Health Inequalities in Scotland

Trends in the socio-economic determinants of health in Scotland

Chapter 4: Education and social mobility

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4. Education and social mobility

Education matters for health because it influences income, employment and social networks throughout our life. But our circumstances as adults are not just influenced by our educational attainment and qualifications, but also by the circumstances at birth and during our early years. Parents from more advantaged backgrounds are often able to pass on these advantages to their children. The transfer of advantage can reduce social mobility and opportunity, which can have an impact on health by contributing to feelings of despondency and helplessness.

Key points

- There is a significant poverty-related attainment gap amongst primary school pupils in Scotland: attainment of pupils living in the most deprived fifth of neighbourhoods have lower levels of educational attainment than those from less deprived neighbourhoods. Attainment is highest amongst those living in the least deprived fifth of neighbourhoods.
- A similar gap exists amongst secondary school pupils. There was some evidence that these poverty-related attainment gaps were closing in the years immediately prior to the pandemic, but the pandemic resulted in a substantial reversal of progress.
- Poverty-related participation gaps also exist when it comes to higher education participation in Scotland. Despite a large increase in higher education participation in Scotland since 1999, children from more deprived communities remain much less likely to go on to participate in higher education compared to those from more affluent communities.
- The existence of these poverty-related attainment gaps reflects the way that parents from relatively more advantaged backgrounds are able to effectively transfer these advantages to their children in a variety of ways, both financial and non-financial.
- Another way of looking at the transfer of opportunity across generations is through the concept of social mobility. Social mobility measures the extent to which people's education, income or jobs are associated with those of their parents. In Scotland, the occupations that people do as adults are strongly associated with those that their parents did and this association is as strong as in other parts of the UK. There is no evidence that intergenerational occupational mobility is improving for younger cohorts compared to older cohorts.
- People in Scotland who grow up in a workless household are more likely to be out-of-work as adults compared to those who grow up in a working household. One of the mechanisms that accounts for this result is ill-health, with adults who grow up in a workless household much more likely to suffer activity-limiting health problems as adults. Intergenerational persistence of worklessness appears slightly higher in Scotland than in the rest of the UK (rUK) which is in turn partly because growing up in a workless house is associated with a greater likelihood of ill-health in Scotland than in rUK.

Education, social mobility and health

Education is associated with improved health. As a simple example, data from the 2019 Scottish Household Survey shows that 43% of people whose highest qualification is a degree report that their health is very good; for those whose highest qualification is at Higher level, 34% report having very good health; this falls to 30% for those whose highest qualification is Standard Grade, and to 14% for those with no qualifications.

There are several mechanisms, or explanations, as to why education is associated with better health. Higher educational qualifications are associated with higher incomes, better and more stable jobs. As we have seen in previous chapters, financial and job security are strong determinants of health because they influence the ability to maintain a decent physical standard of housing, and provide the resources necessary to support healthy behaviours.

Education is also associated with broader social and psychological benefits arising from the tendency of people with better education to have more social contacts and greater self-esteem. There is also of course an effect in the other direction – poor health, particularly during childhood and adolescence, can affect educational attainment.

So education is important because of the way that it influences the prospects for our employment and income circumstances throughout our lives. But those prospects are not just affected by our education. They are also influenced by our background more generally, and the circumstances of our early years.

The concept of social mobility concerns the extent to which someone's circumstances are influenced by where they started in life. One measure of social mobility is the extent to which people's educational attainment is linked to that of their parents. Most countries observe some association between parents' educational attainment and the educational attainment of their children. Better educated parents tend to have higher incomes and resources to invest in supporting their own children's education, and can support their children in other ways too – such as through connections to better schools or work experiences.

There are other measures of social mobility – such as the extent to which the jobs that people do are associated with the types of job their parents did; or the association between the incomes of people today with those of their parents.

So whilst inequality in educational attainment itself might contribute to inequality in health, low social mobility might have further negative consequences on health inequalities. When social mobility is low, i.e. where education or life chances more generally are strongly determined by circumstances of birth and early years, this may contribute to a sense for some people that the odds are stacked against them, creating a sense of despair and futility. However, the empirical link between social mobility and health inequalities – and the direction of this link – is disputed (Simons et al., 2013).

Most aspects of education policy itself are devolved, including the design of the curriculum, policy and regulation on schools (including funding allocations, and the degree of local authority or headteacher control, limits on class sizes, and policy on free school meals), and the funding of higher education.

This chapter first looks at trends in educational inequalities through the lens of the poverty-related attainment gap. These inequalities are interesting in their own right, but also provide insights into the importance of background in influencing educational attainment. It then goes on to quantify

social mobility more formally by examining the association between the labour market status of people today with the labour market status of their parents.

Measuring differences in educational attainment

Recent years have seen a large amount of political and media interest in educational attainment gaps in Scotland. Attainment gaps are in essence differences in educational attainment (or sometimes, participation) between two groups. Attainment gaps exist between sex, ethnic groups, geographical areas, between pupils with and without experience of being in local authority care. The gap that has received most attention is the gap between pupils from relatively better off and less well off backgrounds, often known as the poverty-related attainment gap.

Ideally, we would measure the poverty-related attainment gap by reference to characteristics of pupils' own families. On the whole however, published attainment statistics do not contain information about family circumstances and characteristics. As a result, the poverty-related gap in educational attainment is typically measured as the difference in attainment between pupils from the most and least deprived neighbourhoods. Neighbourhoods are ranked by deprivation, and data on educational attainment is published for each of the five quintiles of deprivation across Scotland as a whole.

This approach does have obvious limitations. Some neighbourhoods, particularly those in rural areas, contain a diverse mix of households with a diverse range of characteristics and circumstances. In other words, a neighbourhood that is ranked as a relatively more deprived neighbourhood can feasibly contain households that are socioeconomically relatively advantaged, and vice versa. Nonetheless, neighbourhood-based measures are the best way we have of measuring the poverty-related attainment gap. And whilst not perfect, they are instructive about the scale of the issue and trends over time¹.

The poverty-related attainment gap at primary level is wide and shows little sign of closing

What's happened to the poverty-related attainment gap in Scotland at primary level? Unfortunately, changes in the way that data is collected make comparisons over time somewhat problematic.

Until 2017, the Scottish Survey of Literacy and Numeracy collected data on reading, writing and numeracy ability from a sample of Scottish schools at P4 and P7. From 2017 onwards, the SSLN was replaced with the Achievement of Curriculum for Excellence (ACEL) assessment. The results from SSLN and ACEL are not directly comparable for a number of reasons. Most particularly, the SSLN was based on a standardised and externally marked assessment, whereas ACEL relies on teacher judgements of pupils' ability.

Drawing on the SSLN data for the 2010-2016 period, Chart 4.1 shows a significant poverty-related attainment gap for pupils at the P4 stage. In 2010/11 for example, 70% of P4 pupils from the most

¹ In the past, when eligibility for Free School Meals was determined by the benefit status of a child's family, it has been instructive to compare the attainment of pupils eligible for Free School Meals with those not eligible for Free School Meals. The rollout of Free School Meals universally across primary age groups negates the utility of this measure and it is no longer routinely published.

deprived fifth of neighbourhoods were performing well or very well at mathematics, compared to 82% of pupils from the least deprived fifth of neighbourhoods – a gap of 12 percentage points.

Over the period covered in the charts, attainment has tended to fall slightly across all pupils, with the fall being slightly more pronounced amongst pupils from the most deprived neighbourhoods compared to those from the least deprived neighbourhoods.

The political and media attention given to educational attainment gaps in recent years has sometimes given the impression that the attainment gap can be closed significantly or even eliminated within a relatively short timescale. In reality, the nature of the socioeconomic determinants of the poverty-related gap probably means that closing the gap will require sustained action over a longer timeframe. Nonetheless, the fact that the gap showed no meaningful sign of closing over this six-year period is a cause for concern.

More recent data from the ACEL shows some more positive news, in the sense that the povertyrelated attainment gap did decline slightly for a period of time leading up to the pandemic (Chart 4.2). This was driven by marginally faster growth in attainment by pupils in the bottom decile compared to the top decile. Perhaps the emphasis on reducing the attainment gap, via the government's Attainment Fund, was making some progress.

However, the impact of the pandemic can be seen starkly. The poverty-related attainment gap increased substantially in 2020/21, across all areas of assessment. Attainment fell across all pupils, but the fall in attainment was more significant amongst pupils from the lowest quintile of neighbourhood deprivation. This negated all improvement in closing the gap in the years leading up to the pandemic. How quickly this worsening of the gap will reverse for the affected cohorts remains to be seen.

Chart 4.1: The poverty-related attainment gap at primary level showed no sign of declining between 2010 and 2016

Percentage point difference in proportion of pupils at P4 performing well or very well between least and most deprived quintiles of neighbourhood deprivation



Source: FAI analysis of Achievement of the Scottish Survey of Literacy and Numeracy (Scottish Government)

Chart 4.2: The pandemic reversed recent progress in narrowing of poverty-related attainment gap at primary level

Percentage point gap in proportion of primary pupils (P1, P4, P7 combined) achieving expected level, between least and most deprived neighbourhoods



Source: FAI analysis of Achievement of Curriculum for Excellence Levels (Scottish Government)

There is some evidence that the poverty-related attainment gap at senior level may be declining... but there are important gaps in the evidence

When it comes to the senior school phase, we can consider attainment gaps in formal qualifications. The Scottish Government's preferred measure of the attainment gap is the proportion of pupils who leave school with one or more qualifications at a particular level. Level 6 is most frequently the focus, since this is where Highers sit.

On this measure there is a positive story to tell (Chart 4.3). The proportion of pupils leaving with at least one Level 6 qualification has increased since 2009/10. The increase has been more rapid amongst pupils in the most deprived quintile of neighbourhoods compared to the least deprived. As a result, the 'poverty-related' attainment gap has fallen significantly on this measure, from about 46 percentage points to 34.

However, as discussed by McEnaney (2021), a measure like this gives a very partial assessment of the attainment gap. It does not tell us how many qualifications a pupil achieved, at what grades, or in what subject. McEnaney shows that substantial gaps exist between pupils from the most and least deprived neighbourhoods in terms of the number of qualifications attained, and in the grade distribution of those qualifications.

Unfortunately, this more thorough analysis of attainment gaps for school leavers is not available over time. But the clear conclusion is that, whilst progress on at least one measure of the attainment

gap has been made, substantial attainment gaps exist between pupils from more and less deprived neighbourhoods; and these gaps may in fact be starker than the government's preferred measure suggests.

Chart 4.3: On one measure, the poverty-related attainment gap in school qualifications has fallen substantially



Proportion of school leavers attaining one or more qualifications at Level 6 or better

Source: Summary Statistics for Attainment and Initial Leaver Destinations (Scottish Government)

Economic and social background plays less of a role in determining educational performance in Scotland than in many OECD countries

Given that publicly available data on the poverty-related attainment gap at senior level is only available since 2010, alternative sources are required if we wish to consider trends over a long timeframe. The Programme for International Student Assessment (PISA) assesses 15-year olds' abilities to use reading, maths and science knowledge and skills to meet real life challenges. PISA is overseen by the OECD and is carried out in most OECD countries. The PISA assessments were carried out in a sample of over 100 schools in Scotland from 2006 until 2018, at which point the Scottish Government regrettably decided to withdraw from the initiative. As with any standardised testing regime, PISA has been criticised on a number of grounds relating to the design and interpretation of results (McEnaney, 2022). But it remains useful.

Scotland's overall score on PISA has declined over the period since devolution, for reading, maths and science. For reading and maths at least, most of this decline occurred before the introduction of Curriculum for Excellence in 2010. By 2018, Scotland's overall PISA score was around the OECD

average for maths and science, and slightly above the average in reading. Nonetheless, deterioration in the overall score over time has been the main focus of public scrutiny.

In general, the gap in PISA achievement between pupils from the most and least socioeconomically deprived is somewhat lower in Scotland than it is for the OECD average, and slightly lower in Scotland than in England.

The PISA data also provides an estimate of the extent to which variation in test scores is attributable to pupils' economic, social and cultural background (ESCS), where ESCS is a measure of the pupil's parents' background, resources, and education. The share of test score variation attributable to ESCS fell in Scotland between 2009 and 2018 (Chart 4.4). Moreover, by 2018, the share of score variation explained by ESCS was lower in Scotland than the OECD average for reading (8.3% v. 12%), maths (7.9% v. 13.8%) and science (10.1% v. 12.8%). The share of variation explained by ESCS was also lower in Scotland than in the UK as a whole, where ESCS explained 12% of variation in maths scores (v. 8% in Scotland) and 11% of variation in science scores (v. 10% in Scotland).

What this tells us is that there is slightly more variation in test scores, amongst pupils with similar socioeconomic background, in Scotland than in the OECD average (and therefore socioeconomic background is less likely to be indicative of ability). However, socioeconomic background does explain relatively more variation in Scotland than in several other countries, including Canada, Ireland and Finland (OECD, 2019). Some caution does need to be applied to the international comparative statistics given challenges around measuring ESCS consistently across countries.

Chart 4.4: Economic, social and cultural status became less strongly correlated with assessment score variation between 2006 and 2018

Share of variation in assessment performance explained by economic, social and cultural status, Scotland



Source: Programme for International Student Assessment (PISA), Scottish Government analysis

Huge increase in higher education participation, but poverty-related access gaps remain large

There has been an almost continual expansion in the proportion of Scottish school leavers whose initial destination is higher education (Chart 4.5). In 1999/00, 31% of school leavers went on to higher education (representing just under 18,000 pupils); by 2020/21, this proportion had risen to 45% (23,000 pupils).

There is a steep socioeconomic gradient in HE access. In 2014, First Minister Nicola Sturgeon established the Commission on Widening Access to advise on steps required in order to realise her ambition that 'a child born today in one of our most deprived communities will, by the time he or she leaves school, have the same chance of entering university as a child born in one of our least deprived communities'.

The Commission's final report noted that this is a 'challenging objective'. In its final report, the Commission on Widening Access argued that reducing inequalities in HE access was necessary on moral, social and economic grounds.

• Morally, it is not fair that 'this predominantly publicly funded asset disproportionately benefits those in our most affluent communities, meaning that, through accident of birth,

those in our most disadvantaged communities have nothing like an equal chance to realise their potential'.

- Socially, the report noted that 'Graduates are healthier, live longer and enjoy better employment outcomes. We know too that the social, cultural and financial benefits of higher education can be transmitted between generations, breaking cycles of deprivation and contributing to a fairer, more prosperous and inclusive Scotland.'
- Economically, the global shift towards knowledge-based economies is placing a premium on innovation and high-end skills. The report argues that 'In this context, the key economic asset of any nation is the talent and skills of its people. Yet, by failing to fairly distribute the opportunities necessary for all of our people to flourish, Scotland is missing out on the economic potential of some of our finest talents'.

Has there been an improvement in socioeconomic access to higher education in recent years? Chart 4.6 shows that the proportion of school leavers entering higher education has increased in all five quintiles of neighbourhood deprivation between 2009/10 and 2020/21. Over the period as a whole, the access gap between the most and least deprived communities has closed slightly. What this data does not give us is a clear steer on the destinations of those graduating from higher education, and this will be an important metric to consider in addition to participation itself.

The latest annual report from the Commissioner for Fair Access (2021) notes that there has been some progress towards meeting the government's fair access targets. But it also noted three areas of concern. These were: complacency resulting from recent progress, when in reality 'the hardest work lies ahead'; the impact of Covid-19 which has disproportionately affected those from the most deprived areas because of school disruptions, financial insecurity and challenges for university outreach services; and the increased strategic focus of HE in relation to economic development rather than social justice (Commissioner for Fair Access, 2021).

The higher education participation gap between pupils from the most and least deprived neighbourhoods has narrowed slightly in both Scotland and England in recent years (Chart 4.7). However, the higher education participation gap between pupils from the most and least deprived neighbourhoods is somewhat higher in Scotland than it is in England. Policy differences between the two countries mean that caution should be applied in reading too much into this finding. The data in Chart 4.7 shows HE participation in UK universities. But note that there are more opportunities for studying higher education in further education establishments in Scotland than there are in England. Since this route may be more attractive to those from more disadvantaged backgrounds (and from rural areas), this policy difference may explain in part the finding that the university participation gap is steeper in Scotland.

Chart 4.5: The proportion of school leavers going on to Higher Education has increased throughout the past 20 years



Percentage of leavers from publicly funded schools by initial destination

Source: Scottish Government, Summary Statistics for Attainment and Initial Leaver Destinations 2022

Chart 4.6: The HE poverty-related attainment gap has fallen but remains high

Percentage of leavers from publicly funded schools entering HE, by quintile of neighbourhood deprivation



Source: Scottish Government, Summary Statistics for Attainment and Initial Leaver Destinations 2022

Chart 4.7: The HE poverty-related attainment gap is somewhat higher in Scotland than England



Percentage of English/Scottish domiciled full-time HE undergraduate enrolments in UK universities

There are large gaps in educational attainment across social, cultural and ethnic groups at primary level...

Up until now we have considered the poverty-related attainment gap in education. Attainment gaps can also be considered in relation to other groups.

Chart 4.8 shows that educational progress at primary level is often somewhat higher amongst ethnic minority groups than it is for the population as a whole, and this is particularly the case for pupils of Chinese or Indian ethnicity.

In terms of rurality, progress at primary level is somewhat lower in remote areas than it is in either more accessible rural areas or in urban areas. Those with additional support needs (ASN) have significantly lower attainment than those who do not.

Source: Higher Education Statistics Agency (HESA)



Chart 4.8: Attainment gaps can be seen across a number of dimensions

Notes: pupils are assessed at three primary stages, P1, P4 and P7; chart data is an average of attainment across these stages. Data is combined across three years, 2016/17 – 2018/19 (no data available for 2019/20). Source: FAI analysis of Achievement of Curriculum for Excellence Levels (ACEL) data, Scottish Government

... and in terms of access to higher education

Significant gaps in higher education participation are also apparent. Table 4.1 shows, in the top row, the proportion of the school leavers going to higher education in Scotland since 2009/10. Subsequent rows show the deviation, in percentage points, from this population mean – a positive number implies that the participation rate for a particular group is higher than the population average, whereas a negative number implies that the participation rate is lower.

Table 4.1 shows that:

- There is a significant gender gap in higher education participation, and this has widened over time. By 2020/21, the difference between male and female participation rates in higher education was a staggering 16 percentage points, with women much more likely to study in higher education than men.
- Pupils from remote areas are less likely to go on to study higher education than average. This gap appears to have grown over time (and is not just a pandemic effect).
- School leavers from ethnic minorities are significantly more likely to go on to higher education, mirroring the pattern observed for primary attainment.
- School leavers with a disability are much less likely to go on to study higher education, with a participation gap of 20 percentage points relative to the population as a whole. This gap has not changed over time.

Table 4.1: Participation gaps in higher education ar	e large and more likely to be growing than falling
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Percentage point gap in higher education participation rate of school leavers, by group

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Total participation rate	36	36	38	37	39	39	40	41	41	40	44	45
Sex												
Male	-4	-4	-4	-5	-5	-5	-6	-7	-7	-7	-8	-8
Female	4	4	4	5	5	6	6	7	7	7	8	8
Urban Rural Classification of School												
Large Urban Areas	0	0	0	1	0	1	1	2	2	3	3	3
Other Urban Areas	-1	-1	-1	-1	-1	-1	-1	-2	-2	-2	-2	-2
Accessible Small Towns	2	3	2	2	3	3	2	2	3	0	1	2
Remote Small Towns	0	-2	-3	-1	-4	-3	-3	-6	-7	-5	-7	-6
Accessible Rural	3	2	3	0	5	5	3	2	2	1	2	2
Remote Rural	2	-1	1	1	0	-2	-3	0	-4	-3	0	-5
Ethnic Background												
White - Scottish	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-2	-2
White - non-Scottish	4	3	4	4	1	1	1	1	3	2	2	2
Mixed or multiple ethnic groups	11	9	7	9	8	9	11	9	9	12	8	13
Asian - Chinese	29	38	36	42	36	37	34	38	33	38	38	37
Asian - Indian	19	15	22	20	18	17	19	26	26	29	26	27
Asian - Pakistani	13	13	19	16	16	15	19	19	19	20	24	23
Asian - Other	10	17	11	10	20	17	19	16	17	20	19	20
African/ Black/ Caribbean [note 8]	16	13	12	14	14	10	19	16	17	14	18	19
Disability Status												
Declared or Assessed Disabled	-21					-21	-21	-21	-22	-20	-22	-21

Notes: Top row shows proportion of all school leavers going on to study higher education. Subsequent rows show difference in participation rate between each group and the population average; a positive number implies higher participation, a negative number implies lower participation. Source: FAI analysis of School Leaver Destination data (Scottish Government)

Measuring intergenerational social mobility

What is intergenerational social mobility? The OECD defines it broadly as being where parents' fortunes and advantages play a major factor in people's lives (OECD, 2019). The Social Mobility Commission (2019) sets out the conditions for a socially mobile society as follows:

"Social mobility is fundamentally about ensuring that a person's occupation and income are not tied to where they started in life. Yet it is about much more than that. It is about fairness across society and ensuring that people of all backgrounds get equal opportunities and choices in early years, at school, in further education, in universities and at work."

Social mobility thus refers to the extent to which inequalities are passed from one generation to the next.

There are in principle a number of different ways in which we can try to measure social mobility:

- Intergenerational social mobility concerns changes in social space between parents and children, i.e. the extent to which the socioeconomic class of parents is correlated with that of children
- Intergenerational educational mobility assesses the extent to which people's level of education is associated with the education of their parents
- Intergenerational occupational mobility measures the extent to which the jobs that people do are associated with the jobs that their parents did
- Intergenerational earnings mobility concerns the extent to which the income of parents is correlated with the income of children

In measuring social mobility in Scotland, we are constrained by the availability of data. By far the most comprehensive recent data on social mobility in Scotland is provided by the Labour Force Survey (LFS). Since 2014, the LFS has asked respondents what the occupation was of the main earner in the respondent's household when the respondent was aged 14 years old.

If we know what type of occupation a respondent works in today, and the type of occupation that the main earner of the household worked in when the respondent was 14 years old, we can assess the association between jobs that people do today and those that their parents did. This is a specific type of occupational mobility, namely intergenerational occupational mobility.

To measure the extent of intergenerational occupational mobility in Scotland we use the concept of odds ratios. Odds ratios are explained in Box 4.1.

Box 4.1: Odds ratios

To illustrate this concept of odds ratios, imagine that we can divide occupations into two groups, high-skill and low-skill. Odds ratios tell us:

'the chance of an individual who grew up in a household where the main earner worked in a professional occupation working in a professional occupation themselves relative to

the chance of an individual who grew up in a household where the main earner did not work in a professional occupation working in a professional occupation themselves.'

If this odds ratio is equal to one, this implies that there is no association between the jobs that workers do now and the jobs that their parents did. The higher that the odds ratio is above one, the greater the association between the occupation of parents and those of their children as adults.

Table 4.2 illustrates this concept using real data for Scotland. We divide occupations into two groups – those in professional and managerial occupations, and all other occupations.

The table divides the sample of those currently in employment into four groups: whether they themselves work in a professional occupation or another occupation; and whether the main earner in the household when they were growing up worked in a professional occupation or another occupation. The data shows that 14% of the population work in a managerial/ professional occupation and grew up in a household where the main earner worked in a managerial/ professional occupation; 20% of the population work in a managerial/professional occupation; 17% grew up in a household where the main earner worked in a managerial/professional occupation but do not work in a managerial professional occupation themselves, and 49% grew up in a household where the main earner did not work in a managerial/professional occupation and do not work in a managerial/professional occupation themselves.

We can calculate the odds ratio as follows:

$$Odds \ ratio = \frac{14\%/17\%}{20\%/49\%} = 2.00$$

Table 4.2: The occupation of workers today is strongly associated with the occupation of their parents

Intergenerational transition matrix to assess upward occupational mobility, Scotland, 2016 - 2020

		Worker's occupat		
		Managers and		
		professionals	Other	Odds ratios
Occupation of	Managers and			
main-earner at	professionals	14%	17%	83%
age 14	Other	20%	49%	41%
	Odds ratio			2.00

Source: Labour Force Survey. Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in 2016, 2017, 2018, 2019 and 2020. Unweighted N = 7,843

Intergenerational occupational mobility in Scotland is low

The calculation of odds ratios in Box 4.1 tells us that the odds of an individual with a parent working in a professional/managerial occupation ending up in professional/managerial employment themselves are two times higher than the odds of someone whose parent did not work in professional/managerial employment ending up in professional/managerial employment themselves.

Unfortunately, we are not able to say how intergenerational occupational mobility may have evolved over time. The LFS has only asked the social mobility questions since 2014, and we would expect social mobility to evolve slowly over time.

What we can do is ask whether social mobility is different across different cohorts of workers. In other words, we divide the population of current workers into groups depending on their decade of birth.

Chart 4.9 shows intergenerational occupational mobility odds ratios for Scotland and the UK. The first two columns show the result for those aged 25-60 (we exclude the youngest and oldest workers since their inclusion may introduce bias – this is particularly the case for the younger group, where educational participation and the fact that workers are unlikely to have reached occupational maturity may skew results). The odds ratio for the UK of 2.17 is not materially different from that for Scotland.

The subsequent columns examine how intergenerational occupational mobility varies by birth cohort. We cannot include workers born before the 1950s since this group has largely retired from the labour market, and the social mobility questions are only asked of those in employment.

For Scotland, the results indicate that the odds ratio is slightly higher (i.e. intergenerational occupational mobility is slightly lower) for the cohort born in the 1950s than for the 1960s cohort, which is in turn slightly higher than the 1970s or 1980s birth cohorts. However, we cannot say that these differences are statistically significant. For the cohort born in the 1990s the odds ratio is noticeably lower but it is worth being cautious in reading too much significance into this result, since these respondents are yet to reach occupational maturity.

On the basis of this analysis, we can derive three conclusions:

- Intergenerational occupational mobility in Scotland is low the odds of working in a professional or managerial position are strongly associated with whether your main-earning parent worked in a similar occupation.
- Measured in this way, intergenerational occupational mobility is little different in Scotland compared to the UK.
- There is no meaningful evidence that intergenerational occupational mobility in Scotland is improving for more recently born cohorts.

Chart 4.9: Intergenerational occupational immobility is high, and similar in Scotland as the UK



Intergenerational occupational mobility odds ratios by birth cohort, Scotland and UK

Source: Labour Force Survey. Notes: Individuals aged 25-60 reporting a current occupation and a main parent occupation at 14, from Q3 LFS in 2016, 2017, 2018, 2019 and 2020. Unweighted N = 7,843 (Scotland); 97,741 (UK)

Intergenerational unemployment

Are people who grew up in a household where nobody worked less likely to be employed themselves as adults? The LFS data allows us to examine this question in a somewhat rudimentary way. Specifically, we can look at whether people who lived in a household where nobody was in work when they were 14 years old are any less likely to be employed as adults.

Table 4.3 shows the results of this analysis. The rows show the labour market status of current workers; the columns show how the labour market status varies according to the labour market status of the household when the current worker was aged 14. The analysis in Table 4.3 excludes workers who were born outside the UK (since their inclusion may skew results about intergenerational transition of employment status within the UK labour market), and it also focusses on current workers aged 25-59.

Table 4.3 shows that the employment rate of adults in Scotland who grew up in a working household is just over 81% (row 1, column 1). In contrast, the employment rate of adults in Scotland who grew up in a household where nobody was in work is much lower, just 63% (column 2).

People who grow up in a household where nobody was in work are therefore much less likely to be employed as adults. The employment rate gap between those who did and did not grow up in a non-working household is 18 percentage points.

The last three columns show equivalent information for rUK. The total employment rate in rUK is higher than it is in Scotland. The rUK employment rate is higher both for people who grew up in a working household and people who grew up in a non-working household than the employment rate for the same groups in Scotland.

However, people living in rUK are more likely to be employed if they grew up in a non-working household than are people in Scotland who grew up in a non-working household (68.9% in rUK v. 63.4% in Scotland). The employment rate gap (the difference in employment rate between those who did and didn't grow up in a non-working household) is higher in Scotland (18 percentage points) than in rUK (14 percentage points).

To give a sense of scale, it is important to note that less than 5% of the working age population in Scotland grew up in a non-working household (around 170,000 people). If the employment rate of those who grew up in a non-working household in Scotland matched the employment rate of those who grew up in a non-working household in rUK, that would equate to around an extra 10,000 in employment in Scotland, boosting the overall employment rate by approximately 0.3 percentage points.

Table 4.3: People who grew up in a non-working household are much more likely to be
unemployed as adults than those who grew up in a working household

	Scotland			rUK			
	Working	Non-working		Working	Non-working		
	household	household	Total	household	household	Total	
Employed	81.4%	63.4%	80.6%	83.7%	68.9%	83.0%	
Unemployed	2.7%	5.5%	2.8%	2.4%	4.1%	2.4%	
Inactive	16.0%	31.2%	16.7%	14.0%	27.0%	14.6%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Labour market status of adults by labour market status of household at aged 14, Scotland and rUK

Source: Labour Force Survey. Notes: Individuals aged 25-59 and who were born in the UK reporting a current occupation and a main parent occupation at 14, from Q3 LFS in 2016, 2017, 2018, 2019 and 2020. Unweighted N = 9,213 (Scotland); 98,773 (rUK)

What are the mechanisms through which those who grew up in a non-working household are less likely to be employed themselves as adults? There are of course several. One might relate to place effects, and the idea that, where people grow up in places where unemployment is relatively high, it may be relatively harder for those people to find employment as adults, given persistence of economic opportunity across places.

Another related mechanism is the way that employment status is linked to health.

In Scotland, 23% of adults aged 25-59 who grew up in a non-working household report having a health problem that limits their activity 'a lot', compared to 10% of adults in Scotland who grew up in a working household. This suggests that one of the mechanisms through which growing up in a non-working household is associated with higher unemployment as an adults is through ill-health.

Key takeaways from this are that:

• People who grow up in a non-working household are more likely to be out-of-work as adults.

- One of the mechanisms that accounts for this result is ill-health, with adults who grow up in a non-working household much more likely to suffer activity-limiting health problems as adults.
- Intergenerational persistence of being unemployed appears slightly higher in Scotland than in rUK which is in turn partly because growing up in a non-working household is associated with a greater likelihood of ill-health in Scotland as in rUK.

Conclusions

Education matters for health because it influences income, employment and social networks throughout our life. Our circumstances as adults are not just influenced by our educational attainment and qualifications, but the circumstances at birth and during our early years. Children born to better educated parents are more likely to gain more advanced qualifications themselves, since their parents tend to have more resources to invest in them – including through location in neighbourhoods with better schools and better opportunities for health behaviours (Corak, 2013).

In Scotland, background plays a significant role in influencing educational attainment. Recent years have seen substantial emphasis on the aspiration to close the poverty-related attainment gap. Prior to the pandemic at least there was evidence of some progress on some measures of the poverty-related attainment gap. But it is also clear that poverty-related attainment gaps, and poverty-related participation gaps in higher education, remained high even before the pandemic. The pandemic has reversed some of the more recent progress in closing these gaps.

Intergenerational occupational mobility in Scotland is low. Those whose parents worked in a managerial or professional job are twice as likely to end up working in a managerial or professional job themselves, compared to someone whose parents worked in some other occupation.

Addressing these types of poverty-related attainment gaps and social immobility is not easy. It is often argued that the most effective way to improve social mobility is to reduce income inequality. This is because it is partly inequality of resources today that permits households to transfer advantage across generations. Indeed, across countries, higher income inequality is associated with lower social mobility (Corak, 2013), inviting the conclusion that *'the best way to increase movement between rungs on a ladder is to reduce the distance between them'* (Swift, 2020).

But this does not mean that reducing income inequality will automatically improve social mobility. Landersø and Heckman (2021) point out that whilst income inequality is much lower in Denmark than the US, intergenerational educational mobility is similarly low in both countries. They argue that despite much lower income inequality in Denmark, more advantaged families in Denmark are *'better able to access, utilize, and influence universally available programs'* to shape child outcomes, so that *'equality in access to services is not the same as equality of opportunity'*.

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