

Special educational needs and disability: a lifetime of disadvantage in the labour market?

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Abstract

Disabled adults face substantial labour market disadvantage. There is, however, variation in employment and earnings by age and educational level. Since much disability occurs in later life, and labour market disadvantage can lead to disability as well as vice versa, we currently have limited understanding of how far disabled people's current disadvantage represents the cumulative impact of disability. We also lack insight into how far policy changes have managed to reduce the gap for younger cohorts. These are the contributions of this paper. Using data from two British longitudinal studies we investigate economic outcomes in their mid-20s for those who were identified with a Special Education Need or disability (SEN(D)) when at secondary school in either the 1970s or 2000s. We find that by age 25, adults identified with SEN(D) while at school faced substantial employment disadvantage. The 'gaps' by SEN status were however smaller amongst the younger cohort. For the older cohort, and younger women, only part of the gap could be explained by differences in educational attainment and social background. We extended this picture to mid-life for the older cohort to illustrate the cumulative impacts of early identification with SEN(D). We discuss the implications of our findings.

Key words: SEN, disability, labour market, disadvantage, educational attainment

Introduction

Across the world, disabled people face substantial economic disadvantage, accompanied by high levels of stigmatisation and discrimination (WHO 2011). As an ascriptive category, disability is associated with some of the most substantial labour market disadvantage and is experienced across a wide share of the population. Yet it has been subject to only a fraction of the sociological analysis applied to categories of race, ethnicity, social class or gender. (For discussions of this point see for example, Wells et al. 2003; Erickson and Macmillan 2018; Janus 2009; Chatzitheochari and Platt 2019). While both the construction of disability and its association with disadvantage are highly contextually contingent (Unicef 2013; Altman 2014), and policy interventions are similarly diverse, across the Western world measures have been introduced to address disability discrimination. This begs the question how far disability-related disadvantage may or may not be changing over time.

For example, in the UK Disabled adults currently make up around 19 per cent of the working age population (DWP, 2018). Disabled people of working age face higher risks of unemployment, poverty, and economic uncertainty than their non-disabled peers (Powell, 2018; Gardiner and Gaffney, 2016; Burchardt, 2005; Jones, Davies and Drinkwater 2018). This is partly because disability is linked to greater risks of labour market disadvantage, both employment and earnings (Berthoud, 2008; Powell, 2018; Longhi et al. 2012). But it also stems from the fact that those who become disabled are already more likely to be those with lower average skills and a more marginal labour market position (Jenkins and Rigg, 2004; Burchardt, 2003; Davies, Jones and Lloyd-Williams 2016). Berthoud (2008), for example, has shown that while non-employment among disabled people increases with the severity of disability, employment is possible at almost all levels of severity, typically depending on other characteristics such as qualifications. That is, highly qualified disabled people are likely to be in work, regardless of the nature of their disability, particularly in buoyant economic conditions, while, less qualified disabled people have substantially lower chances of being in employment, particularly in slack labour markets (Beatty and Fothergill, 2005). Comparably, Hollenbeck and Kimmel (2008) illustrate the protective role of qualifications for earnings among those who experience disability in adult life.

Since those with disability and special educational needs are known to fall behind academically in childhood and achieve fewer qualifications (Parsons and Platt, 2017; Chatzitheochari and Platt, 2019), and those with later onset of disability are more

likely to be those with lower qualifications (Davies et al. 2016), this raises the question of how far disability itself is driving economic disadvantage among those of working age, and how far any impact of disability is explicable through the lifecycle effects of educational disadvantage with which it is associated. Given changes in educational attainment across populations (Becker et al. 2010) and the substantial returns to educational qualifications (Blundell, Dearden and Sianesis 2005), such educational disadvantage could also be affecting younger and older cohorts differently.

Most disability is later onset, meaning that trends in the association between disability and work may be a consequence of the changing nature of acquired disability and its relationship to work (Jones and Wass 2013). At the same time, the policy context in which today's disabled older working age adults grew up was very different from that faced by young people with special needs transitioning into the labour market today. For example, anti-discrimination policy and support for those with special needs has developed substantially over the last decades, while young people as a whole have been negatively impacted by recession and changes to the labour market (Grusky, Western, and Wimer 2011). Hence, reading off the impact of disability for the labour market experience of today's disabled children and young adults from that of their older counterparts could be misleading.

One way of addressing the (changing) impact of disability on economic outcomes is to consider how far disability, or special educational needs (SEN(D)), identified *before* entry into the labour market is associated with subsequent employment disadvantage, and how that evolves over the life-course. This enables us to identify whether there has been any change across cohorts in the impact of disability on labour market outcomes, and how far this can be attributed to differences in qualifications. It also enables us to explore if we can observe cumulative disadvantage linked to early identification of SEN(D), and if so, what the implications are for the later experience of today's young people with SEN(D).

In this paper, we therefore adopt a life-course perspective (Priestley 2001; Powell 2003), to investigate how far being identified with SEN in the teenage years is associated with poorer early labour market outcomes for two generations of British adults born over three decades apart. We use measures of SEN that were applicable when the cohorts under consideration were teenagers, and exploit the rich life history data in the National Child Development Study (1958 Cohort) and Next Steps (born in 1989-90) to explore post-educational economic trajectories. For the older cohort we

extend the picture up to age 50 to evaluate the cumulative effects of SEN(D). Specifically, we ask:

- 1) Do those identified with SEN in their teens have poorer labour market outcomes in their mid-twenties than their counterparts without identified SEN?
- 2) How has the gap changed for those born in 1989-90 compared to those born in 1958?
- 3) Is there cumulative labour market disadvantage associated with early-identified SEN(D) at age 50?

In this way we are able to explore the impact of disability on labour market outcomes independently of the impact of employment (and unemployment) on risks of disability onset (Davies et al. 2016; Jenkins and Rigg 2004). Our measurement of outcomes encompasses all the routes by which special educational needs may result in poorer labour market outcomes, since we are interested in the 'total effect'. However, we disentangle the contribution of two factors which precede labour market entry and are linked to both the probability of SEN(D) and to economic outcomes: family background and educational attainment. This enables us to identify how far any economic disadvantage is driven by lower qualifications and disadvantaged social origins, leading to the additional questions:

- 4) How much of any gap in economic outcomes between those with and without SEN(D) can be explained by educational qualifications and family background?
- 5) How does this vary across the two cohorts?

Given differences in labour market participation and how it has changed over time, we analyse men and women separately.

We find substantial gaps in the proportions in education, employment or training (EET) for those with SEN(D) compared to those without for men and women in their mid-20s from both cohorts. These 'gaps' are much starker for the earlier born cohort. The gaps are also bigger for women from both cohorts than for men; and education explains less of the gap for the older cohort. Sensitivity analysis that restricts our younger cohort to those with more severe SEN shows a comparable pattern. This indicates improvement in the economic opportunities for younger generations of disabled people; but also highlights the crucial role that differential educational attainment plays in life-course inequalities for disabled people.

In the next section we develop the background and context to our study. We then outline the data and approach, before presenting the results. In the final section, we provide some discussion and implications for policy.

Background and context

Disability and employment across the life-course

Disability affects large proportions of the population at some point during their working lives; and is associated with substantial economic inequalities across the life course, though with considerable variation by age and context (World Bank 2011; Jones 2021). For example, in the UK around 19 per cent of working age adults were disabled during 2016-17 (DWP 2018); and among this fifth of the working age population, less than 50 per cent were employed, compared to over 80 per cent of non-disabled working age adults. This difference in employment is often referred to as the *disability employment gap* (Powell 2018). This gap is found across men and women, though in the UK it is somewhat larger among men: 85.1% non-disabled in work compared to 50% among working age men and 75.9% compared to 48.6% among women.

For those in work, disabled people have been shown to be less likely to be working in higher-status occupations (Burchardt, 2005). They also face pay gaps compared to their non-disabled peers (EHRC 2017; Longhi 2017). In recent years, earnings have reduced for all employees in real terms, but disabled workers have been disproportionately impacted. Median hourly earnings among disabled adults decreased by 8.8% between 2010-11 and 2015-16 compared to 1.2% for non-disabled workers, leading to an increase in the earnings 'gap' (EHRC, 2017), and illustrating disabled people's particular vulnerability to wider labour market conditions and local context (Beatty and Fothergill 2005; Jones 2021).

Past research has shown disability employment gaps at both labour market entry and mid-life for those comprising the disabled population, and for different cohorts. For example, studies of labour market entry in the UK have shown that, for disabled people in their early 20s in the early 1970s, mid-1990s and early 2000s, respectively, there were substantial employment gaps (Pilling 1995; Burchardt 2005). More recently, analysis of the Annual Population Survey (2015-16) showed that disabled teenagers age 16-18 were more than twice as likely to not be in education

employment or training (“NEET”) than their non-disabled peers: 13.2% to 5.8% (EHRC, 2017). Similarly, US studies have illustrated the differential transitions experienced by young adults with disabilities (Erickson and Macmillan 2018; Janus 2009; Loprest and Maag 2007). Given the substantial changes in anti-discrimination legislation and educational support for those with special needs, these findings might endorse a general conclusion that there is little evidence for the positive impacts of such policy efforts (Bell and Heitmuller 2009; Acemoglu and Angrist 2001; Jones 2021). On the other hand, recent measures looking across ages at the contemporary disability employment gap in the UK have shown that it was largest at 39.8% among the older workers aged 50-64 and smallest at 18.3% among 16-24 year olds (ONS 2018). This might imply some improvement over cohorts in disability-related employment disadvantage.

Adjudicating between these two possibilities is complicated by the fact that the bulk of research on disability and employment outcomes, including that evaluating policy impacts focuses on the population of disabled who are dominated by those with late onset. The risks of disability increase sharply with age and most disability is therefore late onset (Grundy 2016). But because disability is dynamic, rather than a fixed state (Burchardt 2000; Jenkins and Rigg 2004; Jones 2021), because those who become disabled are not a random group (Hollenbeck and Kimmell 2008), and because disability can be a consequence of labour market disadvantage as well as a cause of it (Jones and Wass 2016; Jenkins and Rigg 2004), the relationship between labour market disadvantage and disability may be different for those with late onset compared to those who were identified as disabled earlier in life, and who are not subject to individual and contextual economic influences on disability onset. Loprest and Maag (2007) show that there are greater employment penalties for those with later onset disability; while Hollenbeck and Kimmell (2008) find wage penalties for both early and late onset – but that education provides more of a protective role for the latter.

It therefore remains an open question how far earlier disability employment gaps can be expected to persist into mid-life and how much the experience of employment disadvantage among those currently in later mid-life is likely to be replicated for younger generations of disabled people. To unpack these issues requires comparison of longitudinal data that captures populations defined as disabled in youth for different cohorts.

We can identify three potential ways of accounting for observed smaller employment gaps among today’s younger relative to older disabled people, only one of which

implies cohort changes that can be positively associated with policy change. First, these different gaps may represent genuine cohort differences, relating to changing context and characteristics of disabled people, implying that today's young disabled people will not face the same levels of life course disadvantage as their older equivalents. Second, differences in employment gaps by age may be explained by cumulative impacts of disability which aggregate across the life-course. That is, young people's employment gaps may grow across the life course and replicate those of their older counterparts when they reach that age, implying no improvement over time. A third option is reverse causality, with more economically disadvantaged people more likely to become disabled in mid-life. This would imply that compositional differences between younger disabled people and older disabled people explain the greater employment gap at older ages, and hence for *those with early onset* there has been no improvement over time. These three explanations have different implications for how we understand disabled life courses and relevant policy interventions. We therefore elaborate each in turn, and the empirical patterns in the data that they imply.

Cohort changes and the role of context

Age differences in disability employment gaps could represent genuine cohort differences – i.e. that current disabled youth will face lower rates of labour market disadvantage throughout their lives than their older peers. This could stem from changes in policy and practice that have specifically targeted disability discrimination and fostered disabled people's participation in employment. Disability-related legislation dates back to 1944 and the Disabled Persons (Employment) Act 1944, which was the first legislation in the UK that sought to enhance the participation of disabled people in paid work. However, its impact on increasing employment levels across the following decades was limited (Burchardt, 2000). This has been argued to stem from the dominance of the medical model, which views the individual's disability as a problem to be resolved and a challenge to employment, by contrast with the social model, which shifts the problem to the societal and institutional barriers that impact on people with disabilities accessing employment (Barnes and Mercer, 2005a; Roulstone, 2004). During the 1970s grassroots campaigning by disabled people sought to translate the social model of disability into practical action (Davis, 1990), as evidence showed disabled people remained highly economically disadvantaged (Martin and White, 1988; Grundy et al, 1999).

The introduction of antidiscrimination legislation with the Disability Discrimination Act (DDA) in 1995 marked a change in approach, endorsing the social model of disability and recognising the role of discrimination rather than simply 'productivity' in disabled

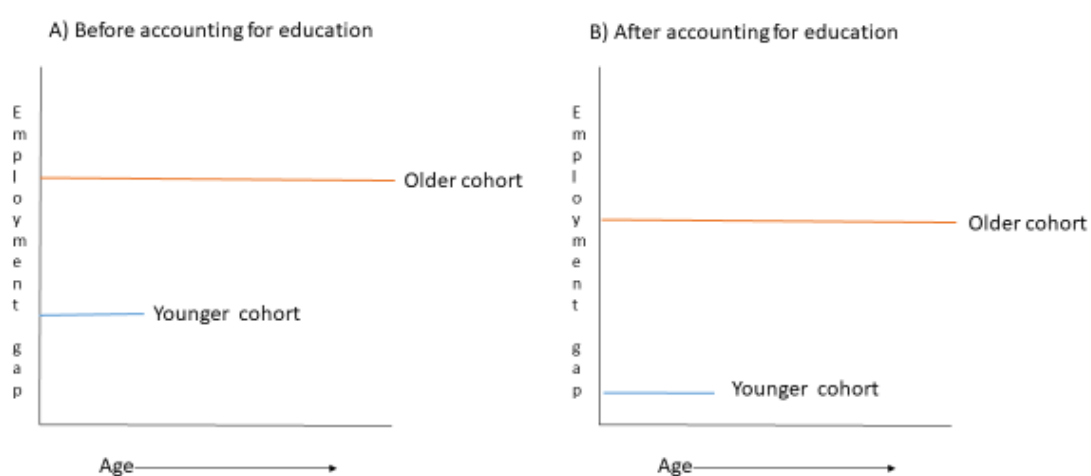
people's poorer labour market outcomes. Further policy change followed the 1997 election of a Labour Government: A New Deal for Disabled People was launched in 1997 as part of the government's flagship Welfare-to-Work programme; the Disability Rights Commission (DRC) was founded in 2000 and the Special Educational Needs and Disability Act (SENDA) was passed in 2001 (for a detailed overview see Mercer and Barnes, 2004). Equalities legislation consolidated previous anti-discrimination legislation and under the terms of the UK Equalities Act 2010, which stipulated that children with disabilities, including SEN, were required by law to be given the same chances and opportunities for reaching their potential.

In 2013 a disability and health employment strategy was introduced with proposals to reform employment support for disabled people and those with health conditions (DWP, 2013). This culminated in 2016 with the Conservative Party "*Improving Lives: Work, Health and Disability Green Paper*" which set out their vision for "A society where everyone is ambitious for disabled people and people with long-term health conditions, and where people understand and act positively upon the important relationship between health, work and disability". In 2017 the Conservative party promoted a manifesto pledge to get "1 million more people with disabilities into employment over the next 10 years". Meanwhile, SEN provision was updated in legislation with the 2014 Children and Families Act, which resulted in the current Special Educational Needs and Disability Code of Practice (2015). The new provisions extended guidance and support up to age 25 to help facilitate a successful transition into adult life, and replaced 'Statements' of needs outlining support with integrated Education and Health Care plans (EHCPs).

The literature overall has not suggested positive impacts of such policy changes on disabled people's employment outcomes in the UK (Bell and Heitmuller 2009) as elsewhere (Jones 2021). However, the findings are not conclusive. There is also the possibility of heterogeneous effects for those experiencing the changing context at different points in the life-cycle and for longer or shorter periods. The development of the legislative and policy framework to foster the potential and economic independence of disabled adults and children with SEN(D) might be expected to favour the transitions of younger cohorts who have had more opportunity to benefit from these measures and result in more equal outcomes across their life-courses, consistent with Loprest and Maag (2007) findings of better labour market outcomes for those with early disability onset than those with later disability onset. Moreover, given the salience of education for the younger cohort and enduring differences in educational attainment between those with and without SEN(D), if policies have positively impacted the outcomes of the younger cohort, remaining employment gaps among them might be expected to be largely accounted for by differences in educational attainment between disabled and non-disabled adults.

In sum, if there are genuine cohort differences then we would expect to see larger employment gaps in the older compared to the younger cohort and that these remain fairly stable over time, as illustrated in Figure 1, and that education would account for a larger share of the gap for the younger cohort.

Figure 1: Expected employment gaps for those with SEN(D) on the assumption of cohort change



Cumulative impacts of disability

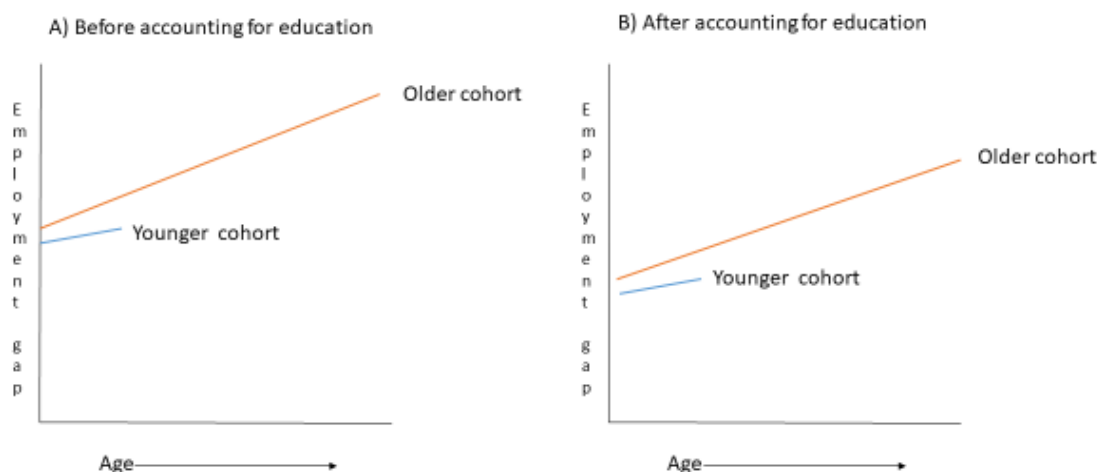
At the same time, studies have consistently shown that disability persists (e.g. Demos, 2004; IPPR, 2007; Jones 2021), as evidenced by both opinion surveys and correspondence tests (Bellmare et al. 2017). In the UK, one in three disabled adults feel there is a lot of disability prejudice in the population (Dixon, Smith and Touchet, 2018), and surveys also find negative attitudes to disability to be commonplace (Aiden and McCarthy, 2014). In this context we might expect to continue to observe substantial on-going labour market disadvantage among younger as well as older disabled people, with those among older adults reflecting the accumulation of such disadvantage.

Therefore, the second way larger employment gaps among older disabled people could be explained is as representing the cumulative impacts of disability, understood as widening gaps over time (see the discussion of cumulative

(dis)advantage in DiPrete and Eirich 2006). For example, the scarring effects of unemployment have a cumulative impact over time and a potentially greater one for disabled adults. Research shows that time out of the workforce has a detrimental effect on future employment opportunities for all (Gregg, 2001). For those with greater initial risks of unemployment or non-employment, we would therefore expect lower rates of employment in later life. In addition, this ‘scarring’ effect is enhanced for people with disabilities, who are much less likely than their non-disabled peers to re-enter employment – 2.4% re-enter in any one quarter compared to 16% non-disabled. The net consequences are unemployment rates that are twice as high among disabled than non-disabled adults – 10% to 4.6% (figures from the annual population survey table EG1.1, Gardiner and Gaffney, 2016). Even among those who do find work after a period of time out of work, risks of re-entry into non-employment are higher. Burchardt (2005) found that 1 in 5 non-disabled adults who had been unemployed were again out of work by the following year, but the rate was 1 in 3 among disabled adults.

If there are not cohort changes, but instead, the impact of disability accumulates over time, then we would expect to observe comparable initial gaps not fully accounted for by education for both cohorts with that for the older cohort increasing over time, as illustrated in Figure 2.

Figure 2: Expected employment gaps for those with SEN(D) on the assumption of cumulative disadvantage without cohort change

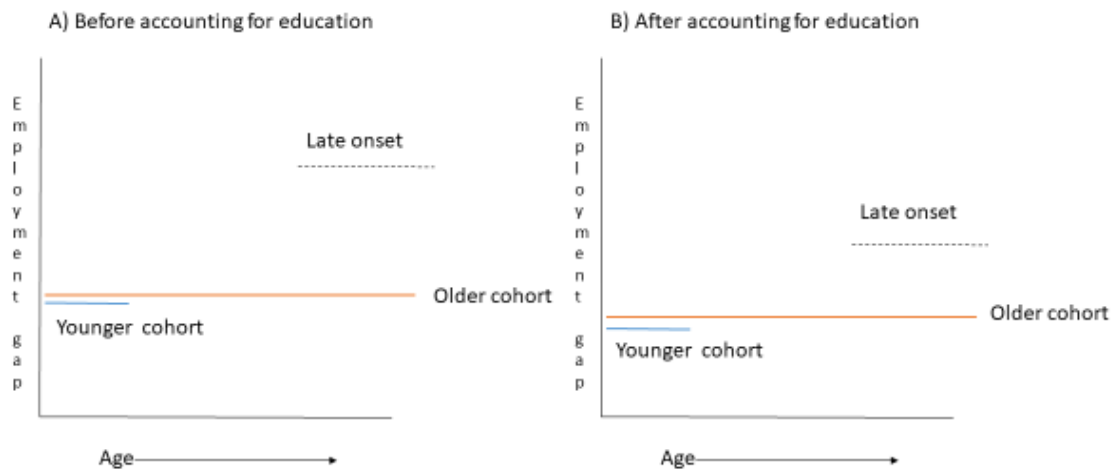


Reverse causality and the link between employment position and disability

A third way of accounting for differences in EET among disabled adults of different ages, is the ways in which for older workers, already more at risk of disability, employment circumstances themselves might contribute to the chances of disability. Since the famous Marienthal study (Jahoda, Lazarsfeld and Zeisel, 2017 [1933]), the negative consequences of unemployment for health and wellbeing have been extensively studied. We also know that areas that have faced losses of traditional industries report high rates of long-term illness (e.g. Beatty and Fothergill 2005), in what Williams (2010) regarded as a cultural crisis changing people's relationship to work, with incapacitating consequences. And longitudinal studies have demonstrated how those who are in more marginal labour market positions and on lower incomes are more likely to become disabled (Jenkins and Rigg, 2004; Burchardt, 2005). That is, the larger disability employment gaps at older ages might (in part) be the consequence of labour market disadvantage of (formerly) non-disabled workers. Indeed, we know that, except at the most severe levels of disability, employment probabilities of disabled people are highly contingent on skills and qualifications, as well as local labour market opportunities, rather than on the nature of the disability per se (Berthoud, 2008).

If those who become disabled are markedly different from those who experience disability prior to labour market entry, then we would expect the older cohort and the younger cohort to have comparable employment gaps that are smaller than those for the disabled population as a whole, as illustrated in Figure 3, and that for both cohorts the share of the gap explained by education would be comparable.

Figure 3: Expected employment gaps for those with SEN(D) on the assumption of no cohort change and mid-life gaps driven by later onset disability



Disentangling these three different potential explanations for differences in disability employment gaps across the life-course and isolating the impact of ‘disability’ itself is not possible with cross-sectional data. Identifying cumulative disadvantage requires the ability to track individuals over time; while identifying period or cohort effects requires comparison between those born at different times. Disentangling the impact of disability from the consequences of employment disadvantage, meanwhile, requires evaluating disability prior to labour market entry.

In this paper, therefore, we conduct a comparative analysis of two cohorts born, over 30 years apart, using a measure of disability (special educational needs – SEN identification) dating from childhood, and exploring the cumulative life-course consequences of SEN identification throughout their working lives for the older cohort. We compare gaps in employment, education and training (EET) between those who were and who were not identified with SEN across the two cohorts from age 17 to around age 25 and for the older cohort up to age 50. While our findings cannot speak for the (majority of) disabled people who face disability onset later in life (DWP 2018; Jones 2021), our study enhances the understanding of the changing experience of disability in the UK, and gives us a better grasp of the impact of disability freed from selection effects. In addition, it rises to the challenge posed by Powell (2003) to take seriously the need to bring together a life-course understanding to disability research.

Crucial to our account is the role that educational qualifications may play in cohort differences and in accounting for disability employment gaps. Our approach therefore involves decomposing the gap into that part accounted for by educational

qualifications and the remainder, typically understood as reflecting, at least in part, labour market discrimination (see the discussion in Longhi et al. 2012). We therefore discuss further the role of educational qualifications in economic disadvantage associated with SEN(D).

SEN(D) and educational qualifications

While SEN(D) measured in childhood is independent of labour market experience, it is nevertheless strongly linked to educational performance (DWP 2017). Children identified with a disability or SEN fall behind early on at school, even among those whose disability or SEN is not associated with cognitive impairment specifically (Parsons and Platt, 2017). Teenagers identified with SEN or disability are more likely to leave school at the end of compulsory schooling with few or minimum qualifications (Wilson, 2003; Burchardt, 2005; Chatzitheochari and Platt, 2019; Loprest and Maag, 2007). There are substantial returns to educational qualifications in the labour market (Blundell, Dearden and Sianesi 2005), and much of the reported employment disadvantage found in studies of disability has been linked to lower levels of qualifications (Powell, 2018; Loprest and Maag 2007; Longhi et al. 2012). Despite increases in university participation among disabled people (OfS 2019), there are still far fewer disabled adults who secure a degree-level qualification, 18.7% to 35.3% (EHRC, 2017). We would therefore expect that employment gaps would reflect, at least in part, differences in levels of qualifications.

Compared to earlier cohorts, these gaps in educational attainment may also matter more for contemporary young disabled people. The context for those who are entering the labour market as young adults now is rather different that it was for those who are now in mid-life. Far greater numbers of teenagers now stay in education up to age 18 or go on to attend higher education (Lindley 1996; Barham et al., 2009; Crawford et al., 2011a; UKCES 2011a). Walker and Zhu (2008) noted that there was a doubling in university participation over the 1990s, with no reduction in the graduate earnings premium for those who attended. Indeed, the importance of qualifications for labour market participation and successful outcomes has increased (ONS, 2011), with jobs that did not require higher-level qualifications in the past now doing so.

The returns to qualifications may also be relatively greater for disabled compared to non-disabled job-seekers, at least among those with later onset (Hollenbeck and Kimmel 2011). Recent figures for the UK show, for example, that 60% of disabled graduates were employed six months after graduation close to the 65% of non-

disabled graduates (ODI, 2013). And in 2017, 71.7% of working age adults with a disability and a degree were employed compared to just 17.0% of disabled adults with no qualifications (Powell, 2018).

In our analysis therefore we evaluate how much of any disability gaps are accounted for by differences in education. This gives some guidance on the relevance of policy relating to the attainment of educational qualifications compared to policy related to facilitating labour market participation is likely to be relevant to the experience of future cohorts of disabled men and women.

SEN(D), education and family background

Both childhood and adult disability has been strongly linked to social class and social origins. Children from lower social class backgrounds are more likely to be identified with special educational needs or disabilities (Powell 2006; Parsons and Platt, 2013; Tomlinson 2017). Adults' socio-economic position is related to the chances of being or becoming disabled, with higher rates among those more economically marginalised as it is associated with the risks of becoming disabled (Jenkins and Rigg, 2004; Burchardt, 2000; Davies et al, 2016), partly as a consequence of lower educational attainment and different occupational trajectories (Loprest and Maag, 2007; Erickson and Macmillan 2018).

The association between family background and educational attainment is well-recognised, with a wealth of literature charting the secondary effects of family background on children's educational outcomes (Jackson et al., 2007), and the effect of family origins on labour market outcomes net of, as well as mediated by, education (Breen 2004). Therefore, some disadvantage affecting disabled adults may stem not just from direct effects through education but through indirect effects of family background. Existing studies of educational performance have shown net effects of both disability and of family background, though Wells et al. (2003) suggest that disabled young people's outcomes are rather less sensitive to social origins than those of their non-disabled peers. We might therefore anticipate that some disability gaps at labour market entry and in any cumulative disadvantage associated with disability might in part be attributable to social class background. Arguably, this is particularly like to be the case for older cohorts where lower expectations of disabled children may be compounded by social class stratification. If this is the case, addressing social mobility may have positive impacts on disabled people's economic outcomes across the life course.

Defining disability and special educational needs (SEN(D))

Definitions of SEN(D) have varied greatly over time. What constitutes special educational needs or disability is historically and contextually contingent, depending on how environments are or are not disabling for particular forms of impairment (Altman 2014; Unicef 2013; Barnes and Mercer 2005a), and on changing expectations of school pupils and school performance (Powell 2003; Tomlinson 2017). Not only cognitive and socio-emotional, but also physical disabilities have been understood differently in terms of their implications for learning over time. SEN(D) as an ascriptive category is not objectively fixed, and also changes throughout school years (Hutchinson 2017), as well as in adult life (Jones et al. 2018). Tomlinson (2017) has discussed the ways in which SEN labelling in the school years is linked to labour market demands and the ways in which the schools are on-going sites of processes of inclusion and exclusion reflecting what is needed for 'success'. Powell (2006) notes the institutional factors implicated in both designation with SEN and its consequences. At the same time identification with SEN provides the opportunity for the implementation of support to foster the potential of the child within the school setting. While in earlier decades fewer children were expected to leave school with qualifications or to stay on to post-compulsory education, special needs were only identified for a relatively small proportion. Subsequently the proportions expanded (Tomlinson 2017). The most recent figures for England suggest that 14.4% of school age children have special educational needs, even if those ever identified with SEN is much higher at around 40 per cent (Hutchinson, 2017). We therefore focus on the measures of SEN as they were applied at the different periods the children in the two cohorts were in school.

It is also important to note that SEN status, while linked to learning needs, and correlated with cognitive ability, does not necessarily imply lower cognitive skills or inability to succeed academically. Those with SEN are very heterogeneous (Powell, 2006), and show cognitive skills and educational performance across the range of test scores. At the same time, identification with SEN is clearly associated with average poorer school performance across school life, even net of cognitive ability (Parsons and Platt, 2017; Chatzitheochari and Platt, 2019; Schmaus, 2018). This suggests that there may be further potential to increase qualifications levels among those with SEN(D) even if *on average* they are likely to achieve less highly than their counterparts without SEN(D).

We next turn to the data, which includes the life history information from two longitudinal studies, which enable us to investigate our research questions. We then describe our analytical approach.

Data and methods

Data and samples

The 1958 Cohort (National Child Development Study)

The 1958 cohort, also called the National Child Development Study (NCDS), is a continuing, multi-disciplinary longitudinal study, which takes as its subjects all the people born in one week in England, Scotland and Wales in one week in March 1958: almost 17,500 babies (See: <http://www.cls.ioe.ac.uk/ncds>). Following the initial birth survey in 1958, there have to date been nine attempts to trace all surviving members of the birth cohort in order to monitor their physical, educational, social and economic development at ages 7, 11, 16, 23, 33, 42, 46, 50 and 55. As well as collecting information on contemporary circumstances, each survey aims to fill in the economic and family history of respondents since they were last interviewed.

We exploit data up to age 50, as the last face-to-face survey. Given overall attrition and especially the greater likelihood of those with SEN dropping out over this extended period, we face issues of missing data and potential bias caused by selective attrition. We therefore use multiple imputation with chained equations to provide complete information for all those who were both included in the original birth survey and provided SEN(D) information at age 16, and who were still alive at age 50 (n=12,780). We adopt Schafer's data augmentation approach (Schafer, 1997) under the assumption of 'missing at random' (MAR). In order to maximise the plausibility of the MAR assumption we included a large set of auxiliary variables in our imputation model. In this instance MAR implies that that our estimates are valid if missingness is due to variables (auxiliary or substantive) that were included in our models (Little & Rubin, 2002). All reported analyses are averaged across 20 replicates based upon Rubin's Rule for the efficiency of estimation under a reported degree of missingness across the whole data of around 0.20 (Gelman & Hill, 2007; Little and Rubin 2014).

Next Steps

Next Steps, previously known as the Longitudinal Study of Young People in England (LSYPE), follows the lives of around 16,000 people born in 1989-90. The study began in 2004 and surveyed a representative sample of school Year 9 (age 13/14) students attending state and independent schools in England. The cohort members were surveyed every year until 2010, when they were age 19-20. A subsequent survey took place in 2015/16, when the cohort members were 25. The study has collected information about participants' education and employment, economic

circumstances, family life, physical and emotional health and wellbeing, social participation and attitudes, initially from both the youth and their main carer (waves 1-3), and subsequently only from the young people. In later sweeps, respondents provided information on their activity since the last interview, providing information on their employment and education back to the end of compulsory schooling (age 16). The first survey collected information on 15,770 young people and 7,707 took part in the latest survey, of these we had information on their school SEN status for 7,499. It is this sample of 7,499 25-year olds that provides the basis of our analysis. We investigated patterns of attrition and found no evidence for an increased risk of dropping out among respondents with SEN, which could potentially have biased our estimates. All analyses are adjusted for the complex sampling design of the survey and for nonresponse.

Measures

SEN(D)

The 1958 Cohort

We constructed a measure of SEN(D) derived from that created for a subsample of respondents for the 1976 *The Warnock Study of Handicapped School Leavers* (Walker 1982). A seven-category variable used in the Warnock Study was generated from information collected at age 16. The categories were Educationally subnormal (ESN(Severe) or ESN(Moderate), Physically handicapped, Maladjusted, receiving some form of special help at school, would benefit from receiving some special help and a non-handicapped control group. We first generated the variable for the whole cohort and then collapsed this into two groups: those with special educational needs (ESN(S), ESN(M), Physically handicapped, Maladjusted) against all others. For the 15,466 who participated in the age 16 survey 4.5% of males and 2.6% of females were identified with special education needs.

In our final analytical sample of 12,762, following multiple imputation as described above, 3.4% had identified SEN, 4.2% men (n=271) and 2.6% women (n=161), very close to the original proportions identified with SEN(D) at age 16, although teenagers identified with SEN(D) had a higher mortality rate than teenagers with no SEN(D).

Next Steps

Parents were asked whether the young person currently has any special educational needs at wave 1 (at age 13/14). For those who were missed at wave 1, the question

was repeated at wave 2. We combine responses from these first two surveys (2004-6). In each case, a follow up question asked about the type of SEN. Following common practice, we exclude the small numbers for whom their educational need was related to speaking English as another language or to being 'gifted and talented' (Chatzitheochari and Platt 2019). In the first two waves, 13 per cent were identified as currently having SEN of whom 5 per cent had a Statement of Need, indicating severer needs that require additional resources for their support needs.¹ In our analytical sample (n=7499), 13.9% had an identified SEN when at school (10.4% men, 6.9% women) of whom 5.2% had a Statement of Need (7.7% men, 2.8% women): illustrating that there was no evidence for differential attrition by SEN status.

We use the overall measure of SEN, for comparability with the undifferentiated measure in the 1958 cohort. However, as a sensitivity analysis we repeat the analysis only for those who with a Statement, since, given the different proportions with SEN in the two cohorts, these arguably represent a group with more comparable severity of needs to the 1958 category. We report these additional analyses at relevant points in the text, and provide the tables in our Supplementary Materials.

Time in Education, Employment and Training (EET)

We used economic activity history data to calculate the number of months an individual spent in EET over the nine years from January at the start of the calendar year following the year they turned 16 to December of the year they turned 25. For the 1958 cohort this was January 1975 to December 1983 and for the Next Steps cohort, January 2007 to December 2015: a total of 108 months. For the older 1958 cohort, we also calculated time in EET up to the year of their 50th birthday, 2008: 34 years or 408 months. We focused on the proportion of time in EET rather than employment or unemployment given the expansion of post-compulsory education among the younger cohort, and the different labour market conditions faced by the two generations of school leavers, which, for the younger cohort coincided with the Great Recession and its aftermath.

Highest qualification

The highest academic qualification an individual achieved categorised to a common metric for both cohorts using the National Vocational Qualification (NVQ) framework.

¹ Following provisions relating to SEN in the Children and Families Act 2014, Education Health and Care Plans have now replaced Statements of need.

This gave a range from no qualifications (0) to NVQ4 or higher (4). NVQ4 is equivalent to a degree (NVQ5 to a higher degree).

Family background

In the 1958 cohort, family social class was derived from father's occupation measured at the time of birth. In the few cases where there was no father, the occupation of the mother's father was used. Occupations were coded to the *Registrar-General's Social Classes*, a six-category classification ranging from 'unskilled' to 'professional' occupations introduced in 1913. This has subsequently been replaced with the National Statistics Socio-economic Classification (NS-SeC; Rose, Pevalin and O'Reilly 2005). The parental occupations in Next Steps were categorised to a reduced eight-category version of the NS-SeC ranging from never worked/ long-term unemployed, through routine and semi-routine occupations to higher managerial and professional. The highest category of mother or father (or other main carer) is used.

Analytic strategy

We start by describing the key characteristics of those with and without SEN(D) across the two cohorts. We then compare current economic outcomes of the Next Steps cohort at age 25 (2015) with those of the 1958 cohort when they were aged 23 (1981), by SEN(D) status. We then turn to our key outcome, SEN(D) gaps in months' participation in EET between age 17-25, comparing these gaps across the cohorts.

We estimate Blinder-Oaxaca decompositions (Blinder, 1973; Oaxaca, 1973; Jann, 2008) of these EET gaps to evaluate the extent to which any gaps can be attributed to compositional differences in educational attainment and family background, and how this varies for the two cohorts.

We extend the analysis for the 1958 cohort up to age 50. After describing a range of economic outcomes at age 50 by SEN(D) status, we track the EET gap between ages 17-50. We again estimate Blinder-Oaxaca decompositions to estimate the contribution of compositional differences in education and family background to these life-course inequalities.

Given the differences in men and women’s labour market participation and changes in those patterns over time, we carry out all our analyses separately for men and women.

Findings

Table 1 provides descriptives of educational attainment and key economic outcomes across the two cohorts by SEN status. For men and women from both cohorts, those with SEN were significantly less likely to have attained degree level qualifications, and spent significantly fewer months in EET across the period up to age 25. They were also likely to have significantly lower earnings (as measured as gross weekly pay – GWP); and, for the older cohort the chances of having no qualifications were significantly higher. The gaps appear larger for the older cohort and for women from that cohort in particular, even if they were less likely to be identified with SEN in the first place.

Table 1: Comparison of employment experiences in mid-20s

	MEN				WOMEN			
	NCDS 23		Next Steps 25		NCDS 23		Next Steps 25	
	No SEN	SEN	No SEN	SEN	No SEN	SEN	No SEN	SEN
No Quals	10.5	48.7*	5.7	24.3	10.9	53.3*	7.1	19.5
Degree+	28.3	5.2*	29.3	7.7*	29.1	2.7*	30.2	9.6*
Econ Act								
Employed	83.1	60.9*	85.6	67.0*	64.5	30.2*	67.4	55.2*
£ GWP deflated ¹	415.29	329.72*	461.50	370.69*	307.70	224.56*	371.10	257.87*
Lifetime 17-25								
Months EET	91	67*	94	88*	79	43*	93	80*
N(100%)	6217	271	2924	403	6113	161	3898	274

¹Deflated to 2016 prices (CPI). *Differences between those with and without SEN significant at p<0.05.

Figures 4 and 5 illustrate the month-by-month measure of EET participation. They show that men and women with SEN(D) spent less time in each 12 month period in

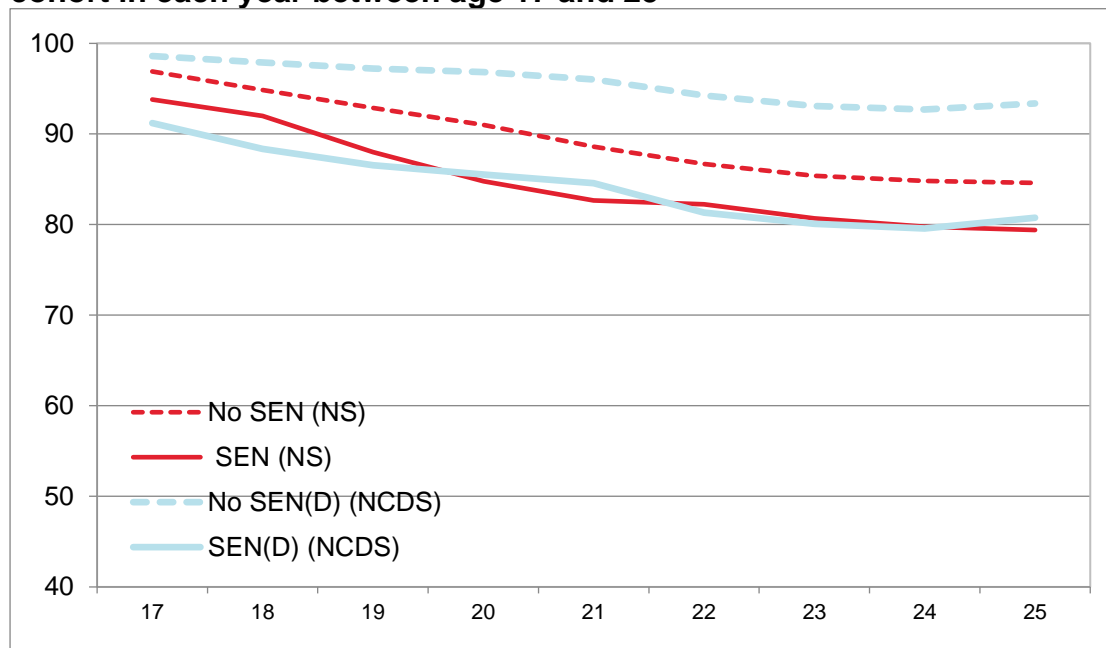
EET than their non-SEN(D) peers, adding up to the cumulative gaps shown in Table 1 of 6 months less EET for men with SEN in Next Steps, 13 months for women with SEN in Next Steps, 2 years (24 months) for men with SEN(D) in NCDS and three years (36 months) for women with SEN(D) in NCDS compared to their non-SEN(D) counterparts of the same sex.

Women as a whole spent less time in EET in the NCDS compared to the Next Steps cohort, reflecting the earlier transition to motherhood and family care roles that were typical at this time, but this does not explain why women with SEN(D) should be particularly likely to drop out of the labour market, particularly given evidence that those with SEN(D) have lower chances of forming intimate relationships (Parsons and Platt, forthcoming).

When we focus only on those with a Statement (see Supplementary materials), we find that their economic and educational outcomes are substantially poorer than those for young people with SEN but no Statement (or the all SEN group), but that they are still not as poor as for the 1958 cohort.

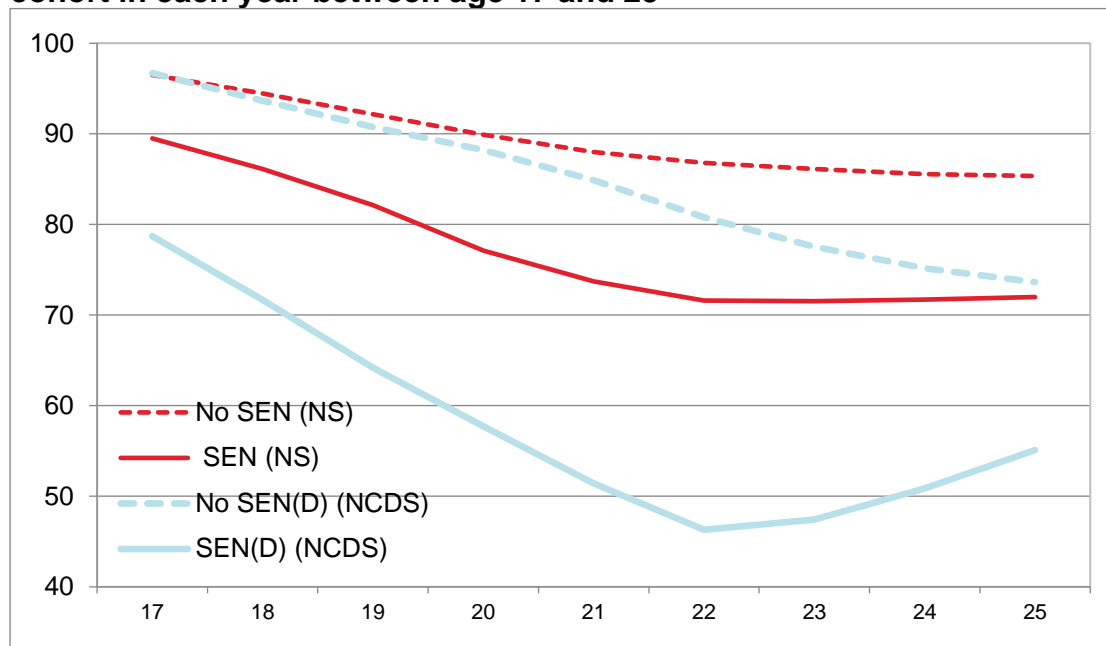
We seem to see a consistent pattern, then, that the penalty associated with SEN(D) has declined across cohorts, though it still remains larger for women than for men. This would appear to be consistent with the suggested account of cohort change (Figure 1), though it remains to examine whether the gap has increased over time (as illustrated in Figure 2). We also posited that if we were observing cohort change, we would be likely to see most of any remaining SEN gap in EET for the younger cohort being accounted for by differences in educational attainment. To examine this, we turn to our decomposition results.

Figure 4: comparison of the percentage of men in EET by SEN(D) status and cohort in each year between age 17 and 25



Note: NCDS imputed, Next Steps [NS] weighted

Figure 5: comparison of the percentage of women in EET by SEN(D) status and cohort in each year between age 17 and 25



Note: NCDS imputed, Next Steps [NS] weighted

Table 2 shows the results from the decompositions for both cohorts. It shows that while for young men from the Next Steps cohort, most of the EET gap can be attributed to differences in qualifications, this is not the case for the 1958 cohort nor for women who had SEN in the Next Steps cohort. If men and women in the 1958 cohort with SEN(D) had the same set of academic characteristics as their non-

SEN(D) peers, this would have reduced the gap in EET to around 16 months and 22 months respectively, but that still leaves around two-thirds of the gap unexplained. Among women from the Next Steps cohort, although somewhat more could be accounted for by education (and family background), over 50 per cent (or around 7 months' worth of EET) remained unexplained

When we compare with our sensitivity analysis focusing only on those with a Statement in the younger cohort, we find that though the gap was much larger to start with it was, by contrast, fully explained by qualification and social background differences for women, while around one-third remained unexplained for men. Overall, though the picture is not fully consistent it suggests that educational differences are largely driving the EET gaps for the more recent cohort, but play much less of a role for the earlier cohort in line with our predictions for cohort change. For the earlier cohort, however, it remains to be seen how these substantial initial gaps, which are suggestive of lack of access to economic opportunities in a discriminatory and 'disabling' labour market, accumulate over time. If the legislative changes and a more enabling environment, which seem to some extent to be evident for the younger cohort are at play, then we might expect these also to reduce the impact of early SEN(D) identification across the life course for this older cohort. We therefore turn next to the long-term outcomes for those identified with SEN(D) in childhood.

Table 2: Using the Blinder–Oaxaca decomposition technique to explain the gap in months spent in EET between 17-25 by SEN status

	Men		Women	
	Next Steps	1958 cohort	Next Steps	1958 cohort
Months in EET: No SEN(D)	94.1	91.4	92.9	78.6
Months in EET: SEN(D)	88.8	67.3	80.0	42.7
Gap in EET months 17-25	5.3	24.1	13.0	35.9
<i>Months gained</i>				
If same qualifications as No-SEN(D)	4.2	7.1	5.3	11.4
If same social class as No-SEN(D)	0.5	0.5	0.5	2.3
Overall	4.7	7.6	5.8	13.7
% explained by qualification + social class differences	88.7%	31.5%	44.6%	38.2%
% unexplained (discrimination)	11.3%	68.5%*	55.4%*	61.8%*

*significant $p < .05$

What's the story at age 50?

Table 3 illustrates a range of economic outcomes at age 50 (2008) for men and women from the older cohort by SEN(D) status. Consistent with their earlier working life experience, both men and women who had SEN(D) in childhood remained less likely to be employed at age 50. Differences were particularly marked when looking at full-time employment: 68.9% to 43.9% men, 44.7% to 27.8% women. Those in work also received lower average earnings: the disability earnings gap for men was around 25 per cent – i.e. they earned 75 per cent of their non-SEN(D) peers' gross weekly pay. Consistent with being more selected in the first place, and given the substantial gender pay gap for 50-year-old women, women with SEN(D) only earned around 7 per cent less than their non-SEN(D) peers. Looking across the lifetime, these employment and earnings gaps translate into substantial cumulative EET (for this cohort and by this age primarily employment) gaps and lifetime income gaps. These amount to over nine years less in EET for men with SEN(D) compared to those without, and nearly 12 years less for women with SEN(D) compared to those without, over a 34 year period. Similarly, lifetime income gaps amount to around £240 per week less per men and around £160 per week less per women across their lives.

Table 3: Economic Status Indicators at age 50 and over the life-course

	Men		Women	
	No SEN(D)	SEN(D)	No SEN(D)	SEN(D)
Econ Act 50				
FT	68.9	43.9*	44.7	27.8*
PT	16.1	22.7	33.6	30.5
Unem	8.6	17.7*	7.8	16.3*
Sick	4.6	13.3*	5.5	14.3*
Home	0.7	1.6	6.8	9.8
Other	1.0	0.8	1.6	1.3
Pay & Income				
£ GWP50 ¹	1126.62	839.00	678.09	633.58
£ EFI23 ¹	410.97	267.56*	392.76	244.09*
£ EFI33 ¹	784.93	616.47	699.13	627.40
£ EFI42 ¹	901.10	669.44*	756.62	609.37
£ EFI50 ¹	1205.21	785.56*	1035.81	750.99
Lifetime Income ¹	825.55	584.76*	721.08	557.96*
Lifetime 17-50				
Months EET	310	198*	260	120*
<i>N(100%)</i>	<i>6217</i>	<i>271</i>	<i>6113</i>	<i>161</i>

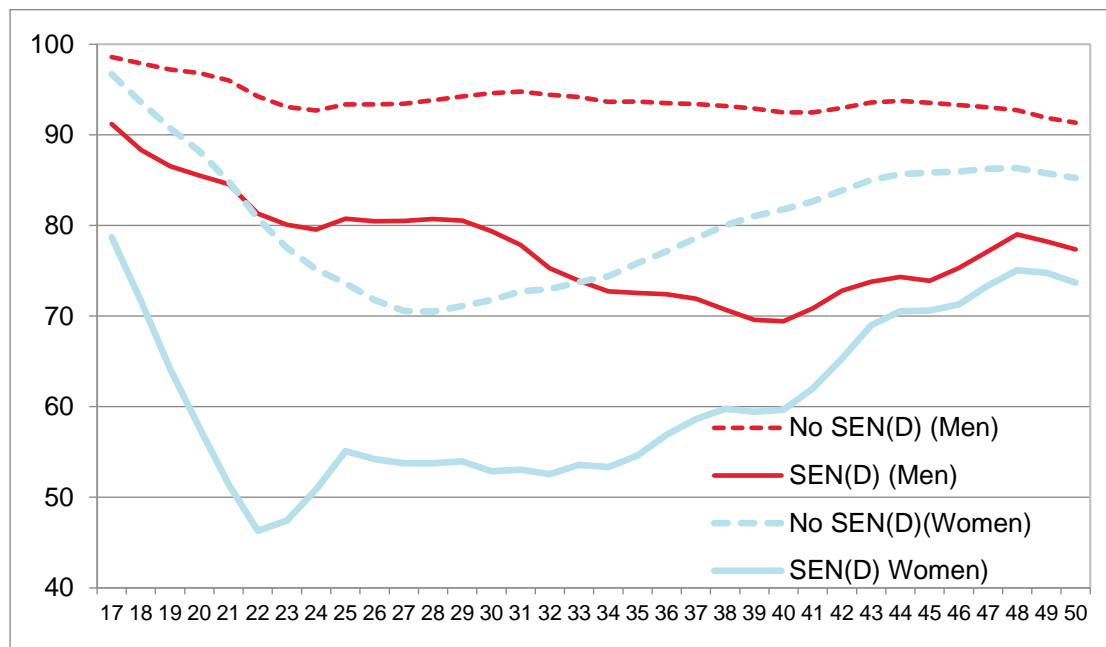
* differences significant at $p < .05$

¹GWP [gross weekly pay] EFI [equivalised weekly family income] deflated to 2016 prices (CPI)

While this clearly illustrates how economic differences can accumulate across the life course, it does not demonstrate cumulative disadvantage in the sense of *increasing* gaps over time with knock on effects from earlier disadvantage (DiPrete and Eirich 2006). To explore how employment gaps play out across the life course, in Figure 6 we illustrate the evolution of employment gaps over the period. Among men, although (relatively) similar proportions were in EET at age 17, the disability gap increased steadily to reach more than 20% from age 33, but then began to decline to a level of around 10 per cent by age 50. More than 90% of men with no SEN(D) were in EET in each year compared to no more than 80% of men with SEN(D) from their mid-20s.

Among women, the gap started higher at above 20 per cent and increased to more than 30% in their early 20s. For most of the period, the gap hovered around 20% until the 40s declining to around 10 per cent at the end of the period. These patterns do not suggest that cumulative disadvantage (Fig 2) is indicated in the experience of those disabled men and women who are identified with SEN(D) early in life. Rather the closing gaps in more recent years would appear to suggest policy impacts consistent with an argument of cohort change.

Figure 6 Proportion of Men and Women in EET by SEN(D) status between January 1975 and December 2008 (1958 cohort)



Given that educational qualifications (and family background) only explain a relatively small part of initial labour market disadvantage for this cohort, we do not expect it to account for lifetime inequalities. Nevertheless, we re-estimated the

Oaxaca-Blinder decompositions for the total gap in EET up to age 50. Table 4 shows a similar pattern as Table 3, with only around one-third of the gap being attributable to differences in qualifications. Nevertheless, if men and women with SEN(D) had had the same academic and family background characteristics as their non-SEN(D) peers, they could have expected to have spent an additional 37 and 42 months in EET respectively – non-negligible amounts of increased participation. At the same time, the large unexplained component points to the ways in which they appear to have faced disabling or hostile employment contexts for much of their working lives.

Table 4: Using the Blinder–Oaxaca decomposition technique to explain the gap in months spent in EET between 17-50 by SEN status

	1958 cohort	
	Men	Women
Months in EET: No SEN(D)	310.1	259.5
Months in EET: SEN(D)	198.3	120.3
Gap in EET months 17-25	111.8	139.2
<i>Months gained</i>		
If same qualifications as No-SEN(D)	36.5	41.8
If same social class as No-SEN(D)	0.7	0.9
Total months' explained	37.2	42.7
% explained by qualification + social class differences	33.3%	30.7%
% unexplained (discrimination)	66.7%*	69.3%*

*significant $p < .05$

Discussion

Identifying the impact of disability on labour market outcomes is notoriously difficult, vexed as it is by issues of both differential productivity and the reverse causation caused by the impact of unemployment and marginal work on health, particularly mental health. At the same time, it is clear that most disabled people, given the opportunity, not only wish to work but can sustain employment under appropriate conditions. Given the startling evidence of the large disability employment gaps that persist among the working age, in the UK as elsewhere, the effectiveness of decades of anti-discrimination legislation and active labour market policies in facilitating the movement of disabled people into work remains a moot question.

In this paper, we set out to explore the extent to which those with special educational needs (SEN) currently entering the labour market face the same barriers as those who were entering the labour market with SEN(D) some three decades earlier. By relying on a measure of disability preceding labour market entry, we avoided issues relating to reverse causality; and by comparing short and long-term outcomes for the older cohort we were also able to address the extent to which there was evidence of cumulative disadvantage related to disability.

In line with previous research on disability, we illustrated divergence in education and employment outcomes for young adults in their mid-20s between those previously identified with SEN and those not. By separating out men and women who had previously been identified with SEN, we were able to illustrate that the impacts on participation appear to be larger for women with SEN, even if women make up a smaller proportion of those who are identified with SEN. This may indicate that the challenges women face are more severe, or it may reflect on the ways in which the intersection of gender and disability, as with gender and aging, is particularly penalised (Arber and Ginn 2011). The gaps in EET were evident for both the cohorts, but were markedly smaller in the younger cohort. We took this to be indicative of a cohort shift. We had also posited that, if cohort changes were at work, we would expect much of the gap among the younger cohort to be accounted for by differences in education (and to some extent family background); and this was indeed largely the case. By contrast, education explained relatively little of the disadvantage of the older cohort, indicating both the lower salience of formal qualifications for the older cohort and suggesting that they faced a more disabling environment at labour market entry.

Our findings were not consistent with the argument that disabled people today face comparably poor labour market disadvantage to earlier cohorts, nor, even though relatively constant levels of employment disadvantage accumulate across the life course, did we find evidence for an exponential increase in the employment gap. That is, cumulative disadvantage understood as compounding disadvantage, which would suggest that any policy impacts associated with the cohort shift were restricted to the younger cohort, were not suggested by our findings.

Given the changes in identification with SEN over time, and the possibility that those so identified in the earlier cohort had severer needs and therefore greater labour market challenges, we conducted a sensitivity analysis among the younger cohort by

restricting our measure of SEN to those with a Statement. While the results did not show quite the same gender patterns in relation to the amount explained by education, they were still consistent with an attenuated employment gap among the younger cohort and a higher proportion being accounted for by education.

The implications of our findings are threefold. On the one hand they speak to the potential of policy to effectively intervene to improve the labour market outcomes of disabled people. On the other hand, they illustrate that for older people who had SEN, more recent changes cannot compensate for a lifetime of disadvantage in terms of potential work and income lost, and therefore highlight the need to ensure adequate support for this group as their working life approaches its end. We wait to see the impact of the Work and Health Programme (DWP, 2017), launched in the North West of England and Wales in November 2017 and currently being rolled out across the rest of England. Third, the fact that among the younger cohort qualifications and social background accounted for much of the gap in EET indicates the salience of education for labour market outcomes in the current generation for those with SEN and the importance of ensuring that all those with SEN who can achieve qualifications do so (Chatzitheochari and Platt 2019). It also highlights the need for effective alternatives to formal qualifications, particularly for those who are unlikely to be able to attain them.

There are a number of limitations to our analysis. First, it is primarily descriptive. Given the limited body of work in this area, our aim was exploratory: we set out to ascertain how the situation for those with SEN had changed over time; and our results are suggestive rather than conclusive. By contrast with some studies (e.g. Erikson and Macmillan 2018), the sample sizes are insufficient to disaggregate those with SEN to identify whether certain groups are particularly susceptible to poorer labour market outcomes. At the same time, treating all those with SEN as a whole is consistent with much of the literature that highlights the salience of SEN as an ascriptive category (Powell 2003; Tomlinson 2017; Chatzitheochari and Platt 2019). Finally, by focusing on those who are identified with SEN in childhood, our analysis cannot speak to the experience of the majority of disabled people who experience onset, whether permanent, temporary or repeated, later in life.

Nevertheless, we have contributed to enhancing understanding of the labour market barriers, and the implications of the continued employment gaps facing those identified with SEN in childhood, regardless of how their experience of disability outside the school setting. Identification of SEN now affects a large number of children: in England today, as many as 40 of children are identified with SEN at

some point during their school career (Hutchinson, 2017), and at any point in time, one child in six is identified with SEN. The economic well being of a substantial part of the future population is therefore at issue, and merits more sustained sociological consideration (Wells et al. 2003; Erickson and Macmillan 2018; Chatzitheochari and Platt 2019). As the current cohort of young people reaches early middle age and new cohorts enter the labour market it will be possible to ascertain how far the patterns outlined here persist, and the extent to which existing employment gaps are mitigated or continue over time.

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