the young people's secondary schooling stage are powerful predictors of employment status while birth characteristics are controlled for. As was discussed and justified in Chapter 8, the final model was derived from three logistic regression models. Readers who are interested in the Exp (B) of each variable included should consult Appendix 14.

Table 12.4 Predictive accuracy of logistic regression models to predict employment status

Stage	Block	Model 1 (N=1818) Percentage correctness	Model 2 (N=1992) Percentage correctness	Model 3 (N=1799) Percentage correctness	Average model Percentage correctness
0	Base	51.2	54.8	50.6	52.2
1	Young person's characteristics at birth	56.2	56.0	56.4	56.2
2 Age 13-16	Family composition	56.3	56.2	57.0	56.5
	Economic status at home	60.3	59.6	59.3	59.7
	Parental educational background	58.7	58.0	58.5	58.4
	Material ownership	59.8	59.6	61.4	60.3
	Private tuition	56.2	56.1	56.9	56.4
	Parental involvement in schooling	58.4	56.0	58.4	57.6
	Parental attitudes and aspirations	58.4	58.0	58.8	58.4
	Geographical location	60.0	58.4	59.1	59.2
	Connexion personal advisor	56.2	56.0	56.4	56.2
	Schooling features	60.1	58.7	60.0	59.6
	KS1, 2 and 3 educational attainment	60.1	59.1	61.8	60.3
	Young person's attitudes and aspirations	59.5	58.0	60.6	59.4
3 Age 17-19	FE Entry	56.2	57.3	57.3	56.9
	HE Entry	60.3	59.3	60.5	60.0
	Economic activity	60.9	61.1	61.1	61.0

Note. KS = Key Stage; FE = further education; HE = Higher Education; N = 5,192.

52.2% is the prediction accuracy of the null model, which includes no explanatory variables. Inputting all the birth characteristics into the model increases the accuracy of prediction by 4 percentage point over the null model. Regression analysis reveals that, after controlling for birth characteristics, the most important predictor of employment status is economic activity between ages 17 and 19. Adding young person's economic activity increases the prediction accuracy from 56.2% to 61%. Educational attainment and material ownership at home are also important factors. Entering educational attainment increases the prediction accuracy from 56.2% to 60.3%, as does adding material ownership at home. This is followed by HE entry, which leads to an extra 3.8 percentage point increase in predictive accuracy after controlling for birth characteristics. Economic status at home and pupil attitudes and aspirations also seem to be moderately important.

In contrast, as in the model to predict HE participation, help from a Connexion personal advisor adds no growth to the predictiveness, suggesting that the Connexion service might be of little help in terms of getting young people employed.

On the whole, the model shows that material ownership at home, educational attainment, HE entry and economic activity account for more of the remaining variation in the outcome than the other factors. At this stage, the figures begin to suggest that HE participation and the young people's economic activity beyond school age might play equally important roles in their employment status in early adulthood once social origin and family background are controlled for.

12.2.2 How employment status links to birth characteristics, socio-economic background and other socio-economic factors – Results from three binary logistic regression models

Like Table 12.2 and Table 12.3, Table 12.5 and Table 12.6 in this section present the results of the final logistic regression model, which predicts the young people's employment status at age 25, which is the simplest model with the highest predictive power. All the variables included in this model were linked with employment status when analysed separately (see Chapter 10). It explores in detail how the outcome status of being employed or not is associated with the most important factors revealed in section 12.2.1. The following regression analysis elucidates the detailed relationships between having a job and the young people's birth and background characteristics and other factors in a systematic way.

Table 12.5 Predictive accuracy of logistic regression models to predict employment status

Stage	Block	Model 1 (N=1818) Percentage correctness	Model 1 (N=1992) Percentage correctness	Model 1 (N=1799) Percentage correctness	Average model Percentage correctness
0	Base	51.2	54.8	50.6	52.2
1	Young person's characteristics at birth	56.2	56.0	56.4	56.2
2	Socio-economic background	60.2	60.5	60.1	60.3
3	Schooling features and educational attainment	62.2	61.0	61.1	61.4
4	Parental and young person's aspirations	62.3	61.0	61.9	61.7
5	Economic inactivity and apprenticeship	62.8	62.6	62.2	62.5
6	Entry HE	63.8	63.4	62.6	63.3

Note. HE = Higher Education; N = 5,192.

Table 12.5 presents the predictive accuracy of the logistic regression model to predict whether the young person was employed at age 25. The prediction accuracy of the null model is 52.2%. Adding the young people's birth characteristics (sex, first language, ethnicity and single-parent status at birth) leads to an increase of 4 percentage points in the predictive accuracy of the null model, which includes no explanatory variables, which explains 8% (4/47.8) of the remaining variation in employment status attainment. Adding socio-economic background variables leads to an extra 4.1 percentage point increase in the predictive accuracy. This figure is followed by schooling features and educational attainment, which add an extra 1.1 percentage points to the model's predictiveness. Next, adding parental and pupil aspirations increases predictiveness by 0.3 percentage points. Finally, adding economic inactivity and apprenticeship status gives an extra 0.8 percentage points to the model's predictiveness, and the same amount of predictive power is contributed by further adding the young people's HE participation status.

On the whole, adding all these predictor variables to the model achieves an overall prediction accuracy of 63.3%. The prediction accuracy improves by around 23 percentage points compared to the baseline. Compared to HE participation, predicting employment status is more difficult as the young people's employment status is very unevenly distributed, with a much higher proportion of them being employed (82.9%).

Table 12.6 Regression coefficients obtained from the binary logistic regression models to predict employment status

Stage	Block	Variables in block	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young person's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		India (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2		Higher managerial and professional	0.868	0.661	1.190	0.906

	Socio-economic background	(vs long-term unemployed)				
		Lower managerial and professional (vs long-term unemployed)	1.276	1.024	1.762	1.354
		Intermediate (vs long-term unemployed)	1.113	0.832	1.439	1.128
		Small employer and own account workers (vs long-term unemployed)	1.020	1.046	1.539	1.202
		Lower supervisory and technical (vs long-term unemployed)	1.040	0.965	1.389	1.131
		Semi-routine (vs long-term unemployed)	0.989	0.842	1.280	1.037
		Routine (vs long-term unemployed)	0.781	0.873	1.200	0.951
		Not known (vs long-term unemployed)	0.947	1.164	1.299	1.113
		Degree or equivalent vs (no qualification)	1.302	0.797	0.662	0.920
		Higher education below degree (vs no qualification)	1.662	1.112	0.952	1.242
		GCE A level (vs no qualification)	1.531	1.133	1.156	1.273

		GCSE grades A-C (vs no qualification)	1.152	1.236	1.201	1.196
		Basic low-level qualifications (vs no qualification)	2.004	1.279	1.010	1.431
		Other qualifications (vs no qualification)	1.671	2.558	0.989	1.739
		Not known (vs no qualification)	0.929	0.398	0.685	0.671
		FSM (vs non-FSM)	0.617	0.664	0.668	0.650
		Home computer for schoolwork (vs no home computer)	1.116	0.779	1.339	1.078
3	Educational attainment	KS2 average points score	1.019	1.027	1.013	1.020
		GCSE and equivalent average points score	1.002	1.002	1.002	1.002
4	Parental and young person's aspirations	High parental aspirations for FTE (low parental aspirations for FTE)	0.754	0.766	0.788	0.769
		Parental aspirations not known (low parental aspiration for FTE)	0.646	1.101	0.729	0.825

		High pupil aspirations for FT education (low pupil aspirations for FT education)	1.097	0.791	0.920	0.936
		Pupil aspirations not known (low pupil aspiration for FT education)	0.771	1.276	0.303	0.783
5	Economic inactivity and apprenticeship	Been NEET (vs never been NEET)	0.460	0.409	0.521	0.463
		Been in an apprenticeship (vs never been in an apprenticeship)	1.895	1.627	1.574	1.699
6	Entry HE	HE Entry (vs did not enter HE)	1.536	1.814	1.637	1.662

Note. KS = Key Stage; GCSE = General Certificate of Secondary Education; IDACI = Income Deprivation Affecting Children Index; FSM = Free school meals; FT education=Full-time education; NEET = Not in Education, Employment or Training; HE = Higher Education; N = 5,192.

Table 12.6 shows the regression coefficients obtained from the logistic regression model to predict the young people's employment status. Females were less likely than males to be employed, with an odds ratio of 0.7. Those born to single parents were also less likely to be employed. Young people born in a single-parent family were about 80% as likely to get a job as those not born in a single-parent household (odds ratio = 0.8). Although speaking English as a first language did not confer an advantage in HE participation, as was shown in the previous section it is associated with an advantage in employment status. Young people who speak English as a first language were about 1.2 times as likely as those whose first language is not English to be employed.

Contrary to the pattern for ethnicity in predicting HE entry, white-origin young people had an advantage over most of the ethnic minority groups in employment status. The only exception was black Caribbean pupils in the cohort, who were about 1.2 times as likely as white pupils to get a job at age 25. Young people whose ethnicity is unknown were the most disadvantaged in getting a job. Those whose ethnicity is missing were only about half as likely to be employed as white-origin pupils.

When birth characteristics are controlled for, in general the young people whose parents were employed had an advantage in getting a job compared to their peers whose parents were long-term unemployed. For example, those born to parents in lower professional occupations were 1.4 times as likely as those born to parents in long-term unemployment to get a job.

However, it is a little surprising that being born into higher professional families does not confer an advantage in employment. This is consistent with the findings in Chapter 10 and can be explained by the possibility that higher professional families also tend to be the wealthiest and the rich children were less likely to need to find a job for financial reasons or they might have been doing a higher level HE qualification or even taking a gap year at the age of 25.

A similar pattern applies to parental education. While the young people born to parents with educational qualifications enjoyed higher chances of being employed (for example, pupils with parents with higher education below degree level were about 1.2 times as likely as those whose parents had no qualifications to get a job), those whose parents were graduates did not have this advantage, possibly for the same reasons as for parental occupation. The young people whose parents' education is unknown were the most disadvantaged. They were only about 0.7 times as likely as those whose parents had no qualification to get a job. Young people living in poverty had a lower chance of being employed. FSM-eligible pupils were only about 70% as likely as non-FSM-eligible ones to be employed (odds ratio = 0.7). The message so far is clear: the biggest barrier in chances of being employed is family poverty.

When other personal variables are equal, the young people who had a computer for schoolwork were about 1.1 times as likely as those who did not have one to be employed, suggesting that, when other background factors are controlled for, access to IT facilities might only play a very small role in employment.

For young people with similar birth origins and socio-economic backgrounds, it is noticeable and interesting that, when modelled in biographical order, the link between attainment and employment suggested in the previous section almost disappears (the odds ratios are close to 1). This suggests that, once social origins and other socio-economic factors are accounted for, educational attainment has little effect on young people being employed. Again, as was suggested in Chapter 10, what matters more at school might be the peers that the young people interacted with and the social skills and occupational aspirations this peer interaction might give pupils.

Once previous attainment is further controlled for, it is interesting that high parental and pupil aspirations for post-16 education do not confer an advantage in terms of being employed. In fact, the young people whose parents wanted them to continue in post-16 full-time education were only about 80% as likely to be employed at the age of 25 as those whose parents wanted them to follow a job/apprenticeship-related route. The young people's educational aspirations do not seem to make any difference to their employment status, with the odds ratio being close to 1.

It is clear and noticeable from the model that all other things being equal the young people's NEET, apprenticeship and HE statuses are strongly linked to their employment status at age 25. The young people who had been NEET at some point by age 19 were only half as likely as those who had never been NEET to get a job at age 25. Having been NEET by age 19, therefore, is a big risk factor in getting a job at a later stage.

Those who had done an apprenticeship by age 19 were 1.7 times as likely as those who never did an apprenticeship to have a job at age 25, suggesting that the experiences in an apprenticeship and the knowledge, skills and qualifications associated with them might play a very positive role in helping young people to be employed in their early adulthood. This provides a possible explanation of the pattern found in the previous stage of young people whose parents hoped they would follow a job/apprenticeship-related route rather than full-time education being more likely to be employed.

Once all the preceding variables are taken into account, having participated in HE is still strongly linked to employment status. Those who had been to university were almost 1.7 times

as likely to be employed, suggesting a positive role HE might play in young people's labour market outcomes regardless of their family backgrounds.

12.2.3 Conclusion

In summary, family poverty and other economic disadvantages such as parents in long-term unemployment and parents with no qualifications are linked to young people being unemployed at age 25. However, there is encouraging evidence that, once birth characteristics and family background factors are accounted for, not being NEET at any point, doing an apprenticeship and HE participation are associated with being employed in early adulthood. This suggests promising real-world solutions to improve young people's employability through interventions and policy, which will be touched on in the next chapter.

12.3 Relationships between birth characteristics, socio-economic background, other socio-economic factors and professional occupation status at age 25

Following section 12.2, this section still focuses on the young people's labour market outcomes. This time, however, the focus is on professional occupation status. While being employed is different to being unemployed, having a professional occupation is different to having a non-professional job such as a manual job, in the sense that a professional occupation requires specific educational qualifications, skills and knowledge. This section presents the links between the young people's professional occupation status and birth characteristics, socio-economic background (parental occupation, parental education and FSM eligibility) and other socio-economic factors (educational attainment, parental educational aspirations, HE entry and economic activity).

12.3.1 Important predictors of professional occupation status – Results from a binary logistic regression model

Following section 12.2.1, this section reveals important predictors of professional occupation outcomes. Table 12.7 reports the results from a logistic model to predict the young people's professional occupation status. It shows the predictive accuracy increases when adding successive blocks of variables compared to the predictive accuracy that birth characteristics contribute to the model. The life factors during the young people's secondary schooling stage which are important predictors of having a professional job when birth characteristics are taken

into account are identified. The interest here is in the explanatory power of each set of variables. Readers who are also interested in the Exp (B) of each variable included should consult Appendix 15.

Table 12.7 Predictive accuracy of a logistic regression model to predict professional occupation status

Stage	Block	Percentage correctness
0	Base	58.3
1	Young person's characteristics at birth	58.8
2	Family composition	59.0
Age 13-16	Economic status at home	60.9
	Parental educational background	60.2
	Material ownership	59.0
	Private tuition	59.4
	Parental involvement in schooling	58.9
	Parental attitudes and aspirations	62.3
	Geographical location	59.6
	Connexion personal advisor	58.8
	Schooling features	59.9
	KS1, 2 and 3 Educational attainment	65.9
	Young person's attitudes and aspirations	61.2
3	FE Entry	59.0
Age 17-19	HE Entry	65.9
	Economic activity	58.8

Note. KS = Key Stage; FE = Further Education; HE = Higher Education; N = 5,192.

As was shown in the descriptive analysis in Chapter 9, 41.7% of the analytical sample were in professional occupations at age 25, and 58.3% of the sampled young people did not land a professional job. Accordingly, 58.3% is the predictive accuracy of the null model before accounting for any baseline variables.

The regression model shows that after controlling for birth characteristics, the key predictors of professional occupation status are educational attainment and HE participation, with each

contributing 7.1 extra percentage points to the model's prediction power. They are followed by parental attitudes and aspirations, which add 3.5 extra percentage points. Pupil attitudes and aspirations are also important, leading to an extra increase of 2.4 percentage points in the predictive accuracy after accounting for birth characteristics. Economic status at home and parental education seem to be only moderately important.

In contrast, as with employment status prediction, help from a Connexion personal advisor adds nothing to the predictive power, suggesting that the Connexion service might not be effective in helping young people get a professional occupation either. At this stage, the models collectively suggest that the Connexions service might not be as useful in practice as is hoped.

Unlike when predicting the young people's employment status, adding economic activity adds no growth to the predictiveness of the model after controlling for birth characteristics. This suggests that NEET status, apprenticeships and other economic activities make no difference in predicting professional occupation status. At this stage, the data begin to suggest that the young people's previous educational attainment and HE participation might play the key roles in their professional occupation status at the age of 25, even after controlling for family characteristics and background factors.

12.3.2 How professional occupation status links to birth characteristics, socio-economic background and other socio-economic factors – Results from a binary logistic regression model

Like Table 12.5 and Table 12.6, Table 12.8 and Table 12.9 in this section present the results of the final logistic regression model to predict the young people's professional occupation status at the age of 25, which turned out to be the simplest one with the highest predictive power. All the variables included in this model were linked with professional occupation status when analysed separately (see Chapter 10). The following regression analysis illustrates in detail how the outcome status of having a professional job is linked with the young people's birth characteristics, family backgrounds and other factors in a systematic way.

Table 12.8 Predictive accuracy of a logistic regression model to predict professional occupation status

Stage	Block	Percentage correctness
0	Base	58.3
1	Young person's characteristics at birth	58.8
2	Socio-economic background	60.5
3	Schooling features and educational attainment	66.0
4	Parental aspirations	66.1
5	Young person's aspirations	66.3
6	HE entry	68.3

Note. HE = Higher Education; N = 5,192.

Table 12.8 presents the predictive accuracy of the logistic regression model to predict whether the young people were in professional occupations at age 25. 58.3% is the predictive accuracy of the null model. Adding the young people's birth characteristics (sex, first language, ethnicity and single-parent status at birth) leads to an increase of 0.5 percentage points in the predictive accuracy of the null model which includes no predictor variables, which explains 1% (0.5/41.7) of the remaining variation in professional occupation status. This means that birth characteristics only account for a relatively small proportion of the variation in the chances of having a professional job. Adding socio-economic background variables leads to 1.7 percentage points extra growth in the predictive accuracy. This is followed by schooling features and educational attainment, which add 5.5 percentage points. Adding parental aspirations gives a further increase of 0.1 percentage points, and adding the young people's aspirations gives extra growth of 0.2 percentage points. Finally, the young people's HE participation contributes 2 more percentage points to the model's predictive power. Overall, adding all these predictor variables results in an overall prediction accuracy of 68.3%, a total increase of 10 percentage points compared to the null model. The model's prediction accuracy improves by around 20% compared to the baseline.

Table 12.9 Regression coefficients obtained from a binary logistic regression model to predict professional occupation status

Stage	Block	Variables in block	Exp (B)
1	Young person's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967

		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Socio-economic background	Higher managerial and professional (vs long-term unemployed)	1.083
		Lower managerial and professional (vs long-term unemployed)	1.371
		Intermediate (vs long-term unemployed)	1.141
		Small employer and own account workers (vs long-term unemployed)	1.250
		Lower supervisory and technical (vs	1.241

		long-term unemployed)	
		Semi-routine (vs long-term unemployed)	1.183
		Routine (vs long-term unemployed)	0.856
		Not known (vs long-term unemployed)	1.106
		Degree or equivalent vs (no qualification)	1.107
		Higher education below degree (vs no qualification)	1.178
		GCE A level (vs no qualification)	1.039
		GCSE grades A-C (vs no qualification)	1.111
		Basic low-level qualifications (vs no qualification)	0.966
		Other qualifications (vs no qualification)	1.088
		Not known (vs no qualification)	0.619
		FSM (vs non-FSM)	0.797
3	Schooling features and educational attainment	Being happy at school (vs not being happy at school)	2.338
		Not known (vs not being happy at school)	1.042

		KS2 average points score	1.000
		KS3 average points score	1.064
		Capped GCSE and equivalent points score	1.003
4	Parental aspirations	High parental aspirations for FT education (vs low parental aspirations for FTE)	1.199
		Parental aspirations not known (vs low parental aspirations for FT education)	0.800
5	Young person's aspiration	High pupil aspirations for FT education (vs low pupil aspirations for FT education)	1.212
		Pupil aspirations not known (vs low pupil aspirations for FT education)	0.662
6	Entry HE	HE entry (did not enter HE)	2.243

Note. FSM = Free school meals; FT education=Full-time education; HE = Higher Education; N = 5,192.

Table 12.9 presents the regression coefficients obtained from the logistic regression model to predict young people's professional occupation status. Males were slightly more likely than females to have a professional occupation, with an odds ratio of 1.1. Although speaking English

as a first language was shown to confer an advantage in getting a job in the previous section, it does not give an advantage in having a professional occupation (the odds ratio is close to 1). Being born in a single parent family is linked to a disadvantage in getting a professional job. Young people born to single parents were about 90% as likely as those not born to single parents to have a professional occupation at the age of 25.

Like the pattern for ethnicity in predicting HE entry, most ethnic minority groups enjoyed higher chances of having professional occupations than their equivalent white peers. For example, Indian-origin pupils were about 1.4 times as likely as white-origin pupils to have a professional job. The only exception is black Caribbean pupils, who were only 70% as likely as white pupils to be professionals.

When characteristics at birth are controlled for, the young people with parents in employment (except those whose parents had routine jobs) had an advantage in getting a professional job compared to their peers whose parents were long-term unemployed. For example, those born to parents in lower professional occupations were 1.4 times as likely as those born to parents who never worked to be professionals. In contrast, pupils born to parents with routine occupations were about 90% as likely to be professionals as those with parents who were long-term unemployed.

A similar pattern applies to parental education. In general, young people born to parents with educational qualifications enjoyed higher chances of getting a professional job than those whose parents had no qualification. This is generally in line with findings from other studies suggesting a positive relationship between parents' educational levels and their children's occupational success (e.g. Dubow, Boxer, & Huesmann, 2009; Lampard, 2007). The only exception is young people whose parents had a basic low-level qualification. They did not enjoy this advantage over the more disadvantaged ones (the odds ratio is close to 1). Again, as with predicting employment status, the young people whose parental education is unknown were the most disadvantaged. They were only about 60% as likely as those whose parents had no qualification to be professionals. As could be expected, the young people living in poverty had a disadvantage in getting a professional occupation, as FSM-eligible pupils were only about 80% as likely as non-FSM-eligible people to be in a professional occupation (odds ratio = 0.8).

For young people with similar birth characteristics and socio-economic backgrounds, as when predicting employment status, it is noticeable that when the variables are entered in biographical order the link between attainment at school and a professional occupation suggested in the previous section almost disappears. This is true for all the key stages, with the odds ratios close to 1. This suggests that once social origins and background are controlled for, previous educational attainment plays little further role in the young people getting a professional job.

This is different to the result reported by Nettle (2003) that social class in adulthood is more linked to pupils' General Ability test score than their parental backgrounds. Again, as was suggested in Chapter 10, to get a professional job what matters more at school might be classmates with whom the young people interacted and communicated and some positive features such as awareness of future opportunities and occupational aspirations this possibly brings. In fact, this model also shows that young people being happy at school is positively linked to their professional occupation status. Pupils who felt happy at school were almost 2.4 times as likely as those who never felt happy at school to get a professional occupation.

This is an interesting and valuable finding. It highlights the importance of positive schooling experiences in landing a professional job. This is a contribution to the literature as previous work seldom touches on this.

Once previous attainment and other socio-economic factors are controlled for, high parental aspirations for the young people's post-compulsory education conferred an advantage in them getting a professional job later in life. Those whose parents wanted them to continue in full-time post-16 education were about 1.2 times as likely to be in professional occupations at age 25 as those whose parents did not have such aspirations for them.

Once parental aspirations are accounted for, the young people's own educational aspirations are also shown to be linked to their professional occupation status. Pupils who planned to pursue post-16 education were about 1.2 times as likely as those who did not to get a professional occupation. This is consistent with Saunders's (2002) finding that motivation and aspirations accounted for more of the variance in social class at age 33 than social origin.

At this stage, it seems that the young people whose parents' aspirations and their own aspirations are unknown were most disadvantaged. One implication here is that parents not having clear aspirations for their children's post-16 education and young people not having a clear plan themselves might be risk factors in terms of being able to get a professional job. This is an interesting finding in itself.

It is noticeable from the model that HE participation is strongly linked to professional occupation status at age 25, *ceteris paribus*. When all the previous factors are controlled for, the young people who entered HE were still about 2.2 times as likely as those who did not enter HE to get a professional occupation. This contributes to the long-term debate on whether education is a vehicle for professionalisation in social mobility (Deary et al., 2005; Iannelli & Paterson, 2005). In this regard, the results from this study show that it is higher education which appears to matter the most. An HE qualification, HE experiences and some required HE subjects such as STEM ones can all help young people to get professional occupations. This suggests widening participation in HE can play an important role in improving the upward intergenerational social mobility of disadvantaged young people.

12.3.3 Conclusion

In summary, the young people's professional occupation status is stratified by birth origin and socio-economic status at home. In particular, living in poverty and being socio-economically disadvantaged are linked to disadvantages in having a professional occupation at age 25. Being poor and being white can be a risk factor in landing a professional job.

However, there is also promising evidence that once birth characteristics, other socio-economic background factors and feeling happy at school are accounted for, high parental educational aspirations, pupil aspirations and HE entry all further contribute to achieving professional occupation status. This suggests some encouraging solutions for policymakers to help more young people, especially disadvantaged ones, to level up their opportunities to have a professional occupation later in life. This will be covered in the next chapter.

12.4 A summary: Deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers

Collectively, all the results so far consistently show systematic underachievement of disadvantaged students in HE participation and the labour market, in terms of getting both employed and a professional occupation. All other things being equal, the young people who were born in single-parent families, who lacked socio-economic resources at home (e.g. those eligible for FSM), who lacked cultural and educational resources at home (e.g. material ownership at home and low parental aspirations for post-16 education), who lived in a deprived area and who attended a school which has a high level of segregation by disadvantage all tended to have lower chances of participating in HE, being employed and getting a professional occupation.

There is one exception. The young people who were disadvantaged by language, i.e. those who did not speak English as a first or main language, were only slightly less likely to be employed, which is more likely to be poverty-related. However, they were more likely to go into HE and get a professional occupation. This implies that, once English fluency is achieved, having English as a second or additional language is no longer a barrier to getting the qualifications to enter HE and have a professional occupation.

12.5 Revisiting missing data: an indication of hidden disadvantage

A methodological contribution of this study is that the regression results suggest that cases with missing data tend to be disadvantaged in terms of both socio-economic background and outcomes.

In the methods chapter (Chapter 8), it was suggested that missing data are never missing at random, and therefore, unlike many studies which simply delete missing data, they have been treated with caution in this study. In the Next Steps survey, the cases opting out from each wave were more likely to come from more disadvantaged backgrounds, less likely to enter HE and less likely to be employed or get a professional occupation (see section 7.9.1). The regression analyses in this chapter further show that even for the cases which did stay in every wave, when the preceding variables are controlled for the young people whose parental occupations and education are unknown are still the most disadvantaged in terms of HE

participation. This hidden group of young people, together with those whose ethnicity is unknown, also tended to be disadvantaged in their labour market success in early adulthood.

One important implication of this is that missing data, especially missing background data, matter. Missing data can represent a hidden disadvantage, both in administrative datasets and in social survey datasets. This kind of hidden disadvantage has been shown to be true in the NPD data (e.g. Alabbad, 2020), in linked NPD and HESA data (e.g. Gorard, 2018) and in other research also using Next Steps data (Siddiqui, Boliver, & Gorard, 2019). Missing data on non-background information also tell a story. In this analysis, cases with missing data on parental and pupil aspirations tend to be disadvantaged in occupational status attainment, *ceteris paribus*. This further implies that missing data on opinions, attitudes and motivations can be an indication of disadvantage in outcomes in social surveys.

Researchers should therefore pay attention to missing data as they can be important to identify disadvantaged cases. Schools should care about pupils with missing data because they can be the most disadvantaged, and every pupil matters. Policymakers should not simply ignore them.

12.6 Conclusion

Young people in different socio-economic groups have unbalanced opportunities in HE participation and the labour market in England. Access to HE and the labour market is patterned by inequalities. Students from socio-economically disadvantaged backgrounds are under-represented in universities and professional occupations.

Young people from poor family backgrounds start school with lower early-age attainment and tend to make less progress over the stages in school (section 10.1). They are then more likely to be NEET at some point (section 9.8) and less likely to participate in HE (section 10.2), losing opportunities to get the qualifications and study the subjects which can lead to professional occupations (section 10.3). This process puts them at risk of not only suffering from lower income and poverty, but also of poorer well-being as they are less likely to be satisfied with their lives (section 9.5), which might lead to poor civic awareness and knowledge and a lack of sense of belonging. Of course, this is unfair for disadvantaged individuals. Put more broadly, it is not good for equity in education, it weakens social justice and social cohesion, and it is not good for improving social mobility.

In predicting employment status and professional occupation status outcomes, HE entry is not only more important than other preceding factors, but also accounts for most of the explained variation in opportunities in labour market. All other things being equal, HE participation plays an important role in labour market success and especially in the uneven socio-economic composition in professional occupations, confirming the mediating effect that education has on the link between social origin and social class at the age of 33 that Breen and Goldthorpe's research found (2001). Considering HE participation itself is heavily stratified by socio-economic background, the key lies in effective fair access to HE, which is the first step towards fair access to the labour market. Policymakers need to do something to improve this.

Besides HE participation, positive school experiences, parental aspirations and pupil aspirations tend to play roles in post-16 outcomes. Compared to tackling family poverty, improving school experiences (perhaps through improving teacher-pupil relationships or peer interactions with a mixed school intake, as mentioned in Chapter 11) and aspirations can be easy and cost little so they are worth taking into consideration.

Now, all the findings of this study have been presented. The next chapter starts to discuss them, the limitations of this study, the implications for future research and the implications for policy, especially in terms of improving the HE and occupational chances of disadvantaged groups.

Chapter 13 Conclusions and implications of the findings

The final chapter of this thesis revisits the original aims and the overall findings of the study. It presents a summary of the key findings in response to the research questions, followed by a discussion of the limitations of the study. Finally, it suggests some implications for future research and policy. Throughout the chapter there are mentions of how this study contributes to the wider social mobility literature.

13.1 Putting it all together: summary of key findings

This study was conducted to examine the patterns of HE participation and labour market outcomes among different socio-economic groups of young people, and to explore their relationship to a wide range of factors relating to birth characteristics, family background, secondary schooling characteristics, pupil characteristics and post-16 outcomes. Compared to previous works, this study has covered a wider range of socio-economic factors and brought new elements, particularly school segregation, into intergenerational social mobility research.

The following research questions were addressed in this study:

RQ1 How do school attainment, HE participation, HE degree outcomes and labour market outcomes vary between different socio-economic groups of young people?

RQ2 Is the level of SES (socio-economic status) segregation experienced at school linked to an individual's post-16 destination once their birth and background characteristics are taken into account? If so, what role does school segregation play in post-16 trajectories?

RQ3 What factors are important predictors of HE participation? How does HE participation link to birth characteristics, socio-economic background and other socio-economic factors?

RQ4 What factors are important predictors of labour market outcomes? How do young people's labour market outcomes link to birth characteristics, socio-economic background and other socio-economic factors?

RQ5 What are the deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers?

For each research question, a distinct phase of data analysis was designed and conducted, allowing for an in-depth focus on each part. Taking a longitudinal life-course approach and analysing the most recent large-scale empirical data, this study was designed to reveal an up-to-date picture of social mobility patterns for a cohort in England who are currently in their early 30s. Some parts of this research have also been published (Shao, 2019).

The study has improved on previous research into potential factors in the origins-destinations link by conducting a larger-scale analysis and by exploring more factors simultaneously. This approach has allowed social mobility issues to be viewed from different angles and raises our awareness of the complex relationships that exist in intergenerational social mobility.

The results of the analyses add to our general understanding of the potential factors influencing social mobility in the context of modern British society. More specifically, they provide new evidence on origins-destinations patterns during the period from the 1980s to the 2020s. The study also makes an original contribution to traditional social mobility research worldwide by bringing in the level of segregation by social origin and family background characteristics experienced at school as a potential factor. Some other factors which have seldom been explored in previous empirical work, such as happiness at school, have also been revealed to be important. The study was designed to provide policy guidance on improving social mobility by equalising educational and post-16 opportunities for different socio-economic groups of young people. A summary of the findings follows.

13.1.1 Research Question 1

How do school attainment, HE participation, HE degree outcomes and labour market outcomes vary between different socio-economic groups of young people?

This research question was intended to identify any patterns that underpin individual performance at school and post-16 outcomes in England. It also sets the scene for the remaining research questions. The findings have revealed an imbalance in school attainment and post-16 opportunities, which are clearly and consistently stratified by socio-economic background.

This stratification has been shown to be strongly patterned by deprivation-related factors, especially FSM eligibility, which implies that the sub-group of poor pupils systematically have different life outcomes to the rest of the sample.

This disadvantage tends to gradually increase towards the end of Key Stage 4, and the gaps are larger in the chances of entering more prestigious universities and professional occupations. This general pattern confirms previous findings on differentiated patterns of educational attainment (Gorard, 2018) and HE entry (Pettigrew, Hendry, & Sparrow, 1989) between different socio-economic groups, and the more detailed results add to knowledge by highlighting the poverty gap in chances of accessing more competitive universities and careers.

There is a clear hierarchical pattern of class differentiation in terms of attainment at all the key stages in secondary schooling, with young people from rich families consistently obtaining higher scores than their disadvantaged peers. This is especially true for young people born to graduate parents in professional occupations and higher income families. These advantaged pupils consistently performed the best throughout their whole school careers, continued into HE and achieved success in the labour market.

In contrast, the sub-groups of poor children who were eligible for FSM, who were born to long-term unemployed parents with no educational qualifications and who lived in deprived areas started school behind and tended to lose ground gradually all the way from secondary schooling to accessing labour market.

Furthermore, disadvantaged young people were not only less likely to participate in HE but they also had lower chances of obtaining a first or higher degree when they did. This can have a further negative impact on their career development, as, in the context of the expansion of the HE sector, achieving a higher degree becomes crucial for graduates' early employment prospects simply because it helps secure an interview (Smith & White, 2015).

The patterns of labour market outcomes show a more complex picture. In terms of employment status, there is no clear evidence of advantage in employment being linked to having parents in professional occupations or with higher levels of educational qualifications. However, there is a clear deprivation gap in employment status. Having parents without jobs and without qualifications are shown to be risk factors for not being able to get a job, as are family poverty

and living in a deprived area. Disadvantaged young people were more likely to be NEET at age 19, and unemployment and unskilled job status at 25 were closely linked to NEET status.

The picture is slightly different for patterns of professional occupation status, which are much more clearly hierarchical by socio-economic background. Coming from a more prestigious class background confers a big advantage in securing a professional occupation, and family poverty is strongly linked to being unable to get a professional job.

These systematically lower success rates of disadvantaged young people in accessing HE and professional occupations may be the result of a combination of factors, such as a lack of educational resources at home and a poor home learning environment. By contrast, possible reasons for the pattern of consistent success of advantaged young people include trends such as parents in professional occupations being more likely to help children with homework, having higher expectations of their children's HE prospects, providing more educational materials such as a home computer for school work and private coaching opportunities for their children, and forming a good and harmonious relationship with their children.

More importantly, the data reveal that young people from more wealthy class backgrounds tend to have more confidence in their life chances and higher aspirations for their post-16 education, which might also contribute to their success at school and beyond.

In general, most of these differentiated patterns can be attributed to economic factors. Regional differences might also be involved in the link identified between income and educational attainment. All these patterns and the possible reasons behind them lead to a clear core message that differential attainment and other life outcomes beyond school are largely stratified by money-related background factors, and being born to a wealthier family confers a big advantage in school attainment and early career development. Family poverty proves to be a key indicator of disadvantage in the school career and post-16 trajectory, with this disadvantage being even greater in opportunities to enter prestigious universities and to secure a professional occupation.

Besides this general trend, two interesting patterns emerged from the data analyses. The first is that parents in long-term unemployment tend to get involved in young people's secondary schooling. However, contrary to what might be expected, parental involvement in schooling

does not seem to be linked to school attainment. This contributes to the long-term debate and supports Gorard's (2018) argument that there is no evidence of the effectiveness of enhanced parental involvement in schooling. This would seem to suggest that it might not be parental involvement in schooling that matters but parental social class. A second pattern is that parents with middle and lower occupational classes are less likely than professional parents to want their children to continue in post-16 education. This might partly explain the hierarchical pattern revealed that young people with parents in middle and lower occupational classes are also less likely than those born to professional parents to enter HE, possibly because of some kind of parental influence.

However, this is not the full story. Surprisingly, long-term unemployed parents were shown to equally value post-compulsory education and their children have relatively higher aspirations for post-16 education compared to their peers from lower family occupation class backgrounds. It would be interesting to further explore the motivations for such high aspirations among these most disadvantaged young people. This result also calls for further research on why a large proportion of relatively disadvantaged young people (those born to parents in lower status occupations) do not plan to continue into HE, as their lower rate of HE entry might partly be explained by the possibility of their self-exclusion from HE opportunities.

The stratification of achievement in different stages of the school career by socio-economic characteristics effectively indicates a stubborn pattern of early-age inequality in school attainment. This further implies that any school system which selects pupils by academic attainment actually indirectly selects pupils by family background, and so is unfair. The same is also true for universities and professional occupation recruiters which continue to select candidates largely based on prior qualifications. Academic and qualification selection might reinforce the influence of social origins on destinations. The data showed, unsurprisingly, that higher school attainment leads to better chances of HE participation, getting employed and landing a professional occupation.

In a certain sense, the status quo of such stratified educational attainment between socio-economic groups means that the traditional selection system in the UK and in many other countries worldwide might cause "education-based discrimination" (Tannock, 2008) and harm social justice, thus further undermining social equality. This also partly explains the under-

representation of disadvantaged young people in HE participation and professional occupations.

13.1.2 Research Question 2

Is the level of SES (socio-economic status) segregation experienced at school linked to an individual's post-16 destination once their birth and background characteristics are taken into account? If so, what role does school segregation play in post-16 trajectories?

This research question was designed to make a first attempt to explore the level of segregation experienced at school as a newly emerging potential factor in intergenerational social mobility and so make a contribution to the social mobility literature.

This study is unique in that it examines the potential role of school segregation, in other words who goes to school with whom, in post-16 trajectories, including HE and labour market outcomes, while controlling for birth and background characteristics. To do this, it is also, to our knowledge, the only study that adopts a data linkage method to link a longitudinal dataset to school segregation data created from a national administrative dataset, enabling robust analysis in a national climate where socio-economic segregation between schools remains and policymakers seem to continue to be misled by the questionable assumption of a peer effect on school attainment and unwarranted claims that some types of school are better than others.

This study has revealed that socio-economically disadvantaged pupils tend to go to schools with higher levels of disadvantage, and so are clustered with peers who are also disadvantaged. Bivariate analyses showed that a higher level of segregation experienced at school is consistently linked to lower chances of HE participation, being employed and having a professional occupation. This supports previous research findings that school segregation by background factors is related to lower overall school attainment (Condrón, 2013; Goldsmith, 2011; Vasque & Home, 2013) and also confirms previous findings that uneven socio-economic school intakes are linked to negative post-compulsory participation in formal education (Billings, Deming, & Rockoff, 2012; Gorard & Smith, 2007).

These results add to our understanding of the potential harm caused by pupils being segregated in schools by providing new evidence that this negative link also applies to labour market outcomes. These school clustering effects still exist when birth and background characteristics

are taken into account. Logistic regression models revealed that when controlling for birth characteristics and family background factors, school segregation factors still explain a further small proportion of the remaining variation in HE participation, employment status and professional occupation status. This suggests that the level of segregation individuals experience at school might play a small role in all post-16 outcomes, which can be explained by a group of individual factors. Such segregation effects seem to worsen the poverty gap in post-16 outcomes a little further.

The results of this study collectively suggest that between-school segregation can be a risk factor for not continuing into HE at the earliest opportunity and poor labour market outcomes, and this is especially so for the most disadvantaged young people. There are a number of potential explanations of this correlation. For example, it is possible that such harm can be caused by a wide range of segregation-related factors identified in previous research such as lower educational and professional aspirations (Gorard & Smith, 2010), negative attitudes to work (Levin, 1987) and poorer social skills (Gottfried, 2014). In contrast, a more mixed school intake can create positive and diverse schooling experiences, which might contribute to pupils' happiness at school and positive post-16 outcomes.

The descriptive analysis of the data in this study revealed a consistent link between happiness at school and better individual performance at school, greater academic progress, HE entry, positive HE outcomes and labour market outcomes. The data also showed that there is no evidence of an association between family background and being happy at school, implying that positive school experiences and teacher-pupil relationships might contribute to this positive link. This further implies that schooling experiences which are closely related to who goes to school with whom might partly explain the school clustering effect on young people's well-being and future development. With more time and resources, it would be interesting to explore the level of pupil happiness at school associated with different levels of school segregation. This would further contribute to social mobility research.

In sum, the findings in this study in response to this question are new in the sense that they provide the most up-to-date evidence of the potential role of school segregation factors in a rich range of post-16 outcomes after controlling for birth and background characteristics. The results also suggest some important and interesting insights into possible explanations of the negative outcomes linked to the clustering of pupils from similar socio-economic backgrounds

at school and the long-term benefits of encouraging a balanced school intake. The potential negative role of school segregation and the aggregate effect of schools that have been revealed are worth noting. This is not only in line with previous studies showing unfair outcomes linked to segregation but also raises new concerns about the potential harm caused by the uneven socio-economic composition of school intakes in terms of social justice, both at school and beyond. The study, therefore, suggests that exploring the potential effects of school segregation on the origins-destinations link longitudinally could be a valuable avenue for future social mobility research.

13.1.3 Research Question 3

What factors are important predictors of HE participation? How does HE participation link to birth characteristics, socio-economic background and other socio-economic factors?

This research question addressed the potential important predictors of HE participation after controlling for birth characteristics, and the extent to which these indicators are related to HE entry. The results from logistic regression models revealed that, after controlling for birth characteristics, the most important predictor of HE entry is educational attainment, as prior educational attainment accounts for most of the difference in HE opportunities. This confirms the previous research finding that the most important barrier to accessing HE is prior school attainment (Raffe, et al., 2006). This is followed by parental attitudes and aspirations, and economic status at home, including parental occupation. Other sound predictors are pupil aspirations, material ownership at home, geographical location and pupils' feelings of happiness at school.

Notably, when birth characteristics are taken into account, pupils eligible for FSM and who live in deprived areas are much disadvantaged in terms of their chances of HE participation. In contrast, pupils born to graduate parents in professional occupations and pupils who have home computers for schoolwork have a big advantage in their HE opportunities. This confirms that university intakes are still strongly stratified by socio-economic background, as has been revealed in previous research (Elliott, 2007; Gorard et al., 2007).

Although economic-resource-related factors prove to be fundamental in predicting HE entry, there are still promising signs that some interventions and policies can improve equity in HE opportunities. For young people with similar birth and background characteristics, those with

higher educational attainment, positive school experiences and higher aspirations for post-16 education enjoy a higher chance of HE participation. This implies that there is still a chance for policies and interventions which can be controlled in education and by governments to help with fair access to HE.

Unlike most social mobility research, which only focuses on a few factors relating to social mobility, this study has also revealed that some factors which are normally considered important in improving HE chances are actually not effective. The findings have revealed that two factors – parental involvement in schooling and the Connexions service – make little or no difference to the chances of HE participation. Although parental involvement in children's education may bring many other benefits, the results suggest that it might not be as helpful as some scholars and policymakers have claimed or expected, and the money spent on interventions in this regard could be better spent elsewhere, such as on providing poor students with more material support.

Similarly, the findings challenge the practical value of the Connexions service, as they show that help from a Connexions personal advisor might not be as effective in helping with HE applications as is hoped. However, it is not clear at this stage in what ways Connexions might not be useful in this regard and how it can possibly be improved. This conclusion, therefore, calls for further detailed robust evaluation of the effectiveness of the Connexions service.

These two factors were not initial focuses of the study, but by including a wide range of potential factors the study has made findings of practical value, especially given that a large amount of money has been spent on parental involvement interventions in countries worldwide and the Connexions service in the UK.

13.1.4 Research Question 4

What factors are important predictors of labour market outcomes? How do young people's labour market outcomes link with birth characteristics, socio-economic background and other socio-economic factors?

Following research question 3, this question was devised to further explore the potential key predictors of labour market outcomes after controlling for social origin factors, and how these

factors are linked to the chances of being employed and securing a professional occupation. The findings reveal a complex picture.

The results from a set of logistic regression models revealed that the most important predictor of being employed at age 25 is young people's economic activity at age 19, as indicated by their NEET status and apprenticeship experiences. This is followed by educational attainment, material ownership at home and HE entry.

When birth characteristics are taken into account, young people who were eligible for FSM, those whose parents were in long-term unemployment and those whose parents had no educational qualifications had a lower chance of being employed. This implies that family poverty can be the biggest barrier to employability.

However, a new pattern has emerged that young people with a privileged family background seem to have no advantage in getting a job, as the evidence shows that pupils born to graduate parents in higher professional occupations do not have any advantage in terms of employment status. Once birth and background factors are controlled for, an interesting pattern emerges that educational attainment seems to have little effect on employment status. Instead, the models indicate that, other things being equal, what matters more in obtaining a job are factors beyond the secondary schooling stage.

Unsurprisingly, young people who have been NEET at some point by age 19 have a much lower chance of having a job at age 25. In contrast, young people who have done an apprenticeship by age 19 and those who have participated in HE enjoy a much higher chance of being employed. This implies that an apprenticeship or university entry, along with the knowledge and skills gained and the associated qualifications, might play a very positive role in enhancing employability.

The relationship between socio-economic factors and professional occupation status tells a slightly different story. Regression analyses revealed that the key predictors of obtaining a professional job are prior educational attainment and HE participation, confirming previous research findings (e.g. Hauser et al., 2000). These are followed by parental and pupil aspirations. Parental occupation and education are only moderately important predictors.

Once birth characteristics are controlled for, young people who were entitled for FSM and those in long-term unemployed families or whose parents have no qualifications have a lower chance of getting a professional occupation. In contrast, those born to employed parents and parents with an educational qualification enjoy a higher chance of becoming professionals. Once background characteristics are factored in, prior educational attainment plays little further role in professional occupation status.

However, young people who have had positive schooling experiences and felt happy at school have a much higher chance of getting a professional job. This is a new and interesting finding in itself. It implies that to secure a professional occupation what matters more at school might be peers with whom the young people interacted, and that interacting with classmates from diverse family backgrounds might bring potential positive outcomes such as more awareness of job opportunities and higher occupational aspirations, which contributes to the findings related to research question 2. A plausible hypothesis is that mixed peer interaction is beneficial in terms of happiness at school. This is encouraging because this finding suggests that policy interventions such as improving the quality of schooling experiences simply by providing a mixed school intake might contribute to a higher chance of young people landing a professional job.

Another promising finding is that, among pupils with similar birth origins and family backgrounds, those whose parents had high aspirations for their post-16 education and those who had higher educational aspirations themselves enjoy a higher chance of getting a professional occupation, supporting findings in previous studies that young people's attitudes and aspirations might play a role in their future trajectories (e.g. Platt & Parsons, 2017) and adding to the knowledge that parental aspirations matter.

It is also noticeable that when all prior factors are controlled for, HE entry still has a bearing on professional occupation status. Young people who participated in HE enjoy a much higher chance of landing a professional job, *ceteris paribus*.

Given the debate on whether HE acts as an engine for social mobility, this effectively shows that HE participation is a powerful predictor of professional occupational status, thus adding to findings (e.g. De Vries, 2014; Parsons et al. 2016; Sullivan et al., 2016) that HE plays a positive role in helping disadvantaged students improve their chances of getting a professional

occupation. This highlights the role of HE as a route to upward mobility, as HE *per se* seems to contribute to improving fair access to professions. Given that people with higher social class origins tend to have higher levels of education than those with lower social origins (Sorjonen et al., 2011; and see the results in Chapter 10), widening access to HE for disadvantaged pupils can be important for their labour market success.

Unlike social origins, apprenticeships do not seem to contribute to the chances of landing a professional job. This result adds to previous arguments that vocational training can provide young people with a safe route to avoid unemployment but it may also diminish their chances of having higher status occupations (Shavit & Müller 2000). Policymakers, therefore, should not over-advocate vocational training and need to make a balance when designing apprenticeship schemes.

In sum, the findings provide some new and interesting evidence on the socio-economic correlates of intergenerational social mobility. Poverty-related factors are barriers to labour market outcomes, both in terms of employability and the ability to have a professional occupation. Young people with unemployed parents or with parents without an educational qualification are more likely to be unemployed or have non-professional jobs than their more advantaged peers, which is also consistent with previous findings (e.g. Iannelli & Duta, 2017). Moreover, having a professional family background and parents with higher levels of qualifications particularly confer an advantage in achieving professional job status. However, higher family status does not confer any advantage in getting employed, which is a new finding in social mobility research. As with HE entry, it has also been observed that the Connexions service does not seem to play a role in improving labour market outcomes, either in terms of getting a job or securing a professional occupation – a finding which is unique to the UK context but has not been touched on in previous research. This result calls for further assessment of the effectiveness of the Connexions service in helping young people enter the labour market.

13.1.5 Research Question 5

What are the deprivation-specific gaps in HE participation and labour market outcomes between disadvantaged students and their peers?

The last research question was inspired by the findings in response to the first four questions and particularly focuses on the barriers for disadvantaged young people in their post-16 opportunities. The findings suggest that *inter alia* family background is still the most powerful predictor of all post-16 trajectories, adding to knowledge that in modern Britain destinations are still strongly stratified by social origins. The responses to all of the first four research questions collectively demonstrate a systematic underachievement of disadvantaged students in HE and labour market opportunities. Poverty-related factors are the simplest and strongest roots of disadvantage both in HE and the labour market. What is new is that poor pupils being clustered with peers like them, partly because of neighbourhood deprivation and residential segregation by poverty, tends to contribute to this gap a little bit further. There are persistent socio-economic differences in outcomes at each stage of the young people's life courses. Poor pupils from disadvantaged family backgrounds, neighbourhoods or schools tend to gradually lag further behind from the early years all the way up to entry in the labour market.

There are positive indications that higher educational aspirations and being happy at school might contribute to narrowing these deprivation-related gaps in all post-16 outcomes. However, this encouraging pattern needs to be treated with caution as we do not yet know whether it is a causal link or not. More robust research using a randomised controlled trial (RCT) design on the effects of aspirations and schooling experiences is needed. This would be both ethically and practically appropriate.

This part of the study has also added new knowledge that missing data can be an indication of potential disadvantage. This has often been ignored in previous social mobility research dealing with large-scale data. The results of regression analyses provide new evidence demonstrating that missing data, especially missing data on individuals' backgrounds, can be an indication of hidden disadvantage in both HE entry and labour market outcomes. This makes a methodological contribution and highlights the importance of paying attention to pupils' missing administrative records and survey cases missing background data. Researchers, schools and practitioners, therefore, need to pay more attention to cases with missing data.

13.2 Limitations of the study

While every attempt has been made to evaluate the relationships between the various factors as accurately as possible, it is acknowledged that there are still some limitations of this study. This section discusses them.

Data limitation and unavailability

As was mentioned in Chapter 7, although this study draws on the rich set of variables available in the Next Steps dataset, due to limitations of the variables available in the secondary dataset when this study was conducted, only the job status at age 25 variable as an outcome of interest was available in the data for analysis. Focusing on the early career – a key stage in preparation for mid-career when the young people will have finally reached ‘occupational maturity’ – can be informative. However, since it is possible that some individuals might experience significant career development, focusing on early measures of labour market outcomes might lead to a potential underestimation of the gap between different socio-economic backgrounds – a phenomenon known as ‘life-cycle bias,’ as pointed out by Haider and Solon (2006). It is, therefore, acknowledged that the most stable indicator of individuals’ occupational outcomes is their occupation status in middle age.

Sample attrition

As in all longitudinal studies, Next Steps, the main dataset in this study, suffers from sample attrition across the waves. Although the initial sample in wave one consisted of 15,770 cases, only 5,192 cohort members have stayed throughout the survey and have been used in the regression analyses. However, this affects the representativeness of the analytical sample. As was reported in Chapter 7, the analytical sample in this study is slightly over-representative of young people who come from more economically advantaged family backgrounds and they were more likely to participate in HE and have professional occupations at age 25. This means that this potential skew in the representativeness of the sample data might risk underestimating the roles of some factors (for example, the level of between-school segregation) and bias the results to a certain extent. However, the internal validity of the analytical sample analysis can still provide important insights in the research area of social mobility.

The application of traditional regression models

Much of the evidence in the analyses is generated through traditional regression models which control for pre-existing differences between the various socio-economic groups of young

people. Because of the combination of the rich Next Steps dataset and the robust NPD, many baseline variables which are believed to potentially influence post-16 outcomes were included in the regression models. However, despite the high quality of the data, the models presented should not be considered full explanations of post-16 outcomes as a result of unavailable potential explanatory variables. For example, young people's non-cognitive skills, such as their self-confidence or self-esteem, might be potential factors predicting life outcomes. Earlier research shows that individuals' non-cognitive skills tend to be more malleable at a later schooling stage (Carneiro & Heckman, 2003) but information on these non-cognitive skills is not captured in the data. Furthermore, the results cannot rule out weaknesses such as possible coding inconsistencies, errors which might have occurred during the data collection procedure and possible errors of measurement. Most importantly, as with almost all standard regression models controlling for baseline differences, any finite explanatory variables may exclude some unavailable or unmeasurable features, leaving space for omitted variable bias. This implies a possibility of overestimation of some variables detected as potential influences on the outcome variables of interest (i.e. post-16 destinations in this study) driven by imperfect modelling processes.

13.3 Implications for future research

Several meaningful issues have emerged from the analysis in this study, and these issues have inspired ideas for future research. This section discusses these ideas.

Exploring mature occupational destinations

Due to data limitation, this study could only focus on job status at age 25, an early labour market outcome which is subject to potential career changes. It would therefore be worth investigating this cohort's job statuses when their career trajectories are better established. This would be a more accurate way to gauge the level of intergenerational social mobility. It would also be of great interest to see whether the relationships revealed in this study are replicated or eradicated when the cohort reach a more mature age, e.g. mid-30s and 40s. This could provide more insights into intragenerational social mobility. In fact, this research would be both valuable and possible. Near the end of this research project, the 2021 age 32 wave of Next Steps is getting under way and, like some main national longitudinal surveys such as the NCDS1958 survey and the BCS1970 survey, the Next Steps survey is continuing, making this further research idea feasible.

Paying attention to missing data as an indication of hidden disadvantage

Unlike much previous research which has tended to ignore missing data, this study has treated missing data with great caution and the characteristics of cases with missing data were examined. It was shown that the young people with missing background information tend to be disadvantaged. This demonstrates that missing data can be an indication of potential disadvantage and cannot be simply ignored in any research. To improve the validity of the results of their analyses, researchers should therefore be transparent about missing data. They need to acknowledge and report missing data accurately in future research reports and deal with the cases carefully. This can be a promising research practice as more interesting findings could potentially emerge. Improving the quality of research reports could also prevent unnecessary public research funds being wasted and save time and public resources.

Innovative data linking and data release for the public good

This study adopted an innovative research design by linking the longitudinal Next Steps survey dataset to school segregation indices derived from the robust national administrative NPD data, enabling analysis of the potential role of disadvantage at the aggregated level in post-16 outcomes. This data linkage practice has proven successful and promising. A review of longitudinal data linkage (Shao, 2018) has also been published. This study has therefore highlighted the benefits of adopting data linkage methods.

As a result of cooperation with colleagues from the Centre for Longitudinal Studies (CLS), UCL, the UK Data Service (UKDS) and the Economic and Social Research Council (ESRC), in the final months of writing this thesis the linked school segregation data has been officially released and made publicly available via the UKDS (Siddiqui & Shao, 2021) and a user guide written by me and my supervision team (Shao & Siddiqui, 2021) has been published for public use. Researchers who are interested in and want to access the linked school segregation data can apply directly to the CLS team by completing the CLS Data Access application form. On approval by the CLS Data Access Committee, CLS can provide the applicant with a copy of the data through the researcher's UKDS Secure Lab for data analysis. This is an encouraging example of sharing data and developing research methods for the public good. It would be meaningful and promising for future researchers to follow this route when conditions allow, and it would be a rewarding research practice.

Listening to young people: Follow-up interviews and case studies

As secondary data can provide appropriate information on the different strata in a stratified sample, they can therefore be potentially used to assist in selecting a specific sample for further in-depth studies (Gorard, 2012a). This study has provided an audit trail for further in-depth interviews and/or case studies on the social mobility experiences of disadvantaged young people. Listening to the views of young people from socially disadvantaged backgrounds matters for moral, educational, social justice and academic reasons. It would also be meaningful to explore these disadvantaged young people's in-depth insights and ideas about social mobility. Interview questions could be designed to pay more specific attention to disadvantaged pupils' own views on their real-life barriers to participating in HE, especially at the most prestigious universities, and entering the labour market, especially in professional occupations. For the young people who have achieved upward social mobility, it would be interesting to listen to their voices on their motivations to aim high and their experiences of climbing up the 'educational ladder' and then the 'occupational ladder' despite a lack of economic resources at home. It would also be valuable to know how they themselves feel about such mobility.

Furthermore, follow-up interviews or cases studies with these young people and their families would also be beneficial and valuable to explore whether and how the mix of pupils they encountered and the associated peer interactions influenced their educational and career prospects. This could provide some detailed underlying explanations of how the potential role of school segregation might affect life outcomes and help cast light on the link between school segregation and outcomes beyond school revealed in this study. This is a promising research area worth further exploration.

Further exploration of potential outcomes of school segregation

This study has shown that the level of segregation experienced at school can be a new potential and promising field in social mobility research. This is not something that has been highlighted before and can be a dynamic and novel phenomenon for further exploration. Meanwhile, policies aiming to increase the school mix have already been adopted in certain areas, such as including more SEN pupils in mainstream schools. The real effects of these actions in terms of outcomes at school and beyond need further examination. Longitudinal studies exploring these effects, therefore, would be both interesting and valuable.

A wider context for research

To further probe into the factors that potentially contribute to life trajectories, the issue covered in this study could be explored at a much wider and systemic level. This could be done mainly in two ways. First, with a growing number of high-quality official data sources nowadays, similar data analysis could be done using other large-scale datasets, such as the NCDS1958 and the BCS1970 survey datasets. Comparing findings from analysing different longitudinal datasets could be used not only to examine patterns of social mobility trends over time but also to investigate whether some social-mobility-related factors differ for cohorts born in different periods. Second, relevant research focusing on other countries would help identify any global patterns. While there has been some research on the socio-economic correlates of social mobility in developed countries, especially in the UK and other OECD countries, more research is needed to reflect the contextual differences in developing countries.

Furthermore, the outcomes of interest could be extended to a wider range of non-cognitive post-16 outcomes, such as wellbeing, health, enjoyment of learning and attitudes to society. These outcomes are as important as cognitive school outcomes as they benefit citizenship education, pupils' own personal development and even social cohesion and democracy. This research idea would benefit social mobility research by gaining a broader perspective through a more holistic approach.

13.4 Implications for policy

This section discusses the policy implications of the findings from this study from the perspective of social justice and equity in life opportunities. While some implications suggest relatively radical reforms, such as converting all types of schools into comprehensives, which would be a long-term process, others are moderate and could be achieved more easily.

Providing disadvantaged pupils and families with early-years support

The findings consistently show that post-16 trajectories are strongly patterned by socio-economic inequality and that poverty is at the root of all differential outcomes. Therefore, narrowing the poverty gap in the early years could be a key. To help reduce barriers preventing poor pupils entering HE and the labour market, additional financial support such as regular stipends could be provided to low-income families to improve the educational prospects of their children.

In terms of the link between origins and destinations, one important point is that parental resources can confer advantages in developing cognitive skills and improving educational attainment. The implication is that policy interventions to help disadvantaged students improve their educational attainment need to start early. Early-years programmes to improve the cognitive skills of disadvantaged children could help reduce educational inequality.

Since long summer holidays tend to strain the budgets of low-income families (The Economist, August 2018), schools can also help disadvantaged children to catch up with their more advantaged peers by running summer programmes and providing meals and activities throughout the summer holidays.

As the evidence shows that a lack of educational resources at home can put poor children at a disadvantage, schools can help by improving their facilities and providing free computers for schoolwork to those who do not have one at home and posting reading materials and books to poor families. Schools can also give vouchers to poor parents for them to take their children to theatres and concerts.

Continuing and improving contextualised policy

The findings from this study suggest that broader background inequality which stratifies educational attainment throughout schooling is the fundamental reason for differential life outcomes. Given the strongly established link between educational performance and family background, even a valid selection and recruitment process based on individual merit alone might not eliminate the strong influence of family background on HE and job opportunities. Policies relying on selection by academic performance alone are unlikely to promote social mobility. Therefore, policies need to make sure that the job recruitment system rewards merit, not family advantage. The context of the disadvantages and challenges faced by pupils has long been established as an important element in school improvement (Gorard, 2000a). Contextualised policy, therefore, can help compensate for poor pupils' disadvantages and provide equal opportunities to young people with equivalent ability, performance, talent and dedication. In fact, some professional companies have already been encouraged to use contextualised blind applications during the recruitment process (Social Mobility Commission, 2015). They should be encouraged to continue this practice as there is still much room for improvement.

The same logic applies to contextualised admissions (CA) policies in HE admission. Given the evidence showing that HE can be a promising route to positive labour market outcomes, both in terms of employability and the chances of securing a professional occupation, fair access to HE proves to be of great importance. CA policies, therefore, should be encouraged and should continue.

Besides improving CA practices, the government should also continue to encourage universities to provide financial support to disadvantaged students, so that the university tuition fee would not be a main barrier preventing them from applying to universities. Instead of closing the Aim higher scheme, a programme aimed at widening participation in HE in 2011, the government should continue funding it. The government should also continue to provide extra funding to universities, especially for more prestigious universities to increase their intake of disadvantaged students.

Increasing a mixed school intake

The findings have shown that the level of segregation experienced at school is negatively linked to all post-16 outcomes, suggesting that a mixed school intake is desirable for fairness. The literature and the findings of this study question why policymakers consider a selection system and the segregation associated with it beneficial. There is no point (and indeed it seems unfair) in segregating pupils by background characteristics. The questionable assumption that there is a peer effect on attainment so that pupils need to be educated with peers with the same level of ability is not a good enough reason to allow a stratified socio-economic composition of student intakes at school. In contrast, the results from this study highlight the potentially important role that schools can play in improving social mobility by simply mixing different social groups of pupils together at school. Although the evidence suggests that, when background characteristics are controlled for, the role that school segregation factors might play in life trajectories beyond school is small, mixing students from different backgrounds could be simple and effective. This would cost little and could potentially improve HE participation and labour market outcomes. It is worth taking this approach in consideration.

If the policy aim is for equity in education and for fairness across the whole system for all students and their families, then policies need to be made to alleviate the segregated pupil composition of schools. A good example is the Nordic countries, where the school systems have continually broken down barriers linked to background factors such as socio-economic

status, geography and immigrant status (Lie, Linnakylä, & Roe, 2003). To achieve this, the following actions are suggested. First, given that the early-age selection system can cause school segregation by background characteristics and can risk reinforcing the origins-destinations link and the associated poverty gap in educational attainment, converting all types of schools into comprehensives might create a more equitable national education system. A more comprehensive education system is desirable for equity in education, as it delays for as long as possible the separation of children by attainment caused by initial background inequality (Boudon, 1973; Lucas, 2001), thus allowing schools as much time as possible to counteract differences between children's families in terms of their resources (Gorard & Smith, 2010).

Second, assuming that no substantial changes are made to the current school system, policies can still help to increase the mix of the school intake. The government can help poor families overcome geographical constraints when choosing schools for their children with transport policies, including free school transport, travel bursaries or vouchers for poor children. Allocating more spending to building public transport and improving its quality in deprived areas, such as the north of England, as the government promises, can also help. The main rationale behind this suggestion is that parents need access to convenient transport in order to choose an appropriate school for their children, especially when the schools are located beyond their local areas. With the free school choice policy introduced by the 1988 Education Reform Act, this policy could help weaken the impact of residential segregation on socio-economic segregation within schools. A detailed understanding of the real-life barriers preventing poor pupils from attending more advantaged schools deserves further research. This can be done through in-depth interviews with parents.

Besides financial support, the admissions arrangements of schools need to be reformed so that schools, especially advantaged schools, increase their intakes of disadvantaged students. As was discussed in Chapter 3, the current pupil premium (PP) policy is both meaningful and helpful to encourage schools to take more disadvantaged students and therefore should continue. However, the PP allocation method needs to be reformed. For example, as Gorard (2016a) suggests, considering the threshold nature of FSM eligibility, the funding could be allocated based on FSM eligibility at the time of allocation and be updated every year. This can be used in combination with an expansion of inclusion policies, such as the policy including SEN children in mainstream schools.

While encouraging advantaged schools to take more disadvantaged students is a helpful way to increase the mix of school intakes, the same logic applies to improving the quality of disadvantaged schools in deprived areas so that advantaged families are willing to send their children to these schools. The issue of school improvement has increasingly exercised policymakers and practitioners worldwide (Elliott, 2007). A good example is Teach First, a registered charity which encourages and places high-quality well-trained graduates as teachers in disadvantaged schools in England. The government should encourage more charitable organisations to take similar actions and could support them by providing them with extra funding.

Narrowing down regional inequality

As evidence shows regional inequality in post-16 trajectories, with the causes likely to be economic, the government should develop a strategic approach to enable long-term measures to level up education provision in deprived areas at all levels. For an effective strategy to be sustainable, a radical change to the current funding model is needed to ensure the release of significant supplementary resources to assist poor areas. Therefore, the government needs to lead and co-ordinate a long-term strategic approach with sustained ring-fenced funding across relevant sectors of society, with education provision being pivotally important. This includes developing an appropriate bidding system in which funding applications from deprived areas are systematically considered. This means that a contextualised approach should be applied to the bidding process so that the possible lower bidding capacity of deprived areas is taken into consideration. This should, of course, tie in closely with and enhance the government's commitment to equality.

Funding can be used to improve the quality of local schools and local universities, build more public transport and create more job opportunities in deprived areas. These proposals should be developed through an appropriate consultation process, with success evaluated on an ongoing basis. A devolution plan can be one solution. One measure of the extent to which levelling up education provision has become successful would be the reaction of civil servants with young children facing relocation from the southeast to the northeast of England.

Improving the completeness of administrative data

This study's findings have consistently demonstrated that missing data can be an indication of disadvantage. Government policy actively encourages schools to collect as much data as possible on pupils' backgrounds. For pupils with missing records, schools need to investigate the reasons for missing data, particularly considering their family backgrounds. School principals, teachers and partitioners need to pay more attention to pupils with missing information, as they can possibly be the most disadvantaged. School benefits, such as FSM, could be made available to those pupils with missing data if further investigation shows that they are indeed disadvantaged, such as coming from a traveller family.

Evaluating and reforming the Connexions service

Research suggests that when high achieving young people from lower socio-economic backgrounds are given information on preparing university applications their educational decisions tend to improve (Borghans, Golsteyn & Stenberg, 2013; Hoxby & Turner, 2013). The same goes for job applications. In practice, this implies that consultation services such as the Connexions service might help to improve HE and labour market outcomes, especially for disadvantaged students. Since the evidence from this study suggests that the Connexions service seems to make no contribution to HE participation and job application success, including for professional jobs, it needs an independent, formal, transparent and detailed evaluation. If Connexions is found to be ineffective in this regard, then reforms, potentially including improving its standards, providing staff members with more training courses and hiring more specialists, especially ones with rich experience of working with disadvantaged young people, need to be made.

Or it could be that Connexions is an ineffectual but relatively cheap way of avoiding the real and expensive problems. It provides students with information and advice when what they most need are financial resources, access to good schools and peers who come from affluent families. Viewed in this light, if there is no guarantee that the Connexions service can be made effective, then the money invested in it could be spent more effectively elsewhere, such as giving poor students more financial support.

Other policy suggestions

Besides the major policy areas mentioned above, some other policy suggestions emerge from the findings. First, schools need to raise the educational and occupational aspirations of pupils. As Chapter 11 demonstrated, one way to achieve this is simply mixing disadvantaged students

with more advantaged peers. Schools should also encourage teachers to give disadvantaged pupils high aspirations and motivations on the path leading to HE and professional occupations. Lifelong learning should also be encouraged. As the descriptive analysis in this study showed, aspirations are generally less stratified by socio-economic background than cognitive outcomes. Although the potential role of aspirations and motivations might be small, they can easily be improved. This intervention would cost little and higher aspirations will bring many other benefits. Therefore, it is worth taking action.

Second, the findings from this study show that an apprenticeship might contribute to employability, although not in a professional occupation. To promote youth employment, expanding current apprenticeship schemes and creating more types of apprenticeship programmes can be a solution.

Conclusion

To promote social mobility, there is scope for early intervention throughout pupils' educational careers. It is the responsibilities of all stakeholders – including the government, schools, universities and employers – to cooperate to provide fair access to life opportunities. Much work still needs to be done to improve social justice and aid social mobility through greater cooperation between different stakeholders. An improved education system will contribute to better life trajectories for future generations.

13.5 Final thoughts

This study was inspired by national and international concerns about social mobility. It resulted from an interest in the link between social origins and post-16 destinations and has addressed a wide range of factors which might play a role in life trajectories. Among these factors, the study is especially interested in whether the level of segregation experienced at school is a potential factor predicting post-16 outcomes.

The findings show a systematic imbalance in HE and labour market opportunities. All post-16 outcomes are strongly and persistently patterned by student background. The most important barrier to access to HE and professional occupations is stratified prior educational attainment. Poverty, both family poverty and neighbourhood poverty, lies at the root of disadvantage in these differential outcomes. However, there is evidence that school segregation factors might

also play a role in post-16 outcomes when background factors are controlled for. Given the evidence from this study that the level of school segregation is linked to negative post-16 outcomes – a finding which is consistent with international evidence that stratification of student intakes is associated with lower overall school attainment (Danhier & Martin, 2014) – a mixed school intake is likely to contribute to fair access to HE and job opportunities. This conclusion is not only relevant to the school system in England but to the global practice of separating pupils by academic performance and associated family background characteristics. It is hoped that the study will provide a starting point for further research on the potential role of between-school segregation on outcomes at school and beyond.

Other promising factors predicting HE participation are positive school experiences – a factor closely related to whom one goes to school with – and high educational aspirations. These are also important predictors of professional occupation status. HE participation contributes to both employability and obtaining a professional job, which highlights the importance of fair access to HE. An apprenticeship can be an effective way of improving employability in non-professional jobs, but it does not seem to contribute to chances of securing a professional job.

The findings indicate that in some ways we are right to be concerned about promoting fair access to life opportunities such as HE participation. Perhaps the real meaning of social mobility lies in the vision that people can see the possibility of improving their social status and economic situation if they want to and make the effort. Such hope can be a good thing. What is more important about social mobility is reducing inequality.

Inspired by Goldthorpe's (2016) view, perhaps instead of focusing on promoting social mobility or advocating it, policymakers should put more energy and invest more money in narrowing down the inequalities caused by social origins – from developing early years programmes for disadvantaged pupils to creating a more socially mixed school environment – and creating more HE and job opportunities. We can then leave social mobility to look after itself.

Viewed in this light, perhaps the money invested in promoting social mobility could be used more fruitfully and effectively in other relevant areas such as improving teaching quality in disadvantaged schools and purchasing more school facilities for SEN children when including them in mainstream schools.

From Socrates to Plato, from Confucius to Charlotte Mason, there have been many great people in our history who have envisioned better education. Better education means preparing generations of children for a diverse society while promising equity in all life opportunities for every child. Schools, viewed as micro-societies (Gorard & Smith, 2010), with help from current and potential education policies can and should play a role in tackling social and educational inequality. Where there is education, there is hope.

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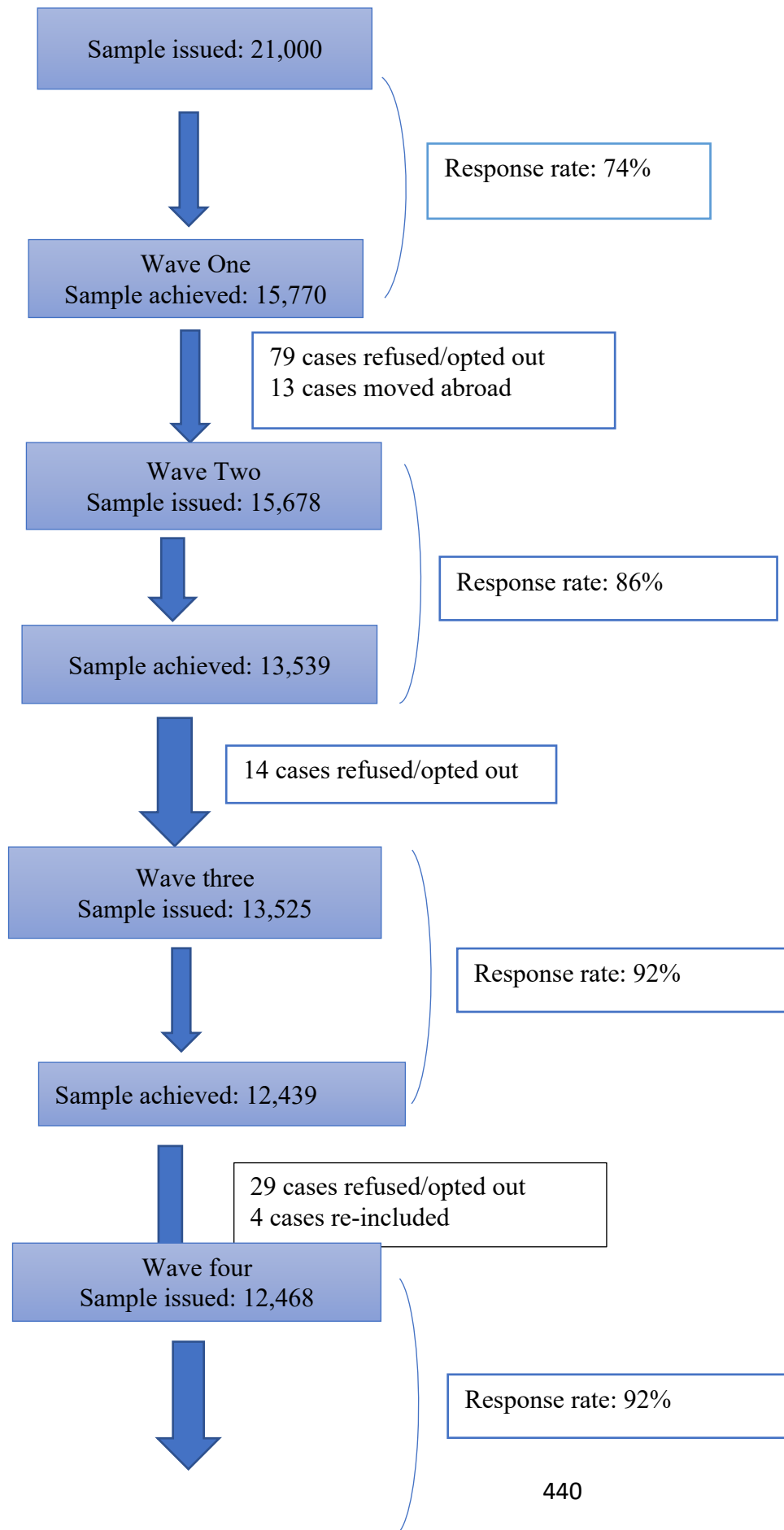
Appendices

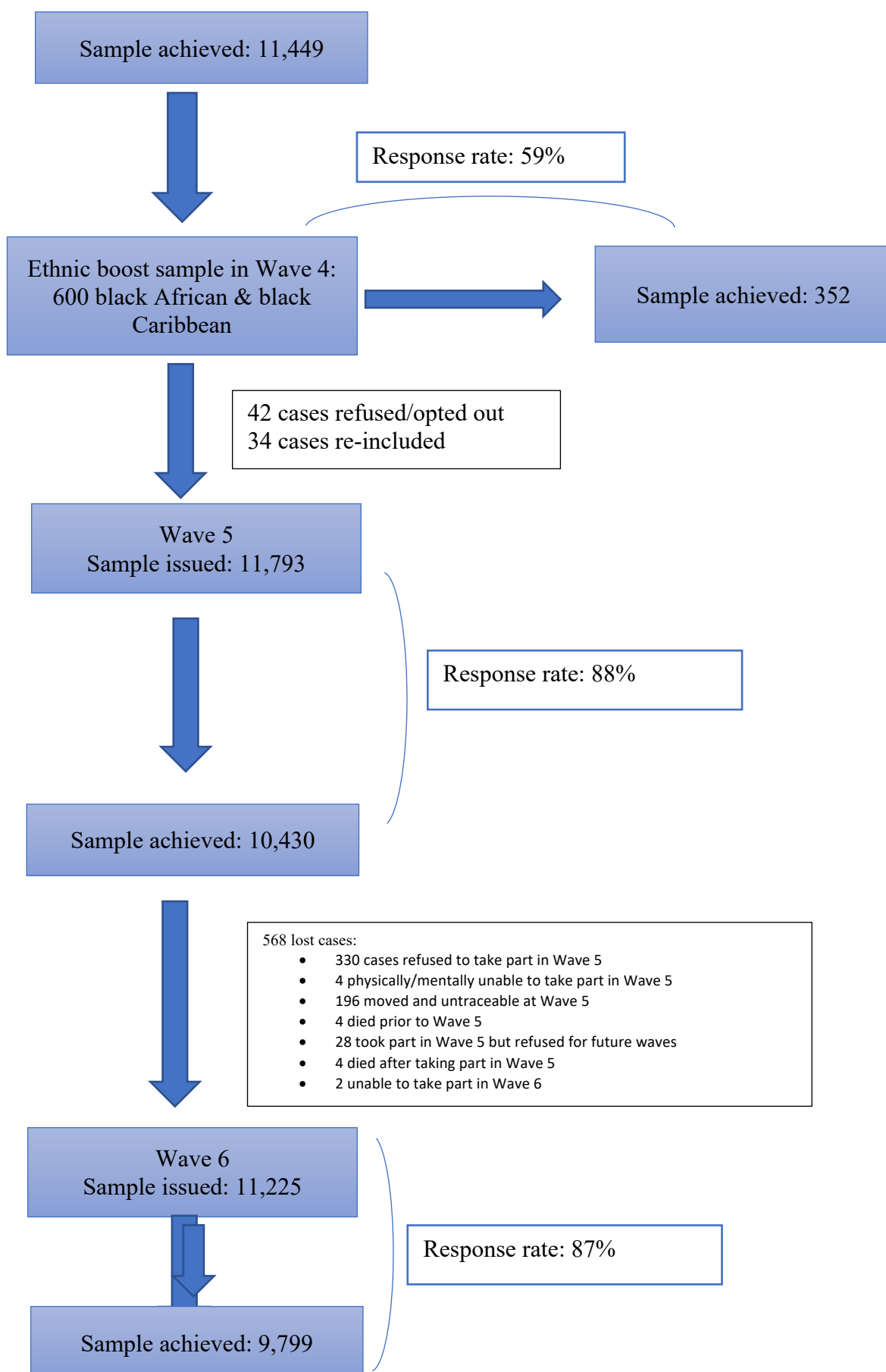
Appendix 1: Summary of social classes in the BBC's 2011 Great British Class Survey

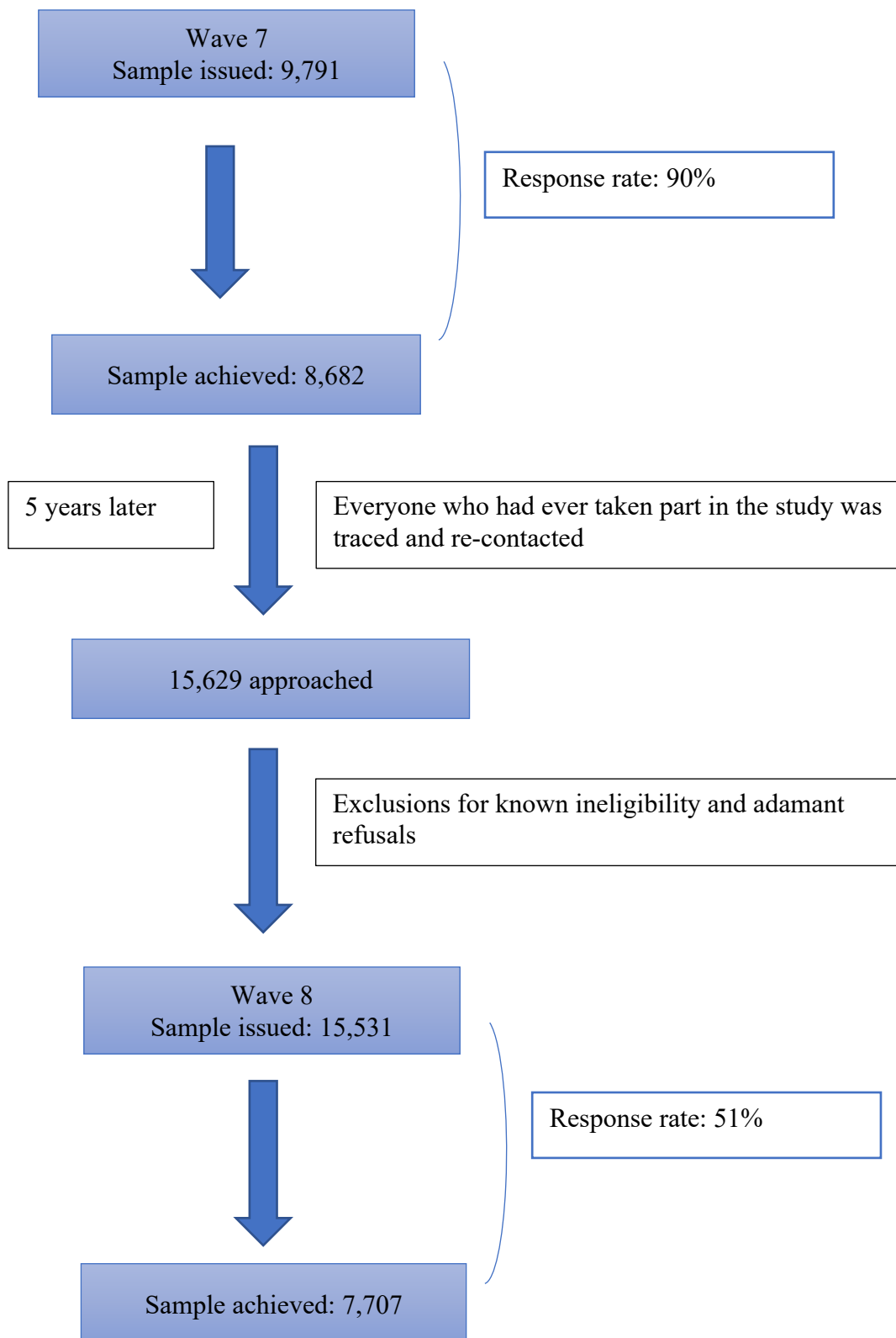
Social class	Description
Elite	Very high economic capital (especially savings), high social capital, very high highbrow cultural capital
Established middle class	High economic capital, high status of mean contacts, high highbrow and emerging cultural capital
Technical middle class	High economic capital, very high mean social contacts, but relatively few contacts reported, moderate cultural capital
New affluent workers	Moderately good economic capital, moderately poor mean score of social contacts, though high range, moderate highbrow but good emerging cultural capital
Traditional working class	Moderately poor economic capital, though with reasonable house price, few social contacts, low highbrow and emerging cultural capital
Emergent service workers	Moderately poor economic capital, though with reasonable household income, moderate social contacts, high emerging (but low highbrow) cultural capital
Precariat	Poor economic capital, and the lowest scores on every other criterion

Source: Savage et al., (2013)

Appendix 2: Flowchart: response rates achieved for Next Steps Wave 1 to Wave 8







Appendix 3: Comparison between the initial sample and the analytical sample of percentages of young people by background and individual characteristics and outcomes

Comparison between the initial sample and the analytical sample of percentages of young people by birth characteristics (sex, ethnic group and whether English is first/main language)

	Value	Initial sample	Analytical sample
Sex	Male	51.0	45.3
	Female	49.0	54.7
Ethnic group	White	66.9	70.1
	Mixed	5.2	4.4
	Indian	6.5	7.5
	Pakistani	6.1	5.8
	Bangladeshi	4.7	4.8
	Black Caribbean	3.8	2.5
	Black African	4.0	2.3
	Other	2.7	2.5
	Not known	0.2	0.2
Whether English is first or main language	No	24.5	6.2
	Yes	75.5	93.8

Note. N for Initial sample = 15,770; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by family background features

Comparison between the initial sample and the analytical sample of percentages of young people by single parent status

Single parent status at young person's birth	Initial sample	Analytical sample
Yes	20.0	15.0
No	80.0	85.0

Note. N for Initial sample = 15,770; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by family's NS-SEC class

Family's NS-SEC class	Wave 1		Wave 2	
	Initial sample	Analytical sample	Initial sample	Analytical sample
Higher managerial and professional occupations	10.3	13.5	10.4	12.5
Lower managerial and professional occupations	20.7	23.7	22.9	25.5
Intermediate occupations	6.5	7.0	6.3	6.9
Small employers and own account workers	11.1	11.0	7.6	8.0
Lower supervisory and technical occupations	10.0	9.8	10.9	10.7
Semi-routine occupations	11.9	11.0	11.7	10.4
Routine occupations	10.7	10.3	11.3	10.6
Never worked/long-	7.0	4.6	6.5	4.7

term unemployed				
Not known	11.8	9.3	12.4	10.8

Note. N for Initial sample Wave 1= 15,770; N for Initial sample Wave 2= 13,539; N for Analytical sample = 5,192

Family's NS-SEC class	Wave 3		Wave 4	
	Initial sample	Analytical sample	Initial sample	Analytical sample
Higher managerial and professional occupations	10.9	12.5	7.5	8.7
Lower managerial and professional occupations	23.9	26.3	22.8	24.5
Intermediate occupations	5.7	6.2	7.3	8.5
Small employers and own account workers	5.8	6.1	8.9	9.2
Lower supervisory and technical occupations	10.6	10.5	6.9	6.8
Semi-routine occupations	9.3	9.1	11.4	11.5

Routine occupations	9.2	9.4	6.5	6.7
Not currently working	18.9	15.5	21.2	18.4
Not known	5.7	4.5	7.5	5.9

Note. N for Initial sample Wave 3= 12,439; N for Initial sample Wave 4 = 11,449; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by household income band

Household income band	Wave 1		Wave 2	
	Initial sample	Analytical sample	Initial sample	Analytical sample
<=£5200	3.6	3.4	3.4	3.2
£5200.01 to £10400	5.3	4.8	5.4	4.7
£10400.01 to £15600	4.7	4.8	6.0	5.9
£15600.01 to £20800	4.7	5.4	5.0	5.0
£20800.01 to £33800	11.1	13.4	13.4	14.5
£33800.01 to £41000	4.2	5.5	6.6	7.7
£41000.01 to £55000	5.0	6.8	8.4	10.4
Over £55000	5.4	7.4	8.2	10.1

Note. N for Initial sample = 15,770; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by FSM eligibility

FSM eligibility	Initial sample	Analytical sample
Yes	12.5	12.5
No	87.5	87.5

Note. N for Initial sample Wave 3 = 12,439; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by highest qualification held in family

Highest qualification held in family	Wave 1		Wave 2		Wave 4	
	Initial sample	Analytical sample	Initial sample	Analytical sample	Initial sample	Analytical sample
Degree or equivalent	10.8	12.9	16.5	13.9	17.5	19.6
Higher education below degree level	11.7	13.7	14.6	14.4	15.3	17.2
GCE A Level or equivalent	12.6	14.0	16.3	14.8	16.3	17.2
GCSE grades A-C or equivalent	26.0	27.0	23.2	27.5	23.4	23.5
Qualifications at level 1 and below	8.4	7.1	5.7	7.0	5.5	4.6
Other qualifications	1.7	1.3	2.4	2.7	2.4	2.0
No qualification	24.5	19.9	16.1	19.3	16.7	14.5
Not known	4.3	4.0	5.3	0.4	2.8	1.4

Note. N for Initial sample Wave 1= 15,770; N for Initial sample Wave 2= 13,539; N for Initial sample Wave 4 = 11,449; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of mean and SD of key stage scores

Educational attainment	KS2 average point score		KS3 average point score		Capped GCSE and equivalent point score	
	Mean	SD	Mean	SD	Mean	SD
Initial sample	27.0	4.5	33.9	6.9	307.3	100.0
Analytical sample	28.0	4.0	36.0	6.4	308.5	75.8

Note. N for Initial sample = 15,770; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by Government Office Region

Government Office Region	Wave 2		Wave 3	
	Initial sample	Analytical sample	Initial sample	Analytical sample
North East	4.7	4.6	4.7	4.6
North West	14.3	13.5	14.6	13.5
Yorkshire and The Humber	10.6	10.9	10.8	10.9
East Midlands	8.7	9.1	8.8	9.1
West Midlands	12.2	12.0	11.9	12.0
East of England	9.9	11.2	10.1	11.2
London	17.7	15.8	17.1	15.8
South East	14.1	14.8	14.1	14.8
South West	7.7	8.1	8.0	8.1

Note. N for Initial sample Wave 2 = 13,539; N for Initial sample Wave 3 = 12,439; N for Analytical sample = 5,192

Comparison between initial sample and analytical sample of percentages of young people by HE participation

Entry to HE	Wave 6		Wave 7	
	Initial sample	Analytical sample	Initial sample	Analytical sample
Yes	35.1	39.2	49.5	52.2
No	64.9	60.8	50.5	47.8

Note. N for Initial sample Wave 6 = 9,799; N for Initial sample Wave 7 = 8,682; N for Analytical sample = 5,192; HE = Higher Education

Comparison between the initial sample and the analytical sample of percentages of young people by Russell Group university attendance

Attended a Russell Group University	Wave 6	
	Initial sample	Analytical sample
Yes	7.9	8.8
No	92.1	91.2

Note. N for Initial sample Wave 6 = 9,799; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by HE degree level

Achieved first degree or higher	Initial sample	Analytical sample
Yes	34.9	36.7
No	65.1	63.3

Note. N for Initial sample = 7,707; N for Analytical sample = 5,192

Comparison between the initial sample and the analytical sample of percentages of young people by NS-SEC class at age 25

YP's NS-SEC class at age 25	Initial sample	Analytical sample
Managerial, admin & professional	39.5	41.7
Intermediate occupations	15.2	15.9
Small employers and own account	4.1	3.5
Lower supervisory and technical	6.6	6.3
Semi-routine and routine occupations	15.5	15.4
Not in employment	19.1	17.1

Note. N for Initial sample = 7,077; N for Analytical sample = 5,192

Appendix 4: A snapshot of the derived variables summarising changes in characteristics

- Whether ever single parent status since birth
- Whether ever stepfamily status since birth
- Family's highest NS-SEC class
- Highest band of household income
- Whether ever received EMA
- Whether ever owned the house
- Whether ever owned mobile phone, telephone, home computer, home computer for schoolwork, internet access and laptop for school use
- Highest qualification held in family
- Whether ever had private tuition in school subjects or in supplementary subjects
- Whether parents ever involved in school
- Whether ever got help with homework at home
- Whether parents ever wanted young person to continue in FT education
- Whether parents ever got on well with young person
- Whether ever changed school
- Whether ever been happy at school
- Whether ever talked to Connexion Personal Advisor
- Whether ever been employed or done paid work
- Whether ever been NEET
- Whether ever been in an apprenticeship
- Whether ever entered HE
- Whether ever entered FE

Appendix 5: Comparison between the A Level score linkage rates (%) in the initial sample and the analytical sample

Linkage rate	A Level and equivalent points score
Initial sample	37.1
Analytical sample	72.1

Note. N for initial sample KS2, KS3 and KS4 = 15,770; N for initial sample KS5 = 16,122; N for analytical sample = 5,192.

Appendix 6: Comparison of the linkage rate (%) of GS indices for six indicators, 2004 (Wave 1) – 2006 (Wave 3)

GS index	2004 (Wave 1)		2005 (Wave 2)		2006 (Wave 3)	
Linkage rate	Initial sample	Analytical sample	Initial sample	Analytical sample	Initial sample	Analytical sample
GS for FSM eligibility	90.8	93.1	98.9	100.0	98.4	99.2
GS for SEN with statement	90.8	93.1	98.9	100.0	98.4	99.2
GS for SEN without statement	90.8	93.1	98.9	100.0	98.4	99.2
GS for non-white ethnic origin	90.8	93.1	98.9	100.0	95.1	99.2
GS for English as an additional language	90.8	93.1	98.9	100.0	95.1	99.2

Note. GS Indices = Gorard Segregation Indices; N for initial sample = 15,770; N for analytical sample = 5,192

Appendix 7: Tables showing how the percentage of households in each NS-SEC class changed from Wave 1 to Wave 4

Table 1 Changes in percentage of households in higher managerial and professional occupations from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	100	80.9	59.5	39.7
II Lower managerial and professional occupations	0	8.7	25.7	28.5
III Intermediate occupations	0	1.3	2.3	7.1
IV Small employers and own account workers	0	0.9	1.4	4.4
V Lower supervisory and technical occupations	0	0.7	2.7	2.9
VI Semi-routine occupations	0	0.6	*	5.4
VII Routine occupations	0	0.7	*	*
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	0.4	4.0	7.6
Not known	0	5.8	2.9	3.1

Note. N = 701, which is the total number of households in category 'I Higher managerial and professional occupations' in Wave 1; '*' = frequency value below 10; '-' = not applicable.

Table 2 Changes in percentage of households in lower managerial and professional occupations from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	3.7	10.7	8.1
II Lower managerial and professional occupations	100	83.3	62.3	54.6
III Intermediate occupations	0	2.8	5.1	8.9
IV Small employers and own account workers	0	1.0	2.0	4.1
V Lower supervisory and technical occupations	0	1.2	5.4	3.4
VI Semi-routine occupations	0	1.4	2.5	6.8
VII Routine occupations	0	0.7	2.1	2.4
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	0.2	6.2	8.2
Not known	0	5.6	3.6	3.6

Note. N = 1229, which is the total number of households in category 'II Lower managerial and professional occupations' in Wave 1; '-' = not applicable.

Table 3 Changes in percentage of households in intermediate occupations from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	1.9	3.6	3.3
II Lower managerial and professional occupations	0	16.6	21.1	23.5
III Intermediate occupations	100	68.4	41.8	37.7
IV Small employers and own account workers	0	1.4	3.6	3.3
V Lower supervisory and technical occupations	0	1.9	5.3	4.2
VI Semi-routine occupations	0	3.3	5.0	6.9
VII Routine occupations	0	1.7	3.6	3.3
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	0.6	13.9	12.5
Not known	0	4.2	*	5.3

Note. N = 361, which is the total number of households in category 'III Intermediate occupations' in Wave 1; '*' = frequency value below 10; '-' = not applicable.

Table 4 Changes in percentage of households in small employers and own account workers from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	1.1	2.5	3.2
II Lower managerial and professional occupations	0	8.8	18.4	9.1
III Intermediate occupations	0	2.5	3.2	5.6
IV Small employers and own account workers	100	60.9	36.7	46.8
V Lower supervisory and technical occupations	0	8.2	10.7	3.2
VI Semi-routine occupations	0	3.2	4.7	7.9
VII Routine occupations	0	6.0	12.5	3.9
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	1.1	8.4	16.5
Not known	0	8.4	3.0	3.9

Note. N = 570, which is the total number of households in category 'IV Small employers and own account workers' in Wave 1; '-' = not applicable.

Table 5 Changes in percentage of households in lower supervisory and technical occupations from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	0.4	2.6	*
II Lower managerial and professional occupations	0	4.1	11.6	14.2
III Intermediate occupations	0	2.6	3.7	6.7
IV Small employers and own account workers	0	0.6	*	3.6
V Lower supervisory and technical occupations	100	72.0	45.6	28.6
VI Semi-routine occupations	0	6.7	8.9	12.8
VII Routine occupations	0	6.3	9.5	9.3
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	1.8	13.0	16.6
Not known	0	5.5	3.9	6.5

Note. N = 507, which is the total number of households in category 'V Lower supervisory and technical occupations' in Wave 1; '*' = frequency value below 10; '-' = not applicable.

Table 6 Changes in percentage of households in semi-routine occupations from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	0.5	1.8	*
II Lower managerial and professional occupations	0	4.0	7.7	10.0
III Intermediate occupations	0	1.6	2.8	4.4
IV Small employers and own account workers	0	1.6	1.8	3.2
V Lower supervisory and technical occupations	0	9.5	10.9	9.0
VI Semi-routine occupations	100	69.1	40.9	34.8
VII Routine occupations	0	4.0	7.7	7.2
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	2.5	21.4	23.9
Not known	0	7.2	4.9	6.5

Note. N = 569, which is the total number of households in category 'VI Semi-routine occupations' in Wave 1; '*' = frequency value below 10; '-' = not applicable.

Table 7 Changes in percentage of households in routine occupations from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	0.4	*	*
II Lower managerial and professional occupations	0	2.1	4.1	5.8
III Intermediate occupations	0	1.3	1.9	3.5
IV Small employers and own account workers	0	1.7	2.4	5.4
V Lower supervisory and technical occupations	0	6.0	5.8	4.9
VI Semi-routine occupations	0	5.0	8.8	13.2
VII Routine occupations	100	74.8	42.5	28.7
VIII Never worked/long-term unemployed	0	-	-	-
VIII Not currently working	-	2.1	29.1	31.2
Not known	0	6.7	5.2	6.5

Note. N = 536, which is the total number of households in category 'VII Routine occupations' in Wave 1; '*' = frequency value below 10; '-' = not applicable.

Table 8 Changes in percentage of households in never worked/long-term unemployed category from Wave 1 to Wave 4

Family's NS-SEC class	Wave 1	Wave 2	Wave 3	Wave 4
I Higher managerial and professional occupations	0	0.4	*	*
II Lower managerial and professional occupations	0	1.7	*	*
III Intermediate occupations	0	0.4	*	*
IV Small employers and own account workers	0	2.5	*	*
V Lower supervisory and technical occupations	0	1.7	*	*
VI Semi-routine occupations	0	3.8	7.6	5.5
VII Routine occupations	0	5.9	*	*
VIII Never worked/long-term unemployed	100	-	-	-
VIII Not currently working	-	71.0	77.3	73.9
Not known	0	12.6	5.5	10.5

Note. N = 238, which is the total number of households in category 'VIII Never worked/long-term unemployed' in Wave 1; '*' = frequency value below 10; '-' = not applicable.

Appendix 8: Tables showing how the percentage of households in each household income band changed between Wave 1 and Wave 2

Table 1 Change in percentages of households in household income band $\leq$ £5200 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
$\leq$ £5200	100	40.2
£5,200.01 to £10,400	0	23.0
£10,400.01 to £15,600	0	8.0
£15,600.01 to £20,800	0	*
£20,800.01 to £33,800	0	*
£33,800.01 to £41,000	0	0.0
£41,000.01 to £55,000	0	0.0
over £55,000	0	*
Not known	0	25.3

Note. N = 174, which is the total number of households in household income band $\leq$ £5200 in Wave 1; '*' = frequency value below 10.

Table 2 Change in percentages of households in household income band £5,200.01 to £10,400 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
$\leq$ £5200	0	6.1
£5,200.01 to £10,400	100	38.9
£10,400.01 to £15,600	0	22.7
£15,600.01 to £20,800	0	*
£20,800.01 to £33,800	0	6.1
£33,800.01 to £41,000	0	*
£41,000.01 to £55,000	0	0.0
over £55,000	0	0.0
Not known	0	22.3

Note. N = 247, which is the total number of households in household income band £5,200.01 to £10,400 in Wave 1; '*' = frequency value below 10.

Table 3 Change in percentages of households in household income band £10,400.01 to £15,600 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
<=£5200	0	*
£5,200.01 to £10,400	0	4.4
£10,400.01 to £15,600	100	35.3
£15,600.01 to £20,800	0	20.9
£20,800.01 to £33,800	0	10.8
£33,800.01 to £41,000	0	*
£41,000.01 to £55,000	0	*
over £55,000	0	*
Not known	0	23.3

Note. N = 249, which is the total number of households in household income band £10,400.01 to £15,600 in Wave 1; ‘*’ = frequency value below 10.

Table 4 Change in percentages of households in household income band £15,600.01 to £20,800 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
<=£5200	0	*
£5,200.01 to £10,400	0	*
£10,400.01 to £15,600	0	9.6
£15,600.01 to £20,800	100	29.3
£20,800.01 to £33,800	0	33.6
£33,800.01 to £41,000	0	*
£41,000.01 to £55,000	0	*
over £55,000	0	*
Not known	0	18.2

Note. N = 280, which is the total number of households in household income band £15,600.01 to £20,800 in Wave 1; ‘*’ = frequency value below 10.

Table 5 Change in percentages of households in household income band £20,800.01 to £33,800 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
<=£5200	0	*
£5,200.01 to £10,400	0	1.4
£10,400.01 to £15,600	0	1.7
£15,600.01 to £20,800	0	4.0
£20,800.01 to £33,800	100	45.5
£33,800.01 to £41,000	0	17.1
£41,000.01 to £55,000	0	6.2
over £55,000	0	2.2
Not known	0	21.4

Note. N = 697, which is the total number of households in household income band £20,800.01 to £33,800 in Wave 1; ‘*’ = frequency value below 10.

Table 6 Change in percentages of households in household income band £33,800.01 to £41,000 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
<=£5200	0	*
£5,200.01 to £10,400	0	*
£10,400.01 to £15,600	0	0
£15,600.01 to £20,800	0	*
£20,800.01 to £33,800	0	13.0
£33,800.01 to £41,000	100	31.0
£41,000.01 to £55,000	0	28.9
over £55,000	0	4.2
Not known	0	20.8

Note. N = 284, which is the total number of households in household income band £33,800.01 to £41,000 in Wave 1; ‘*’ = frequency value below 10.

Table 7 Change in percentages of households in household income band £41,000.01 to £55,000 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
<=£5200	0	0.0
£5,200.01 to £10,400	0	*
£10,400.01 to £15,600	0	*
£15,600.01 to £20,800	0	0.0
£20,800.01 to £33,800	0	3.1
£33,800.01 to £41,000	0	7.4
£41,000.01 to £55,000	100	50.1
over £55,000	0	21.1
Not known	0	17.1

Note. N = 351, which is the total number of households in household income band £41,000.01 to £55,000 in Wave 1; ‘*’ = frequency value below 10.

Table 8 Change in percentages of households in household income band over £55,000 from Wave 1 to Wave 2

Household income band	Wave 1	Wave 2
<=£5200	0	*
£5,200.01 to £10,400	0	*
£10,400.01 to £15,600	0	7.0
£15,600.01 to £20,800	0	21.4
£20,800.01 to £33,800	0	24.5
£33,800.01 to £41,000	0	*
£41,000.01 to £55,000	0	*
over £55,000	100	32.0
Not known	0	13.3

Note. N = 383, which is the total number of households in household income band over £55,000 Wave 1; ‘*’ = frequency value below 10.

Appendix 9: Tables showing how the percentage of households with each level of qualification held in the family changed between Wave 1 and Wave 2

Table 1 Change in percentages of households holding a higher education qualification below degree level from Wave 1 to Wave 2

Highest qualification held in family	Wave 1	Wave 2
Degree or equivalent	0	2.5
Higher education below degree level	100	92.0
GCE A Level or equivalent	0	0.0
GCSE grades A-C or equivalent	0	0.0
Basic low-level qualifications	0	0.0
Other qualifications	0	0.0
No qualification	0	0.0
Not known	0	*

Note. N = 711, which is the total number of households holding a higher education qualification below degree level in Wave 1; ‘*’ = frequency value below 10.

Table 2 Change in percentages of households holding GCE A Level or equivalent from Wave 1 to Wave 2

Highest qualification held in family	Wave 1	Wave 2
Degree or equivalent	0	*
Higher education below degree level	0	2.6
GCE A Level or equivalent	100	92.0
GCSE grades A-C or equivalent	0	0.0
Basic low-level qualifications	0	0.0
Other qualifications	0	0.0
No qualification	0	0.0
Not known	0	*

Note. N = 729, which is the total number of households holding GCE A Level or equivalent in Wave 1; ‘*’ = frequency value below 10.

Table 3 Change in percentages of households holding GCSE grades A-C or equivalent from Wave 1 to Wave 2

Highest qualification held in family	Wave 1	Wave 2
Degree or equivalent	0	0.7
Higher education below degree level	0	1.6
GCE A Level or equivalent	0	2.4
GCSE grades A-C or equivalent	100	93.2
Basic low-level qualifications	0	0.0
Other qualifications	0	0.0
No qualification	0	0.0
Not known	0	*

Note. N = 1400, which is the total number of households holding GCSE grades A-C or equivalent in Wave 1; '*' = frequency value below 10.

Table 4 Change in percentages of households holding basic low-level qualifications from Wave 1 to Wave 2

Highest qualification held in family	Wave 1	Wave 2
Degree or equivalent	0	*
Higher education below degree level	0	*
GCE A Level or equivalent	0	*
GCSE grades A-C or equivalent	0	5.2
Basic low-level qualifications	100	89.4
Other qualifications	0	0.0
No qualification	0	0.0
Not known	0	0.0

Note. N = 368, which is the total number of households holding basic low-level qualifications in Wave 1; '*' = frequency value below 10.

Table 5 Change in percentages of households holding other qualifications from Wave 1 to Wave 2

Highest qualification held in family	Wave 1	Wave 2

Degree or equivalent	0	0.0
Higher education below degree level	0	*
GCE A Level or equivalent	0	*
GCSE grades A-C or equivalent	0	*
Basic low-level qualifications	0	0.0
Other qualifications	100	87.1
No qualification	0	0.0
Not known	0	0.0

Note. N = 70, which is the total number of households holding other qualifications in Wave 1; ‘*’ = frequency value below 10.

Table 6 Change in percentages of households holding no qualification from Wave 1 to Wave 2

Highest qualification held in family	Wave 1	Wave 2
Degree or equivalent	0	*
Higher education below degree level	0	*
GCE A Level or equivalent	0	*
GCSE grades A-C or equivalent	0	2.2
Basic low-level qualifications	0	*
Other qualifications	0	5.6
No qualification	100	90.4
Not known	0	*

Note. N = 1035, which is the total number of households holding no qualification in Wave 1; ‘*’ = frequency value below 10.

Appendix 10: Percentages of young people feeling happy or unhappy at school by background characteristics

Percentages of young people feeling happy or unhappy at school by the family's NS-SEC class

NS-SEC class	Happy	Not happy	Not known
Higher managerial and professional occupations	98.1	1.8	0.1
Lower managerial and professional occupations	97.3	2.5	0.2
Intermediate occupations	97.0	3.0	0.0
Small employers and own account workers	97.4	2.4	0.2
Lower supervisory and technical occupations	97.1	2.7	0.2
Semi-routine occupations	96.6	3.2	0.2
Routine occupations	95.3	4.3	0.4
Never worked/long term unemployed	96.4	3.1	0.4
Not known	98.4	1.2	0.4

Percentages of young people feeling happy or unhappy at school by highest qualification held in family

Highest family qualification	Happy	Not happy	Not known
Degree or equivalent	98.5	1.2	0.3
Higher education below degree level	97.2	2.6	0.2
GCE A Level or equivalent	98.1	1.9	0.0
GCSE grades A-C or equivalent	96.6	3.2	0.2
Basic low-level qualifications	94.6	5.4	0.0
Other qualifications	96.1	2.9	1.0
No qualification	96.7	2.9	0.4
Not known	88.0	12.0	0.0

Percentages of young people feeling happy or unhappy at school by FSM category

FSM category	Happy	Not happy	Not known
FSM-eligible	96.9	2.9	0.2
Not FSM-eligible	97.2	2.6	0.2

Appendix 11 Descriptive statistics of non-key variables

Level of managing on household income

While the descriptive analysis of household income showed that more households reported middle to higher levels of income, analysis of how well the households were managing on their income shows a consistent picture. As Table 1 shows, more than half (51.8%) of the sample households indicated that they were managing on their income quite well and only a small proportion reported financial difficulties.

Table 1 Percentages of young people by level of household managing on its income, Wave 1

How well the household is managing on its income	Wave 1
Managing quite well, able to save or spend on leisure	51.8
Just getting by, unable to save if wanted to	40.1
Getting into difficulties	5.3
Not known	1.9

Note. In Wave 1, the parent was asked “Thinking of how your household is managing on your total household income at the moment, would you say it was ...” and the parent was asked to choose one of the options in this table; N = 5,192.

Education Maintenance Allowance (EMA)

EMA is also an indicator of poverty. Table 2 shows that in both Wave 4 and Wave 5 fewer young people were receiving EMA than those not, and the proportion receiving EMA decreased between these waves. Possible explanations for this decrease can be that some young people left education to work and there were increases in some families’ income.

Table 2 Percentages of young people by access to EMA, Waves 4 & 5

Access to EMA	Wave 4	Wave 5
Yes	40.3	34.1
No	58.7	65.9

Note. EMA = Education Maintenance Allowance; N = 5,192.

Private household status

Compared to around four fifths of the cohort living in an owned house, as was discussed in Chapter 9, far more pupils lived in a private house. In Wave 1 when the cohort were aged

13/14, as many as 99.3% of them lived in private households and less than 1% lived in non-private accommodation (Table 3).

Table 3 Percentages of young people by private household residence status, Wave 1

Private household residence status	Wave 1
Yes	99.3
No	0.7

Note. N = 5,192.

Stepfamily status

As Table 4 indicates, the proportions of stepfamilies remain very stable, especially from Wave 2 to Wave 4. Unlike the proportions of single-parent families (Table 9.10 in Chapter 9), the proportion of stepfamilies slightly decreases from Wave 1 to Wave 4.

Table 4 Percentages of young people by stepfamily status, Waves 1, 2, 3 & 4

Stepfamily status	Wave 1	Wave 2	Wave 3	Wave 4
No	92.0	91.4	91.4	91.4
Yes	8.0	8.6	8.6	8.6

Note. N = 5,192.

Parental involvement in school

Table 5 depicts an overall positive picture of parental involvement in the young people's schooling in Waves 1, 2 and 3.

Table 5 Percentages of young people by level of parental involvement in schooling, Waves 1, 2 & 3

Level of parental involvement in schooling	Wave 1	Wave 2	Wave 3
Very involved	22.7	25.0	31.0
Fairly involved	47.5	49.6	48.0
Not very involved	24.7	21.7	17.7
Not at all involved	3.7	3.0	2.6
Not known/Don't know	1.3	0.8	0.7

Note. The table shows the percentages of young people by how involved their parents felt they were in their schooling; N = 5,192.

The majority of the sampled parents reported being involved in the young people's schooling, with more parents getting involved over the waves. This positive change implies that more parents paid attention to and invested more time and energy in their children's secondary education as they progressed from Key Stage 3 to Key Stage 4.

Help with homework at home

Parents helping with homework is another relevant aspect of parental behaviour. Table 6 shows that the majority of the young people got help with their homework at home in both Wave 1 and Wave 2. However, it is interesting that the proportion of young people who received assistance with homework at home decreased by 10 percentage points when they reached age 14.

Table 6 Percentages of young people by whether they got help with their homework at home, Waves 1 & 2

Help with homework at home	Wave 1	Wave 2
Yes	81.9	71.9
No	18.1	28.1

Note. N = 5,192.

Parental educational aspirations

The majority of the parents hoped their children would have a better education than they had received (Table 7), indicating a high level of parental aspirations in the sample.

Table 7 Percentages of young people by their parents' educational aspirations for them, Wave 1

Parents wanting their child to have a better education than they had had	Wave 1
Agree strongly	74.8
Agree a little	15.2
Disagree a little	5.6
Disagree strongly	2.2

Not known	2.2

Note. In Wave 1, the parent was asked how much he/she agreed or disagreed with the statement “I want (name of the sample young person) to have a better education than I had”; N = 5,192.

Parental confidence in the young people going on to HE

In Wave 1, about 70% of the parents thought their children would participate in HE, with about 40% considering this was ‘very likely’ and about 30% thinking it fairly likely (Table 8).

Table 8 Percentages of young people by their parents’ view of the likelihood of them going into HE

Likelihood of young people going into HE	Wave 1
Very likely	40.9
Fairly likely	29.2
Not very likely	13.9
Not likely at all	9.5
Not known	6.5

Note. HE = Higher Education; In Wave 1, the parent was asked “How likely do you think it is that (name of the sampled young person) will go on to university to do a degree at some time in the future?”; N = 5,192.

Parental interaction with the young people

How well the parents were getting on with the young people

In both Waves 2 and 3, a very high proportion of the parents considered that they got on well with their children, with the majority answering “very well” (Table 9).

Table 9 Percentages of young people by their relationship with the main parent, Waves 2 & 3

How well the main parent got on with the young person	Wave 2	Wave 3
Very well	66.7	67.1
Fairly well	23.8	23.5
Fairly badly	0.7	1.0
Very badly	0.3	0.3
Not known	8.5	8.1

Note. In Waves 2 and 3, the parent was asked “All in all, how well or badly would you say you get on with (name of the sampled young person)?”; N = 5,192.

Frequency of parents arguing with the young people

Consistent with the positive picture of family relationships shown above, Table 10 shows that the frequency of parents arguing with their children was generally low. Around a third of the parents reported that they hardly ever argued with their children and nearly a quarter of them responded that they argued less than once a week.

Table 10 Percentages of young people by frequency of arguing with the main parent, Wave 2

How frequently the main parent argued with the young person	Wave 2
Most days	9.9
More than once a week	18.0
Less than once a week	23.6
Hardly ever	34.1
Never	5.8
Not known	8.7

Note. N = 5,192.

Geographical distribution

Government Office Region

As expected, the proportion of households living in each region remained the same from Wave 2 to Wave 3 (Table 11), indicating very stable geographical immobility. The three areas with the largest proportions of the sample were London, the south east and the north west. The highest proportion (about 16%) of the households lived in London. As for the rest of England, the highest proportion lived in the south east and the lowest proportion lived in the north east.

Table 11 Percentages of young people by Government Office Region, Waves 2 & 3

Government Office Region	Wave 2	Wave 3
North East	4.6	4.6
North West	13.5	13.5
Yorkshire and The Humber	10.9	10.9

East Midlands	9.1	9.1
West Midlands	12.0	12.0
East of England	11.2	11.2
London	15.8	15.8
South East	14.8	14.8
South West	8.1	8.1

Note. N = 5,192.

School features

School mobility

Before focusing on specific features of the cohort's schools, school mobility is first examined. Table 12 shows a consistently low level of school mobility in the sample from Wave 1 to Wave 3, indicating a very high proportion of the young people remaining at the same school.

Table 12 Percentages of young people by school mobility, Waves 2 & 3

Whether the young person was at the same school	Wave 2	Wave 3
Yes	97.0	98.4
No	3.0	1.6

Note. N = 5,192.

Level of rules and discipline in school

Table 13 shows that a similarly large proportion (approximately 60%) of the young people had positive attitudes to the level of rules and discipline in their schools. However, more young people considered that their schools had too many rules and thought that discipline in their school was too strict than those who held the opposite view.

Table 13 Percentages of young people by attitudes to the level of school rules and discipline, Wave 1

Level of rules in school	Percentage	Level of discipline in school	Percentage
Too many rules	27.3	Too strict	19.7
About the right number of rules	63.7	About right	62.1
Not enough rules	7.4	Not strict enough	16.7

Not known	1.6	Not known	1.4

Note. In Wave 1, the young people were asked their opinions on their schools' levels of rules and discipline; N = 5,192.

School resources – extra-curricular activities

Overall, in Wave 1 as many as 91.9% of the young people reported that their schools provided clubs or societies after lessons (Table 14). This means that the majority of state secondary schools provided after-school clubs and societies for Year 9 pupils.

Table 14 Percentages of young people by whether there were clubs/societies after lessons at school, Wave 1

Whether there were clubs/societies after lessons at school	Wave 1
Yes	91.9
No	8.1

Note. In Wave 1, the young people were asked “Does your school have clubs or societies after lessons for things like hobbies, art or music which you can go to if you want to?”; N = 5,192.

School quality

School quality was indicated by the parents' opinions about the overall quality of their children's schools. The majority (as high as 90.3%) of the parents were satisfied with their children's overall school quality, with similar proportions of the parents rating it as either 'very good' or 'fairly good' (Table 15).

Table 15 Percentages of young people by the overall quality of their school, Wave 1

Overall quality of the young person's school	Wave 1
Very good	45.5
Fairly good	44.4
Neither good nor bad	6.5
Fairly bad	2.0
Very bad	0.4
Not known	1.2

Note. In Wave 1, the parent was asked how they rated the overall quality of the young person's school; N = 5,192.

Enjoyment at school

Consistently with the results for happiness, a similarly very high proportion of the cohort found their Year 11 enjoyable (Table 16).

Table 16 Percentages of young people by the extent to which they found year 11 enjoyable, Wave 4

The extent to which the young people found year 11 enjoyable	Wave 3
Very enjoyable	30.8
Quite enjoyable	56.0
Not very enjoyable	9.0
Not at all enjoyable	3.2
Not known	0.9

Note. In Wave 4, the young people were asked the extent to which they found year 11 was enjoyable; N = 5,192.

Young people's attitudes to job/career

Table 17 shows a very high level of positive attitudes to jobs and career among the sample of young people. Regardless of their different socio-economic backgrounds, the young people gave importance to their future careers.

Table 17 Percentages of young people by their attitude to job/career, Wave 1

Having a job or career in the future is important to me	Wave 1
Agree	98.5
Disagree	0.4
Not known	1.1

Note. In Wave 1, the young people were asked how much they agreed or disagreed with the statement "Having a job or career in the future is important to me"; N = 5,192.

Young people's attitudes to life chances

Table 18 shows that the majority of the young people had confidence in their life chances. Far more than half the sample had confidence that they could control their lives.

Table 18 Percentages of young people by their attitude to their life chances, Wave 2

People like me don't have much of a chance in life	Wave 2
Strongly agree	1.9
Agree	4.8
Disagree	41.9
Strongly disagree	43.3
Not known	8.1
I can pretty much decide what will happen in my life	Wave 2
Strongly agree	14.4
Agree	46.5
Disagree	22.5
Strongly disagree	4.5
Not known	12.0

Note. In Wave 2, the young people were asked how much they agreed or disagreed with the following two statements: “People like me don’t have much of a chance in life” and “I can pretty much decide what will happen in my life”; N = 5,192.

Young people's attitudes to social justice in British society

Table 19 further shows the young people's attitudes to social justice in Britain. Slightly more than half of them believed that people were usually treated fairly regardless of their background. However, a relatively large proportion had negative opinions about fairness in British society in the 2000s.

Table 19 Percentages of young people by their attitude to social justice in Britain, Wave 5

In Britain today, people are usually treated fairly regardless of their background	Wave 5
Strongly agree	5.8
Agree	47.9
Disagree	35.1
Strongly disagree	7.2
Not known	4.1

Note. In Wave 5, the young people were asked how much they agreed or disagreed with the statement “Britain today is a place where people are usually treated fairly no matter what background they come from”; N = 5,192.

Work at an early age

In Wave 3, the majority of the sample did not do any paid work (Table 20). This is unsurprising as the majority of them were still in full-time education at age 15.

Table 20 Percentages of young people by paid work status, Wave 3

Whether the young people did any paid work	Wave 3
Yes	8.4
No	91.6

Note. In Wave 3, the young people were asked “Are you currently doing any kind of paid job?” with ‘paid job’ defined as regularly working 4 or more hours a week; N = 5,192.

In Wave 4 (Table 21), a higher proportion of the young people were in paid employment: 30 percentage points more than in Wave 3 (Table 20). When it comes to apprenticeship status in the same wave, there is a different picture: only 3.3% of the sample were doing an apprenticeship, suggesting that apprenticeships were not a popular option for young people compared to paid employment at age 16 (Table 21).

Table 21 Percentages of young people by paid employment/apprenticeship status, Wave 4

Whether the young people were in any kind of paid employment	Wave 4
Yes	38.8
No	61.2
Whether the young people were doing an apprenticeship	Wave 4
Yes	3.3
No	96.7

Note. In Wave 4, it was first explained to the young people what an apprenticeship is and then they were asked whether they were doing an apprenticeship: “There’s a government scheme called apprenticeships, which used to be called Modern Apprenticeships and which trains young people for a specific job while they are paid a regular wage or training allowance. Are you currently doing an apprenticeship?”; N = 5,192.

Varying activity patterns in the transition period at ages 16 and 17

Waves 4 and 5 can be considered the first important transition period for the cohort as it was the time when they could choose either to continue in full-time education or leave education for another activity such as a training course, an apprenticeship or full-time employment. Table 22 shows the different types of transitions made by the young people.

Table 22 Percentages of young people by main activity, Waves 4 & 5

Main activity aged 16	Wave 4
GST	5.0
FT Education	83.4
Employment	6.4
Other/NEET	5.2
Main activity aged 17	Wave 5
FT education	64.1
Employment	21.4
Part working, part college	0.9
Apprenticeship/training	5.3
Other/NEET	8.4

Note. GST = Government Supported Training; FT Education = Full-time Education; NEET = Not in Education, Employment or Training; ‘Part working, part college’ refers to spending part of the week in employment and part of the week at college; N = 5,192.

About 84% of the sample stayed in full-time education at age 16 and about 64% of them continued in full-time education in Wave 5. Although about a fifth of the young people left full-time education after age 16, formal full-time education still seemed to be a popular route. Between Waves 4 and 5, more (about 15 percentage points more) of the young people became employed.

Changes in NS-SEC class at age 16-19

Table 23 shows the distributions of the young people’s NS-SEC classes in Waves 4, 5, 6 and 7.

Table 23 Percentages of young people aged 16-19 by NS-SEC class, Waves 4, 5, 6 & 7

	Wave 4	Wave 5	Wave 6	Wave 7
I Higher managerial and professional occupations	0	*	*	*
II Lower managerial and professional occupations	1.2	2.9	2.8	4.0
III Intermediate occupations	3.0	4.7	5.6	5.5
Employers in small organisations IV and own account workers	*	*	0.7	*
V Lower supervisory and technical occupations	3.7	7.0	5.2	4.9
VI Semi-routine occupations	28.5	29.5	10.8	10.7
VII Routine occupations	11.2	12.0	5.4	4.2
VIII Never worked/long term unemployed	-	7.5	7.0	10.6
Not in employment (Full-time student)	52.0	35.6	62.0	58.7

Note. The number of young people who were in ‘Higher managerial and professional occupations’ in Wave 4 was 1; N = 5,192; ‘*’ = frequency value below 10; ‘-’ = not applicable.

Not surprisingly, a high proportion of the sample were still in full-time education during these four years. This is consistent with the information on the young people’s main activities (Table 22).

The main patterns are as follows: (1) for the top four NS-SEC classes (professional, intermediate occupations and small employers), the numbers of young people in each of the categories steadily increased; (2) throughout these four years, the number of young people in higher managerial and professional occupations remained consistently low, which is not surprising considering their age; and (3) in Waves 4 and 5 when the sample were aged 16 and 17, a relatively high proportion of them were in semi-routine occupations, with the percentage being about a third in both waves. However, in the following two waves the percentage fell to about a tenth.

Employment status at age 18

Approximately 30% of the sample population were employed when they reached the age of 18. Around a quarter were either employees or self-employed. Understandably, a very small proportion of these young people were in the higher employment status categories of being employers themselves or managers (Table 24).

Table 24 Percentage of young people aged 18 by employment status

Employment status	Wave 6
Employers	0.8
Managers	0.7
Supervisors	4.5
Other employees/Self-employed	25.1
Not in employment (full-time student)	69.0

Note. N = 5,192.

Activity in the age 18-19 transition period

Waves 6 and 7 (age 18/19) can be considered the second important transition stage for the sample as it was the time when some of them had the option to enter HE.

Table 25 shows the distributions of the main activities of the sampled young people at age 18 and 19. In general, in both years the majority of the young people were either in education (secondary school or HE) or in paid work. Regarding volunteering, the same small proportion (0.3%) of the sample were doing voluntary work in both the two waves.

While the proportions of the sample in education, paid work and voluntary work stayed stable from Wave 6 to Wave 7, the number of cases undertaking other activities fluctuated: (1) more young people went on a training course or scheme between Wave 6 and Wave 7, (2) the percentage of them spending part of their time working and part at college decreased sharply and (3) more (10.8%) were either doing other activities or being economically inactive.

Table 25 Percentages of young people by main activity at age 18-19

Main activity at age 18	Wave 6
In education	55.6

In paid work	27.1
On a training course or scheme	0.8
Part time job and part time college	9.3
Doing voluntary work	0.3
Other/NEET	6.8
Main activity at age 19	Wave 7
In education	53.9
In paid work	31.0
On a training course or scheme	3.3
Part time job and part time college	0.4
Doing voluntary work	0.3
Other/NEET	11.0

Note. ‘Part time job and part time college’ refers to spending part of the time working and part of the time at college; N = 5,192.

Appendix 12 Individual patterns of change in non-key variables

Changes in stepfamily status

Compared to changes in single-parent status, as was discussed in Chapter 9, stepfamily status in the sample stayed more stable from Wave 1 to Wave 4. The numbers of young people who moved into stepfamilies and who moved out of stepfamilies were similar (Table 1).

Table 1 Percentages of young people by changes in stepfamily status, from Wave 1 to Wave 2, from Wave 2 to Wave 3 and from Wave 3 to Wave 4

Change in value	Wave1 → Wave 2	Wave 2 → Wave 3	Wave 3 → Wave 4
Stepfamily → Not stepfamily	0.0	0.4	0.6
Not stepfamily → Stepfamily	1.0	0.4	0.5
Remained stepfamily	8.0	8.2	8.0
Remained non-stepfamily	91.4	90.9	90.8

Note. N = 5,192.

Changes in receiving EMA

From Wave 4 to Wave 5, a small proportion (3.1%) of the young people who did not receive EMA began to receive it, while a third of them continued to receive it in both years (Table 2).

Table 2 Percentages of young people by changes in access to EMA from Wave 4 to Wave 5

EMA change	Wave 4 → Wave 5
Not in receipt of EMA → In receipt of EMA	3.1
In receipt of EMA → Not in receipt of EMA	10.5
Continuing to receive EMA	30.0

Note. EMA = Education Maintenance Allowance; N = 5,192.

Changes in parental involvement in young peoples' schooling

Table 3 shows a positive pattern of parents becoming involved in their children's schooling over time as the young people neared school-leaving age.

Table 3 Percentages of young people by changes in their parent's involvement in their schooling, Wave 1 to Wave 2 and Wave 2 to Wave 3

Change in value	Wave 1 → Wave 2	Wave 2 → Wave 3
Not very involved → Very involved	2.6	2.7
Not very involved → Fairly involved	10.6	9.3
Not at all involved → Very involved	0.2	0.4
Not at all involved → Fairly involved	1.5	0.9
Very involved → Not very involved	1.7	1.3
Fairly involved → Not very involved	8.5	6.7
Very involved → Not at all involved	0.4	0.2
Fairly involved → Not at all involved	0.7	0.7

Note. N = 5,192.

Changes in young people getting help with their homework at home

While more than half the sample continued to get help with their homework at home, it is interesting that nearly 17% of the sampled young people got help in Wave 1 but did not get help the following year (Table 4).

Table 4 Percentages of young people by changes in getting help with their homework at home, from Wave 1 to Wave 2

Change in getting help with homework	Wave 1 → Wave 2
Did not get help with homework → got help with homework	6.7
Got help with homework → did not get help with homework	16.6
Continued getting help with homework	65.3
Never got help with homework	11.5

Note. N = 5,192.

Changes in parents' relationships with the young people

Table 5 shows a positive pattern of parents getting on with their children better between Wave 2 and Wave 3.

Table 5 Percentages of young people by changes in how well they got on with their parents, Wave 2 to Wave 3

Change in getting on with parents	Wave 2 → Wave 3
Fairly well → Very well	8.6
Badly → Very well	0.3
Badly → Fairly well	0.3

Note. N = 5,192.

School mobility

There was a low level of school mobility among the sample of young people from Wave 2 to Wave 3, with 96% of them remaining in the same school (Table 6).

Table 6 Percentages of young people by school mobility, Wave 2 to Wave 3

School mobility	Wave 2 → Wave 3
Changed school	4.0
Remained in the same school	96.0

Note. N = 5,192.

The young peoples' economic activities

Changes in the young peoples' main economic activities when aged 16 to 19

Among the young people who changed their economic activity between the ages of 16 and 19, most changed from full-time education to being employed. Fewer young people returned to full-time education from other activities such as apprenticeships or training (Table 7).

Table 7 Percentages of young people by changes in their main economic activity, from Wave 4 to Wave 5, Wave 5 to Wave 6, and Wave 6 to Wave 7

Change in activity	Wave 4 → Wave 5	Wave 5 → Wave 6	Wave 6 → Wave 7
Other/NEET → Full-time education	1.1	2.8	0.5
Employed → Full-time education	0.8	5.3	4.4

Full-time education → Other/NEET	5.5	2.4	2.7
Full-time education → Employed	13.9	10.8	4.9
Full-time education → Apprenticeship/training	1.7	0.3	0.6
Apprenticeship/training → Full-time education	0.5	0.5	0.0

Note. N = 5,192.

Appendix 13 Logistic regression model coefficients predicting HE participation

1 Adding Family Composition in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Family composition	Ever single parent status since birth (vs never single parent status)	0.513
		Ever stepfamily status (vs never stepfamily status)	0.552

Note. N = 5,192.

2 Adding Economic Status in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251

		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Economic status	Higher managerial or professional (vs long-term unemployed)	1.083
		Lower managerial or professional (vs long-term unemployed)	1.371
		Intermediate (vs long-term unemployed)	1.141
		Small employer or own account worker (vs long-term unemployed)	1.250
		Lower supervisory or technical (vs long-term unemployed)	1.241
		Semi-routine (vs long-term unemployed)	1.183
		Routine (vs long-term unemployed)	0.856

	Not known (vs long-term unemployed)	1.106
	Family managing on income well (vs family getting into difficulty)	1.297
	Family just getting by (vs family getting into difficulty)	1.103
	FSM (vs non-FSM)	0.797
	Received EMA (vs never received EMA)	0.442
	Lived in an owned house (vs not lived in an owned house)	2.086
	Lived in a private house (vs not lived in a private house)	1.103

Note. N = 5,192.

3 Adding Parental Educational Background in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931

		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Parental educational background	Higher education below degree (vs no qualification)	1.372
		GCE A level (vs no qualification)	0.972
		GCSE grades A-C (vs no qualification)	0.872
		Basic low-level qualifications (vs no qualification)	0.792
		Other qualifications (vs no qualification)	1.016
		Not known (vs no qualification)	0.541

Note. N = 5,192.

4 Adding Material Ownership in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353

		Single parent at birth (vs not single parent at birth)	0.934
2	Material ownership	Owned laptop (vs no laptop)	1.362
		Owned home computer for school work (vs no home computer for school work)	3.404
		Owned mobile phone (vs no mobile phone)	1.016
		Owned telephone (vs no telephone)	2.299
		Owned home computer (vs no home computer)	1.807
		Had access to Internet at home (vs no Internet at home)	2.270

Note. N = 5,192.

5 Adding Private Tuition in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353

		Single parent at birth (vs not single parent at birth)	0.934
2	Private tuition	Had private classes in school subjects (vs never had private classes in school subjects)	2.250
		Had private lessons in supplementary subjects (vs never had private lessons in supplementary subjects)	2.118

Note. N = 5,192.

6 Adding Parental Involvement in Schooling in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Parental involvement in schooling	Parents involved in schooling (vs parents not involved in schooling)	2.138

		Parents helped with homework (vs nobody at home helped with homework)	1.527

Note. N = 5,192.

7 Adding Parental Attitudes and Aspirations in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Parental attitudes and aspirations	Parents wanted their child to have a better education than they had (vs Parents did not want their child to have a better education than they had)	1.233
		Parents got on well with child (vs parents got on badly with child)	1.046

	Parents thought young person likely to go into HE (vs parents thought young person not likely to go into HE)	1.509
	Parents wanted young person to continue in full time education after school leaving age (vs parents wanted young person to do something else)	2.559
	Parents wanted young person to start learning a trade after school leaving age (vs parents wanted young person to do something else)	0.668
	Parents wanted young person to start an apprenticeship after school leaving age (vs parents wanted young person to do something else)	0.531
	Parents wanted young person to get a full-time paid job after school leaving age (vs parents wanted young person to do something else)	0.935

Note. N = 5,192.

8 Adding Geographical Location in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Geographical location	IDACI	0.561

Note. N = 5,192.

9 Adding Connexions personal advisor in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353

		Single parent at birth (vs not single parent at birth)	0.934
2	Connexions personal advisor	Ever talked to a Connexions personal advisor (vs never talked to a Connexions personal advisor)	0.937

Note. N = 5,192.

10 Adding School Features in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	School features	Young person did not change school (vs young person changed school)	2.158
		Young person felt happy at school (vs young person did not feel happy at school)	1.494

		Young person enjoyed school (vs young person did not enjoy school)	2.522
		School had clubs or societies after lessons (vs school did not have clubs or societies after lessons)	1.231

Note. N = 5,192.

11 Adding Educational Attainment in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	0.829
		English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Educational attainment	KS2 average points score	0.986
		KS3 average points score	1.210

Note. N = 5,192.

12 Adding Young People's Attitudes and Aspirations in Stage 2

Stage	Block	Variables	Exp (B)
1		Male (vs Female)	0.829

	Young people's characteristics at birth	English (vs non-English)	0.851
		Mixed (vs White)	1.082
		Indian (vs White)	9.361
		Pakistani (vs White)	5.810
		Bangladeshi (vs White)	6.434
		Black Caribbean (vs White)	2.186
		Black African (vs White)	14.041
		Other (vs White)	4.931
		Not known (vs White)	2.353
		Single parent at birth (vs not single parent at birth)	0.934
2	Yong people's attitudes and aspirations	Young person planned to stay in FE (vs young person did not plan to stay in FE)	2.936

Note. N = 5,192.

Appendix 14 Logistic regression model coefficients predicting employment status

1 Adding Family Composition in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non- English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Family composition	Ever single parent status since birth (vs never single parent status)	1.278	1.166	1.198	1.214
		Ever stepfamily status (vs never stepfamily status)	1.070	1.001	1.076	1.049

Note. N = 5,192.

2 Adding Economic Status at Home in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young person's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non- English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Economic status at home	Higher managerial or professional (vs long-term unemployed)	0.868	0.661	1.190	0.906
		Lower managerial or professional (vs long-term unemployed)	1.276	1.024	1.762	1.354

		Intermediate (vs long-term unemployed)	1.113	0.832	1.439	1.128
		Small employer or own account worker (vs long-term unemployed)	1.020	1.046	1.539	1.202
		Lower supervisory or technical (vs long-term unemployed)	1.040	0.965	1.389	1.131
		Semi-routine (vs long-term unemployed)	0.989	0.842	1.280	1.037
		Routine (vs long-term unemployed)	0.781	0.873	1.200	0.951
		Not known (vs long-term unemployed)	0.947	1.164	1.299	1.113
		FSM (vs non-FSM)	0.617	0.664	0.668	0.650
		Received EMA (vs never received EMA)	0.956	0.990	0.926	0.957
		Family managing on income well (vs family getting into difficulty)	1.353	1.259	1.468	1.360
		Family just getting by (vs family getting into difficulty)	1.356	1.137	1.437	1.310

		Lived in an owned house (vs not lived in an owned house)	1.543	1.306	1.704	1.518
		Lived in a private house (vs not lived in a private house)	2.753	4.950	3.025	3.576

Note. N = 5,192.

3 Adding Parental Educational Background in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810

2	Parental educational background	Degree or equivalent (vs no qualification)	1.302	0.797	0.662	0.920
		Higher education below degree (vs no qualification)	1.662	1.112	0.952	1.242
		GCE A level (vs no qualification)	1.531	1.133	1.156	1.273
		GCSE grades A-C (vs no qualification)	1.152	1.236	1.201	1.196
		Basic low-level qualifications (vs no qualification)	2.004	1.279	1.010	1.431
		Other qualifications (vs no qualification)	1.671	2.558	0.989	1.739
		Not known (vs no qualification)	0.929	0.398	0.685	0.671

Note. N = 5,192.

4 Adding Material Ownership in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665

		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Material ownership	Owned laptop (vs no laptop)	1.031	1.030	1.029	1.030
		Owned home computer for school work (vs no home computer for school work)	1.629	1.679	1.692	1.667
		Owned mobile phone (vs no mobile phone)	1.555	1.748	2.178	1.827
		Owned telephone (vs no telephone)	1.043	2.151	1.293	1.496
		Owned home computer (vs no home computer)	1.479	1.235	1.259	1.324
		Had access to Internet at home (vs no Internet at home)	1.437	1.452	1.656	4.581

Note. N = 5,192.

5 Adding Private Tuition in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non- English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Private tuition	Had private classes in school subjects (vs never had private classes in school subjects)	1.089	1.075	1.091	1.085
		Had private lessons in supplementary subjects (vs never	1.030	1.150	1.143	1.108

		had private lessons in supplementary subjects)				

Note. N = 5,192.

6 Adding Parental Involvement in Schooling in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non- English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810

2	Parental involvement in schooling	Parents involved in schooling (vs parents not involved in schooling)	1.852	1.289	1.570	1.570
		Parents helped with homework (vs parents did not help with homework)	1.349	1.135	1.379	1.288

Note. N = 5,192.

7 Adding Parental Attitudes and Aspirations in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562

		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Parental attitudes and aspirations	Parents wanted their child to have a better education than they had (vs Parents did not want their child to have a better education than they had)	1.227	1.108	1.252	1.196
		Parents got on well with child (vs parents got on badly with child)	1.378	1.692	1.308	1.459
		Parents thought young person likely to go into HE (vs parents thought young person not likely to go into HE)	1.261	1.062	1.241	1.188
		Parents wanted young person to continue in full time education after school leaving age (vs parents wanted young person to do something else)	1.678	1.239	1.328	1.415

		Parents wanted young person to start learning a trade after school leaving age (vs parents wanted young person to do something else)	1.736	1.648	2.066	1.817
		Parents wanted young person to start an apprenticeship after school leaving age (vs parents wanted young person to do something else)	2.331	1.061	2.165	1.852
		Parents wanted young person to get a full-time paid job after school leaving age (vs parents wanted young person to do something else)	1.818	1.321	1.351	1.284

Note. N = 5,192.

8 Adding Geographical Location in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1		Female (vs Male)	0.782	0.713	0.650	0.715

	Young people's characteristics at birth	English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Geographical location	IDACI	0.235	0.299	0.190	0.241

Note. N = 5,192.

9 Adding Connexions Personal Advisor in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915

		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Connexions personal advisor	Ever talked to a Connexions personal advisor (vs never talked to a Connexions personal advisor)	0.949	0.987	1.021	0.986

Note. N = 5,192.

10 Adding School Features in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665

		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	School features	Young person felt happy at school (vs young person did not feel happy at school)	1.712	1.074	1.582	1.456
		Young person enjoyed school (vs young person did not enjoy school)	1.550	1.779	2.237	1.855
		School had clubs or societies after lessons (vs school did not have clubs or societies after lessons)	1.585	1.677	1.199	1.487

Note. N = 5,192.

11 Adding Educational Attainment in Stage 2

Stage	Block	Variables	Model 1 (N=1818)	Model 2 (N=1992)	Model 3 (N=1799)	Average model

			Exp (B)	Exp (B)	Exp (B)	Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Educational attainment	KS2 average points score	0.962	1.024	0.982	0.989
		KS3 average points score	1.015	0.992	0.997	1.001
		Capped GCSE and equivalent points score	0.996	1.004	0.996	0.999

Note. N = 5,192.

12 Adding Young People's Attitudes and Aspirations in Stage 2

Stage	Block	Variables	Model 1 (N=1818)	Model 2 (N=1992)	Model 3 (N=1799)	Average model

			Exp (B)	Exp (B)	Exp (B)	Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Young people's attitudes and aspirations	Young person planned to stay in FE (vs young person did not plan to stay in FE)	1.686	1.267	1.192	1.382

Note. N = 5,192.

13 Adding HE Entry in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1		Female (vs Male)	0.782	0.713	0.650	0.715

	Young people's characteristics at birth	English (vs non-English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	HE Entry	Entered HE (vs did not enter HE)	1.675	2.174	2.257	2.035
		Entered University of Cambridge or University of Oxford (vs did not enter University of Cambridge or University of Oxford)	1.007	1.362	1.419	1.263
		Entered Russell Group university (vs did not enter Russell Group university)	2.018	1.142	1.356	1.505

Note. N = 5,192.

14 Adding FE Entry in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non- English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	FE Entry	Entered FE (vs did not enter FE)	1.236	1.359	1.263	1.286

Note. N = 5,192.

15 Adding Economic Activity in Stage 2

Stage	Block	Variables	Model 1 (N=1818) Exp (B)	Model 2 (N=1992) Exp (B)	Model 3 (N=1799) Exp (B)	Average model Exp (B)
1	Young people's characteristics at birth	Female (vs Male)	0.782	0.713	0.650	0.715
		English (vs non- English)	1.427	0.891	1.237	1.185
		Mixed (vs White)	1.027	0.786	0.711	0.841
		Indian (vs White)	1.075	0.764	0.905	0.915
		Pakistani (vs White)	0.659	0.595	0.742	0.665
		Bangladeshi (vs White)	0.876	0.692	0.991	0.853
		Black Caribbean (vs White)	1.413	1.159	0.941	1.171
		Black African (vs White)	0.836	0.752	0.598	0.729
		Other (vs White)	0.745	0.904	0.602	0.749
		Not known (vs White)	0.945	0.000	0.742	0.562
		Single parent at birth (vs not single parent at birth)	0.860	0.729	0.842	0.810
2	Economic activity	Ever been in an apprenticeship (vs never been in an apprenticeship)	1.890	1.151	1.221	1.421
		Ever did some paid work (vs never did any paid work)	2.217	1.886	1.984	2.029
		Been NEET (vs never been NEET)	0.377	0.307	0.391	0.358

Note. N = 5,192.

Appendix 15 Logistic regression model coefficients predicting professional occupation status

1 Adding Family Composition in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Family composition	Ever single parent status since birth (vs never single parent status)	0.611
		Ever stepfamily status (vs never stepfamily status)	0.903

Note. N = 5,192.

2 Adding Economic Status in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362

		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Economic status	Higher managerial or professional (vs long-term unemployed)	1.459
		Lower managerial or professional (vs long-term unemployed)	1.606
		Intermediate (vs long-term unemployed)	1.303
		Small employer or own account worker (vs long-term unemployed)	1.234
		Lower supervisory or technical (vs long-term unemployed)	0.997
		Semi-routine (vs long-term unemployed)	0.987

		Routine (vs long-term unemployed)	0.707
		Not known (vs long-term unemployed)	0.749
		Family managing on income well (vs family getting into difficulty)	1.148
		Family just getting by (vs family getting into difficulty)	1.009
		FSM (vs non-FSM)	0.683
		Received EMA (vs never received EMA)	0.991
		Lived in an owned house (vs not lived in an owned house)	1.470
		Lived in a private house (vs not lived in a private house)	1.610

Note. N = 5,192.

3 Adding Parental Educational Background in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666

		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Parental educational background	Higher education below degree (vs no qualification)	1.734
		GCE A level (vs no qualification)	1.177
		GCSE grades A-C (vs no qualification)	1.023
		Basic low-level qualifications (vs no qualification)	0.983
		Other qualifications (vs no qualification)	0.936
		Not known (vs no qualification)	0.564

Note. N = 5,192.

4 Adding Material Ownership in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130

		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Material ownership	Owned laptop (no laptop)	1.235
		Owned home computer for school work (vs no home computer for school work)	2.505
		Owned mobile phone (vs no mobile phone)	1.349
		Owned telephone (vs no telephone)	2.102
		Owned home computer (vs no home computer)	1.462
		Had access to Internet at home (vs no Internet at home)	1.663

Note. N = 5,192.

5 Adding Private Tuition in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036

		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Private tuition	Had private classes in school subjects (vs never had private classes in school subjects)	1.247
		Had private lessons in supplementary subjects (vs never had private lessons in supplementary subjects)	1.643

Note. N = 5,192.

6 Adding Parental Involvement in Schooling in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Parental involvement in schooling	Parents involved in schooling (vs parents not involved in schooling)	3.685

		Parents helped with homework (vs nobody at home helped with homework)	1.289

7 Adding Parental Attitudes and Aspirations in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Parental attitudes and aspirations	Parents wanted their child to have a better education than they had (vs Parents did not want their child to have a better education than they had)	1.122
		Parents got on well with child (vs parents got on badly with child)	1.121

	Parents thought young person likely to go into HE (vs parents thought young person not likely to go into HE)	1.645
	Parents wanted young person to continue in full time education after school leaving age (vs parents wanted young person to do something else)	2.230
	Parents wanted young person to start learning a trade after school leaving age (vs parents wanted young person to do something else)	1.369
	Parents wanted young person to start an apprenticeship after school leaving age (vs parents wanted young person to do something else)	1.210
	Parents wanted young person to get a full-time paid job after school leaving age (vs parents wanted young person to do something else)	0.788

Note. N = 5,192.

8 Adding Geographical Location in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Geographical location	IDACI	0.114

Note. N = 5,192.

9 Adding Connexions Personal Advisor in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002

		Single parent at birth (vs not single parent at birth)	0.877
2	Connexions personal advisor	Ever talked to a Connexions personal advisor (vs never talked to a Connexions personal advisor)	1.012

Note. N = 5,192.

10 Adding School Features in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	School features	Young person did not change school (vs young person changed school)	2.246
		Young person felt happy at school (vs young person did not feel happy at school)	1.407

		Young person enjoyed school (vs young person did not enjoy school)	1.308
		School had clubs or societies after lessons (vs school did not have clubs or societies after lessons)	1.083

Note. N = 5,192.

11 Adding Educational Attainment in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Educational attainment	KS2 average points score	0.997
		KS3 average points score	1.102
		Capped GCSE score and equivalent points score	1.004

Note. N = 5,192.

11 Adding Young People's Attitudes and Aspirations in Stage 2

Stage	Block	Variables	Exp (B)
1		Male (vs Female)	1.095

	Young people's characteristics at birth	English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Yong people's attitudes and aspirations	Young person planned to stay in FE (vs young person did not plan to stay in FE)	2.954

Note. N = 5,192.

12 Adding FE Entry in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877

2	FE Entry	Entered FE (vs did not enter FE)	1.904

Note. N = 5,192.

13 Adding HE Entry in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	HE Entry	Entered HE (did not enter HE)	3.891
		Entered University of Cambridge or University of Oxford (vs did not enter University of Cambridge or University of Oxford)	1.147
		Entered Russell Group university (vs did not enter Russell Group university)	1.733

Note. N = 5,192.

14 Adding Economic Activity in Stage 2

Stage	Block	Variables	Exp (B)
1	Young people's characteristics at birth	Male (vs Female)	1.095
		English (vs non-English)	0.967
		Mixed (vs White)	1.033
		Indian (vs White)	1.362
		Pakistani (vs White)	1.251
		Bangladeshi (vs White)	1.442
		Black Caribbean (vs White)	0.666
		Black African (vs White)	1.130
		Other (vs White)	1.036
		Not known (vs White)	1.002
		Single parent at birth (vs not single parent at birth)	0.877
2	Economic activity	Ever been in an apprenticeship (vs never been in an apprenticeship)	2.506
		Ever did some paid work (vs never did any paid work)	1.585
		Been NEET (vs never been NEET)	0.206

Note. N = 5,192.