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How has the employment gap of those growing up with special educational needs or disability in England changed over two cohorts born 30 years apart?

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Abstract

Across the world, disabled working-age adults face substantial labour market disadvantage, though with variation by age. For example, in the UK, the disability employment gap remains greater among those who are older. To investigate whether this means that more recent cohorts face less disadvantage or instead captures a greater impact of disability at older ages, we compare two British cohorts born in 1958 and 1989/90 identified with special educational needs or disability (SEND) in childhood. SEND functions as a classification bounded by the institutional context, which recognises particular conditions and forms of impairment as salient within the school context for a given time and system. By using a measure of disability prior to labour market entry we can compare employment gaps in youth across the two cohorts independently of subsequent labour market impacts on disability onset. We find that by age 25, those from both birth cohorts, particularly women, face substantial economic disadvantage. The gaps are, however, smaller for the younger cohort. While they increase in mid-life for the older cohort they show some convergence by age 50. Qualifications and social background explain less of the gap for the older cohort and for women from the younger one.

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Introduction

Across the world, disabled people face substantial economic disadvantage, accompanied by high levels of stigmatisation and discrimination (WHO and World Bank 2011). Despite efforts in many countries to introduce policies to support disabled people's economic participation and to outlaw disability discrimination, disabled people face an employment gap in both richer and poorer countries (Mizunoya and Mitra 2013; van der Zwan and De Beer 2021). Recent figures for the UK show that disabled adults of working age, who make up around 23 percent of the working age population (Kirk-Wade 2023), faced employment gaps of around 28 percentage points in 2022/23 (DWP 2023). However, those gaps differ substantially by age. There has been considerable attention across Europe to the challenges in transitioning to the labour market among those identified with special educational needs or disability (SEND) in childhood (Powell and Blanck 2023; Fouquet 2025; Nelson and Anderson 2024). However, we know little about how these impacts are or are not changing over time. We know that older disabled people face the largest employment gaps, while they are smallest at labour market entry, which might suggest that younger cohorts are less disadvantaged than their older counterparts. Or it may mean that SEND- or disability-related disadvantage increases with age. A third possibility is compositional change among disabled people: many among the older working-aged will have become disabled later in life, and may differ in relevant ways from those disabled from youth.

The substantial employment gap at both younger and older ages is driven in part, by educational qualifications, given the educational disadvantage associated with special educational needs and disability in childhood (Parsons and Platt 2017; Chatzitheochari and Platt 2019; Duckworth, Ross, and Harding 2025) as well as the fact that lower qualifications

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put people at greater risk of becoming disabled (Jones 2010; Dickson, Skinner and Forrester-Jones 2024). However, the role of educational qualifications has changed in relevance for labour market outcomes in general. Thus, how far the impact of SEND for older and younger cohorts is driven by differences in educational attainment is important for how we understand disability as a source of social stratification (Chatzitheochari and Platt 2019).

To identify potential cohort change in the impact of SEND and to disentangle it from confounding by cumulative impacts for older generations and the effects of employment on disability risks, it is necessary to compare those who were identified with SEND *prior to* labour market entry. This enables us to compare how SEND is associated with employment disadvantage in early adulthood for those from different birth cohorts, and how far this is channelled through the educational impacts with which SEND is identified. In addition, we can assess whether employment gaps increase for the older cohort as they age, which would imply cumulative consequences of early life disadvantage.

We therefore adopt a life-course perspective (Priestley 2001; Powell 2003). To capture disadvantage associated with disability in childhood, we follow the approach of Powell and Blanck (2023) in recognising that measures of SEND are classifications that are sensitive to the institutional context, which determines who is dis/abled. That is, who is identified as SEND depends on both specific impairments or conditions, how these are responded to, and on the ways in which these are seen to be relevant in the given institutional context.[1] The understanding of and relevance of particular forms of 'disability' or categories of special needs for learning and educational participation leads to classifications the boundaries of which vary over time and space. Specifically, we investigate how far being identified with SEND as a teenager is associated with poorer early labour market outcomes

[1] At the same time, it is worth noting that identification with SEND does not necessarily arise concurrently with the condition or impairment, and thus may not receive relevant support. SEND identification is, moreover, not necessarily continuous or stable even if it is once identified (Jones et al. 2018, Hutchinson et al. 2021).

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for two generations of British adults born more than three decades apart. Exploiting the rich life history data in the National Child Development Study (1958 Cohort) and Next Steps (born in 1989-90) we construct a holistic measure that evaluates the time spent in education, employment or training (EET) since the end of compulsory schooling and up to age 25. EET offers a measure of economic outcomes that is, importantly, not sensitive to the dramatic changes in post-16 educational participation which occurred across the cohorts studied. For the older cohort we extend the picture up to age 50 to evaluate whether disability gaps in EET increase with age.

We use measures of SEN(D) that were applicable when the cohorts were teenagers, given SEN is time and context specific and is defined within the school context (Altman 2014; Tomlinson 2017; Powell 2003). We explore whether the impacts of SEND on economic outcomes differ at the intersection of disability and sex, as has been argued by, for example, by Maroto, Pettinicchio and Patterson (2019). Much existing research on special educational needs and disability in early life does not disaggregate outcomes by sex; but studies using different measures of disability in different country contexts offer mixed results on whether there is additional disadvantage for women (Fouquet 2025; Ballo 2020; Ballo and Alecu 2023; Maroto et al. 2019). In addition, we lack insights into whether any gendered gaps have changed over time.

While we recognise that not all those who are classified with SEND in childhood will be identified as disabled in adulthood, our approach both follows existing interest in the independent impact of SEN on labour market transitions (Powell and Blanck 2023; Nelson and Anderson 2024) and it has the important advantage that it allows us to explore its impact on labour market outcomes independently of the impact of employment (and unemployment) on risks of disability onset (Davies, Jones, and Lloyd-Williams 2016; Jenkins and Rigg 2004; Dickson et al. 2024). Our outcome measure encompasses all the routes by which disability

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may result in poorer labour market outcomes over the life course, since we are interested in the 'total effect'. However, we decompose this total effect to evaluate the contribution of both educational attainment and family background, which precede labour market entry and cannot be a consequence of employment experiences, and which are associated with both the probability of identification with SEND and with economic outcomes (Duckworth et al. 2025; Powell and Blanck 2023; Ballo 2020; Carroll, McCoy and Mihut 2022).

We find substantial SEND gaps in time spent in EET for men and women from both cohorts by their mid-20s. However, the gaps are more marked for the earlier-born cohort and for women from both cohorts. We show that education explains less of the gap for the older cohort, in line with the increasing relevance of education for economic success. Sensitivity analysis that restricts our younger cohort to those with a Statement (more severe SEN) provides consistent results. We find limited evidence for growing gaps with age for the older cohort. Instead there are indications of declining gaps as this cohort approaches 50 in the early 2000s, consistent with a changing policy and economic context for disabled people. Our findings thus suggest that there has been an improvement in the economic opportunities for younger generations of disabled people; but also highlight the crucial and increasing role that differential educational attainment plays in life-course inequalities of those identified with SEND, and the importance of sex-disaggregated analysis that makes it possible to assess the particular vulnerabilities of those at the intersection of SEND and being female.

Background and context

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 (WHO and World Bank 2011; Jones 2021). In the UK, a longstanding body of work has attested to the lower employment and higher unemployment (Jones and Wass 2013; Berthoud 2008), lower

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occupational status (Burchardt 2005), lower pay (Longhi 2017; Longhi, Nicoletti, and Platt 2012) and reduced social mobility (Chatzitheochari, Velthuis and Connelly 2022) faced by disabled people. Studies have demonstrated employment gaps across the period since the 1970s for both younger (Pilling 1995, Burchardt 2005) and older working age adults (Berthoud 2008; Jones 2021). The economic disadvantage of those who were classified with SEND in childhood is well attested across a number of national contexts, with particular interest in school to work transitions of these populations (Blanck, Brzinsky-Fay, and Powell 2025). At the same time, there is evidence that older working age adults face a larger employment gap than younger disabled adults. For example, in the UK those aged 50+ face a gap of over 30 percentage points compared to around 10 percentage points for young disabled adults (DWP 2023). It remains an open question, however, how far this difference represents a cohort change in those factors shaping the economic disadvantage of disabled people, or whether the experience of employment disadvantage among those currently in later mid-life is likely to be replicated for younger generations newly entering the labour market. These are salient questions for sociological research and policy; and they require longitudinal data that enable comparison of different cohorts defined as disabled in youth—or with special educational needs, which is often considered equivalent for those of school age (Blanck et al 2025)—to answer them.

If there has been cohort change that would imply change in the factors driving the SEND gaps in economic outcomes. One crucial factor is the (changing) role of education in disabled adults' patterns of disadvantage. Much of the reported employment disadvantage found in studies of disability has been linked to lower levels of qualifications (Banks, Karjalainen, and Waters 2024; Powell, 2024; Jones 2010; Longhi et al. 2012); and there is a strong association between (childhood) SEND and educational attainment in England and elsewhere (Burchardt, 2005; Duckworth et al. 2025; Parsons and Platt 2017; Chatzitheochari

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and Platt 2019; Carroll et al. 2022). In England, rising levels of educational attainment in general (Lindley 1996; Crawford et al. 2011) have been accompanied by increases in university participation among disabled people (Hubble and Bolton 2021). However, there are still far fewer disabled adults who secure a degree-level qualification (EHRC, 2017); and Chatzitheochari and Platt (2019) highlight the very limited participation in higher education of those identified with SEND, and draw attention to the importance of alternative, vocational pathways. In the light of the growing premium associated with higher levels of qualifications (Walker and Zhu 2008; Hollenbeck and Kimmel 2008), this may mean that they fall further behind in labour market outcomes overall, with education playing a greater explanatory role. Conversely, those who do gain higher qualifications may expect to face reduced gaps compared with their non-disabled peers, as illustrated, for example by Ballo (2020).

Beyond education, other key factors shaping disability-related economic disadvantage that are not directly driven by the actions or performance of those with SEND are stigma and labelling, and the consequences of employers' decisions. There is ample evidence that children identified with SEND face stigma (Thomas 2021; Chatzitheochari and Butler-Rees 2022). In the school setting this can translate into bullying (Chatzitheochari, Parsons, and Platt 2016), which has itself been linked to labelling processes. Turning to employer responses, a recent review (Schwitter et al. 2025) charted experimental studies of labour market discrimination faced by disabled people. While a number of studies showed lower call back rates for disabled people, there were mixed findings, with not all conditions well-covered and some differences across those that were. One argument explaining employer discrimination is that 'statistical discrimination' (Phelps 1972) can be a rational response to disabled candidates if they are on average less productive. Longhi et al. (2012) used a non-experimental approach aiming to factor out potential productivity differences and still found some residual differences in pay, though this varied with condition. Despite audit studies on

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discrimination dating back some decades,` there is insufficient evidence to assess whether discrimination has decreased over time. If discrimination legislation has been effective and there has been greater sensitivity to accommodations for disabling conditions in recent decades, this should particularly benefit those entering the labour market more recently, even if it should enhance the contemporary economic prospects for those at all stages of their employment trajectory to some extent.

If cohort change is not driving differential outcomes of older and younger disabled people, then the other reasons for the age gap are cumulative disadvantage stemming from smaller early life inequalities, or the fact that those who *become* disabled later in life, and who form the majority of disabled adults (Jones 2010) differ in consequential ways from the small group of youth identified with SEND in childhood. We next summarise the reasoning behind these three potential trajectories, illustrating them in stylised form in Figures 1A, B and C, alongside the relevance of educational qualifications for each pattern.

Cohort change

Cohort change in the economic consequences of SEND 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 in the UK dates back to the 1944 Disabled Persons (Employment) Act, which 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), and disabled people remained highly economically disadvantaged (Grundy et al, 1999). This has been attributed to the then dominance of the medical model of disability (Barnes and Mercer, 2005).

During the 1970s grassroots campaigning by disabled people sought to translate the social model of disability, which emphasises the barriers to disabled people's participation

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rather than conceptualising them in terms of deficits, into practical action (Davis, 1990). The introduction of antidiscrimination legislation with the Disability Discrimination Act 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 in 1997 with the New Deal for Disabled People, introduced as part of the incoming Government's flagship Welfare-to-Work programme. The Disability Rights Commission was founded in 2000, and the Special Educational Needs and Disability Act was passed in 2001 (for a detailed overview see Mercer and Barnes, 2004). Equality legislation consolidated previous anti-discrimination legislation under the terms of the UK Equality Act 2010, which stipulated children with disabilities, including special educational needs, were required by law to be given the same chances and opportunities for reaching their potential.[2]

The impact of such policies on disabled people's employment outcomes in the UK (Bell and Heitmuller 2009) or elsewhere (Jones 2021) are inconclusive. There also remains the possibility of heterogeneous effects for those experiencing the changing policy context at different points in the life-cycle and for longer or shorter periods, as well as depending on the nature of the condition (Schwitter et al. 2025). The development of the legislative and policy framework to foster the potential and economic independence of disabled adults and children with SEND might be expected to favour younger cohorts who have had more opportunity to benefit from these measures, resulting in more equal outcomes across their life-courses. The increased salience of education for the younger cohort (Breen 2010; Blundell, et al. 2005), alongside persisting educational differentials (Chatzitheochari and Platt 2019; Duckworth

[2] Further policy attention to support disabled adults into or at work has followed the period of our study (2008/2015/-16) (Powell 2024); and SEND provision was updated in legislation with the 2014 Children and Families Act.

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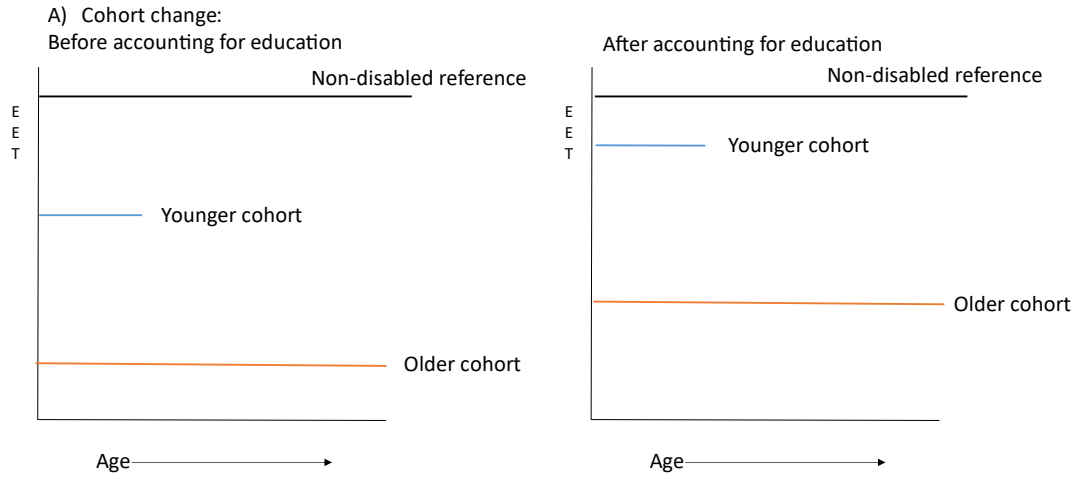
2025), should additionally imply that educational attainment plays a larger role driving employment (or education employment and training) gaps among them. In sum, if there are true cohort differences, we would expect to see 1) larger employment gaps in the older compared to the younger cohort that remain fairly stable over the life course; and 2) that accounting for education reduces the gaps more for the younger cohort: Figure 1A.

Figure 1A: Stylised patterns of the EET gap between those identified with SEND and those without and the role of education in reducing or exacerbating the gap in the context of cohort change



Increasing disadvantage with age

Studies have, however, consistently shown that disablism persists (Jones 2021), as evidenced by both opinion surveys and correspondence tests (Bellemare et al. 2023). In the UK, negative attitudes to disability appear to be commonplace (Aiden and McCarthy, 2014); and there is substantial stigma associated with disability both in childhood, as discussed above, and in adulthood. In this context we might expect to continue to observe substantial labour market disadvantage among younger as well as older disabled people; but in addition,

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cumulative impacts of discrimination and initial poorer labour market outcomes would lead to increasing disadvantage as disabled people age.

Employer discrimination has been linked to poorer employment outcomes among disabled adults (Schwitter et al. 2025), resulting in higher risks of both unemployment and inactivity. Those who are unemployed in turn face scarring effects on future employment opportunities (Gregg 2001; Brandt and Hank 2014). Thus, greater initial risks of unemployment or non-employment could be expected to lead to lower rates of employment in later life, over and above any direct effects at older ages. The scarring effect itself appears to be greater for disabled workers, who are less likely than their non-disabled peers to re-enter employment (DWP 2023), perhaps as a result of assumptions about productivity that are enhanced by the combination of unemployment history with disability. Even among those who do find employment after a period of time out of work, risks of re-entry into non-employment are higher (Burchardt 2005).

Figure 1B illustrates what we would observe if comparable initial gaps at younger ages across the cohorts led to increasing gaps throughout the disabled person's life course. We would not expect initial gaps to be fully accounted for by education for either cohort; but, given how lack of qualifications increases vulnerability in the labour market, we might expect education to explain some of the growing gap as the older cohort ages.

Figure 1B: Stylised patterns of the EET gap between those identified with SEND and those without and the role of education in reducing or exacerbating the gap in the context of increasing disadvantage with age

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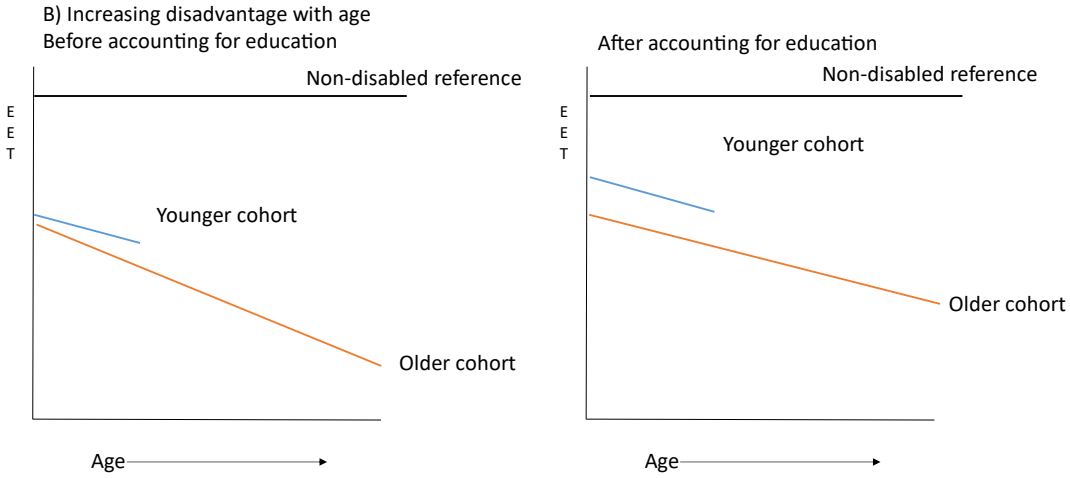

Late onset and compositional effects

For older workers, already more at risk of disability, employment circumstances themselves can contribute to the chances of disability. The negative consequences of unemployment for health and wellbeing have been extensively studied (Norström et al. 2014). There are also strong regional differences in rates of disability associated with different labour market conditions (Banks et al. 2024). 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; Davies et al. 2016). The larger disability employment gaps at older ages might therefore (in part) be the consequence of labour market disadvantage of formerly non-disabled workers.

Figure 1C: Stylised patterns of the EET gap between those identified with SEND and those without and the role of education in reducing or exacerbating the gap due to compositional change from those experiencing later onset of disability

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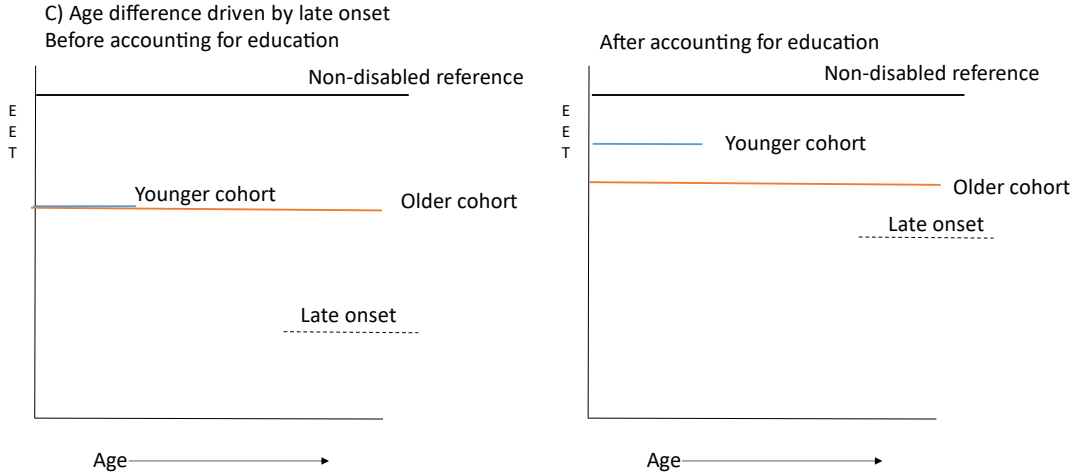

If those who become disabled are markedly different from those who experience disability prior to labour market entry, we would expect both the older and the younger cohort of those already identified with SEND in childhood to have comparable employment gaps to each other; and for these to be smaller than those for the disabled population as a whole. For the late onset group, educational disadvantage should play a substantial role in their labour market disadvantage, given the protective nature of education for disabled people's economic outcomes (Berthoud 2008); see Figure 1C. While we cannot directly test this pattern, and it is not the focus of our study, it is important to recognise the potential relevance of compositional change for disadvantage of the overall disabled population.

Defining special educational needs and disability

Definitions of disability and of special educational needs have varied greatly over time. What constitutes special educational needs or disability (SEND) 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 2005; Powell and Blanck 2023). Ascription with SEND has varied with changing expectations of school pupils and school

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performance (Powell 2003; Tomlinson 2017); and Powell (2006) shows how institutions are implicated in both designation with special educational needs and its consequences. Not only cognitive and socio-emotional, but also physical disabilities have been understood differently over time in terms of their implications for learning. In earlier decades, when fewer children were expected to leave school with qualifications or to stay on for post-compulsory education, special needs were only identified for a relatively small proportion. Subsequently, the proportions expanded (Tomlinson 2017); and recent figures for England suggest that 17% of school-age children now have SEN (Long and Roberts 2024).

While SEND does not necessarily translate into disability as measured in adulthood, for those who are school age SEN is typically equated with disability (Blanck et al. 2025) even if the measures of disability used to compare transitions from school differ by context and data source (cf. Ballo 2020). Disability is also a dynamic category, as Maroto et al. (2019) point out "disability represents a fluid, ambiguous, and often invisible category that incorporates both physical and social aspects" (p.68), making it harder to investigate as a structural basis of inequality. Disability is thus differently operationalised in the study of school-to-work transitions- as self-report (e.g. Blanck et al. 2025), through welfare state entitlements (e.g. Ballo 2020), using international measures of limitations, through administrative categories of learning support needs (e.g. Carroll et al. 2022), or multiple combinations of these (e.g. Fouquet 2025). But even if the choice of measure may have some implications for the degree of disadvantage identified, and may reveal or obscure the degree of heterogeneity within the target population, it remains relevant to consider whether the classification of disability – or learning needs – as deemed applicable at the time and in the context it was implemented has consequences that endure (Powell 2010). We therefore focus on the measures of SEND as they were applied at the different periods the children in the two cohorts were in school, when their SEND was considered to be disadvantaging them in the

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educational context of their day. Importantly our measure of SEND for the earlier cohort is derived from a classification that informed the development of the subsequent framework for considering special educational needs, linking the two measures despite their differences.

SEND 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 SEND are highly heterogeneous (Powell, 2006) and show cognitive skills and educational performance across the range of test scores. Identification with SEND is, nevertheless, associated with poorer school performance on average, even net of cognitive ability (Parsons and Platt, 2017; Chatzitheochari and Platt, 2019; Nelson and Anderson 2024). This suggests that there may be further potential to increase qualification levels among those identified with SEND even if *on average* they are likely to achieve less highly than their counterparts without SEND.

Data and methods

Data and samples

The 1958 cohort, also called the National Child Development Study (NCDS), is a continuing, multi-disciplinary longitudinal study of all the people born in one week in March 1958 in England, Scotland and Wales: almost 17,500 babies (See: http://www.cls.ioe.ac.uk/ncds). Following the initial 1958 birth survey, follow-ups have been carried out at ages 7, 11, 16, 23, 33, 42, 46, 50 and 55, the early 60s and a COVID (2020) survey. 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 use the age 23 survey to compare early labour market outcomes with the Next Steps cohort, and draw on data up to age 50 (2008 survey) to assess cumulative working life impacts (University of London 2024a, b). For better comparability with the Next Steps sample (see

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below) we restrict our analysis to observations born in England. Given overall attrition over this extended period, and the greater likelihood of those identified with SEND dropping out if the study over time, 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 (including on annual activity status that underpins our dependent variable of EET) for all those who were: included in the original birth survey, provided SEND information at age 16, and were still alive at age 50 (n=12,762). We adopt Schafer's data augmentation approach (Schafer, 1997) under the assumption of 'missing at random' (MAR). To maximise the plausibility of the MAR assumption, the most important predictors of missing data, which are largely measured in early life, are included in our models to reduce bias and retain power (see Silverwood et al., 2021; Mostafa et al., 2020; Mostafa & Wiggins, 2015). 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 follows the lives of around 16,000 people born in 1989-90. (See: https://cls.ucl.ac.uk/cls-studies/next-steps/). It began in 2004 and surveyed a representative sample of Year 9 (age 13/14) students attending state and independent schools in England. Cohort members were surveyed every year until 2010, when they were aged 19-20. Subsequent surveys took place in 2015/16, when the cohort members were 25 and, most recently, in 2022, at age 32 (University College London, 2025). We focus on the age 25 survey to compare early labour market outcomes with the 1958 cohort. The study has collected a range of information about the young person, initially from both the youth and their main carer (waves 1-3), and subsequently only from the young people. In later sweeps,

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respondents provided information on their activity since the last interview, giving histories of 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 age 25 survey. Of these we had information on their school SEN status for 7,499, and of these, we had information on activity status, from which we derived our EET measure, for 6,488. Given the relatively short period over which we were following up the sample (unlike the longer tracking of the NCDS), the lack of measures from birth, and the comparability of SEN distributions at age 25 to those in the first waves (see further below), we did not consider imputation to be optimal for these data. Instead, to compensate for differences in response and attrition propensity all analyses are adjusted for the complex sampling design of the survey and for nonresponse with wave-specific weights.

Measures

SEND

For the 1958 cohort, we constructed a measure of SEND derived from that created for a subsample of respondents for the 1976 *The Warnock Study of Handicapped School Leavers* (Walker 1982). We generated the seven-category variable used in the Warnock Study from information collected at age 16 for the whole cohort and then combined the categories (as used by Warnock) of Educationally subnormal (ESN(Severe) or ESN(Moderate), Physically handicapped, or Maladjusted into our measure of SEND, with the remainder as our Non-SEND group. For the 15,466 who participated in the age 16 survey 4.5% of males and 2.6% of females were identified with SEND classified in this way. From the total sample of 12,762, following multiple imputation as described above, covering England, Wales and Scotland, we take only those born in England for comparability with Next Steps. This gives us a sample of 10,675, of whom, 3.5% (N=370) were identified with childhood SEND, 4.2%

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of men (n=232) 2.6% of women (n=138), close to the original proportions at age 16. The Warnock report and its measurement of disability provided the grounding for the categorisation of children with special educational needs, which followed and which is the measure for our later cohort.

In Next Steps, parents were asked at wave 1 whether the teenager currently had any special educational needs (SEN), a formal, school level categorisation that covers a range of conditions and learning problems associated with challenges in schooling. For those who were missed at wave 1, the question was repeated at wave 2, we therefore supplement missing responses at wave 1 with wave 2 responses. In each case, a follow up question asked about the type of SEN, which covers various learning difficulties including dyslexia, behavioural and emotional conditions, including ADHD, physical and sensory impairments, and other conditions or learning-related needs. (The distribution of SEN categories is provided in the Supplementary materials, Table S1). From the measure of SEN constructed from responses to the first two waves of Next Steps, after adjusting for sample design and weighting, 13% were identified as having SEN: 9% without a Statement of Need and 4% with a Statement. A Statement indicates severer needs that require additional resources: since 2014, these are known as Education Health and Care plans. At age 25, 14% had SEN when at School: 9% without (11% men, 8% women) and 5% (8% men, 3% women) with a Statement. This indicates the comparability of the distributions despite attrition since Wave 1. We also investigated patterns of attrition and while SEN (though not having a Statement) was associated with slightly lower response at age 25, alongside stronger effects of sex, social class and parental education (see Figure S1 in the Supplementary materials), comparison of the weighted distributions for SEN, and of the distribution of the different categories of SEN between Wave 1 and Wave 8 (age 25) (Table S1, Supplementary materials) reassured us that our results were not substantively impacted by differential attrition.

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We use the overall measure of SEN. However, as a sensitivity check we repeat the analysis for those with a Statement, since 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 tables and figures in the Supplementary Materials. Results for this more limited measure show worse economic outcomes, but are consistent with the conclusions drawn from the broader, overall SEN measure.

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 17 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 1958 cohort we also calculated time in EET up to the year of their 50th birthday in 2008: 34 years or 408 months. As noted, we focus 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.

Highest qualification

The highest academic qualification an individual achieved, as measured at age 50 for NCDS and age 25 for Next Steps, was categorised to a common metric for both cohorts using the National Vocational Qualification (NVQ) framework. This gave a range from no qualifications (0) to NVQ4 (equivalent to a degree) or higher (4).

Family social class

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Children from more disadvantaged backgrounds are more likely to be identified with SEND (Powell 2006; Tomlinson 2017; Duckworth et al. 2025) and social background is associated both with educational attainment (Jackson et al. 2007) and adults' economic outcomes (Breen 2010). Since the occupational and social class distribution has been changing across the cohorts, we also consider the contribution of class origins to the observed EET gaps. In the 1958 cohort, we used a measure of NS-Sec (Rose et al. 2005) derived by Gregg (2012) from occupation measured at age 11. We employed a six-category version including never worked/ long-term unemployed, ranging from routine or semi-routine occupations to managerial and professional ones. Parental occupations in Next Steps were already coded to the NS-SeC and we again use a six-category version based on the highest category of mother or father (or other main carer).

Analytic strategy

We provide descriptives of key economic outcomes by SEND status across the cohorts, and then graph the patterns of participation in EET between ages 17 to 25, by SEND status and cohort, comparing gaps in months' participation across the cohorts. We estimate Blinder-Oaxaca decompositions (Blinder, 1973; Oaxaca, 1973; Jann, 2008) of overall EET gaps to evaluate the extent to which they can be attributed to compositional differences in educational attainment and social class origins, and how that differs for the two cohorts.

We extend the analysis for the 1958 cohort up to age 50. After illustrating the evolution of the EET gap over this period, we again estimate Blinder-Oaxaca decompositions of the contribution of education and social class to these life-course inequalities.

The literature offers mixed findings on how the impacts of childhood SEND differentially affect men and women. Some find no effects (e.g. Fouquet 2025) and others find that women are less disadvantaged (e.g. Ballo 2020). Maroto et al. (2019) exploring

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adult disability find greater disadvantage for women, which they explain in terms of the compounding of perceptions of frailty and competence at the intersection of sex and disability. While existing evidence for England suggests that women identified with SEND face greater economic disadvantage (Duckworth et al. 2025), we have no clear expectations of how that might change over time with differences in women's overall labour market participation and changes in those patterns over time. To assess this question, we carry out all analyses separately for men and women. Our replication package (Platt and Parsons 2025) is available at osf.io/veza3.

Results

Table 1 provides descriptives of educational attainment and key economic outcomes across the two cohorts by SEND status. For men and women from both cohorts, those with SEND 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 (measured as gross weekly pay); and the chance of having no qualifications was significantly higher.

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Table 1: Comparison of employment experiences across two cohorts for men and women in their mid-20s

	MEN				**WOMEN**			
	NCDS 23		**Next Steps 25**		**NCDS 23**		**Next Steps 25**	
	No SEND	**SEND**	**No SEND**	**SEND**	**No SEND**	**SEND**	**No SEND**	**SEND**
No Quals	12.4	59.4*	5.5	23.9*	12.4	61.7*	7.1	18.2*
Degree+	30.7	5.7*	35.5	12.8*	30.8	3.0*	38.8	20.0*
Econ Act								
Employed	83.3	61.4*	85.9	67.0*	649	30.0*	77.4	55.8*
£ GWP deflated[1]	419.03	336.50*	456.54	374.10*	310.80	231.37*	363.16	263.28*
Lifetime 17-25								
Months EET	91	66*	94	89*	79	40*	93	81*
N (100%)	*5302*	*232*	*2905*	*423*	*5102*	*138*	*3875*	*296*

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

Figures 2 and 3 illustrate EET participation month-by-month. They show that men and women with SEND spent less time in each 12 month period in EET than their non-SEND peers, adding up to the cumulative gaps shown in Table 1: 5 months less EET for men with SEND in Next Steps, 12 months for women with SEND in Next Steps, 25 months for men with SEND in NCDS and 39 months for women with SEND in NCDS compared to their non-SEND counterparts of the same sex.

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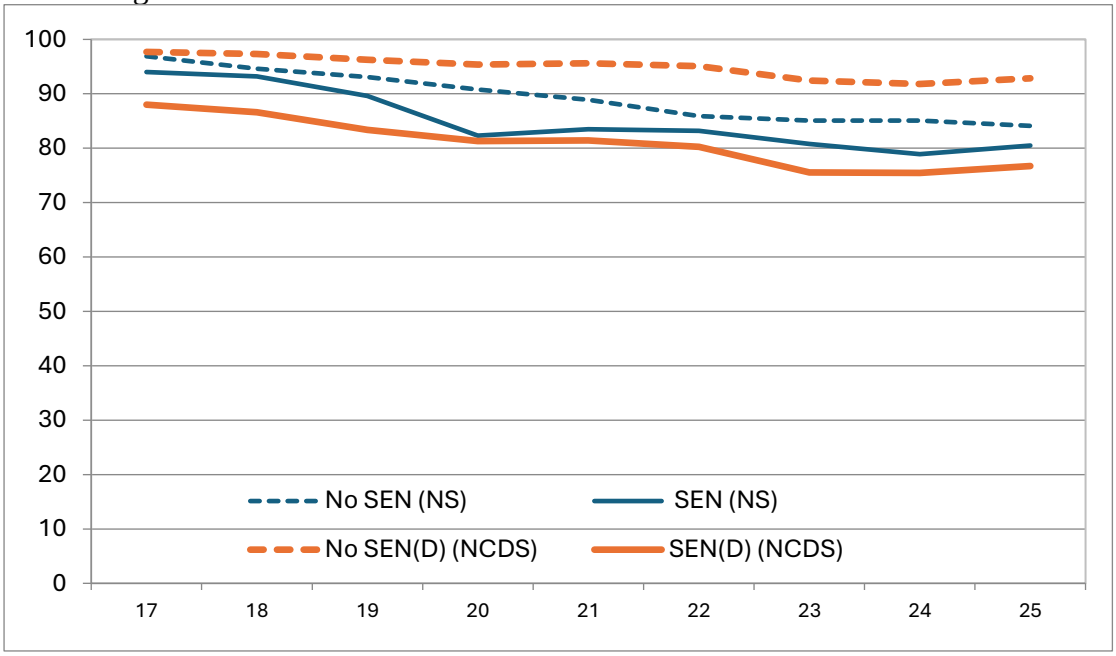
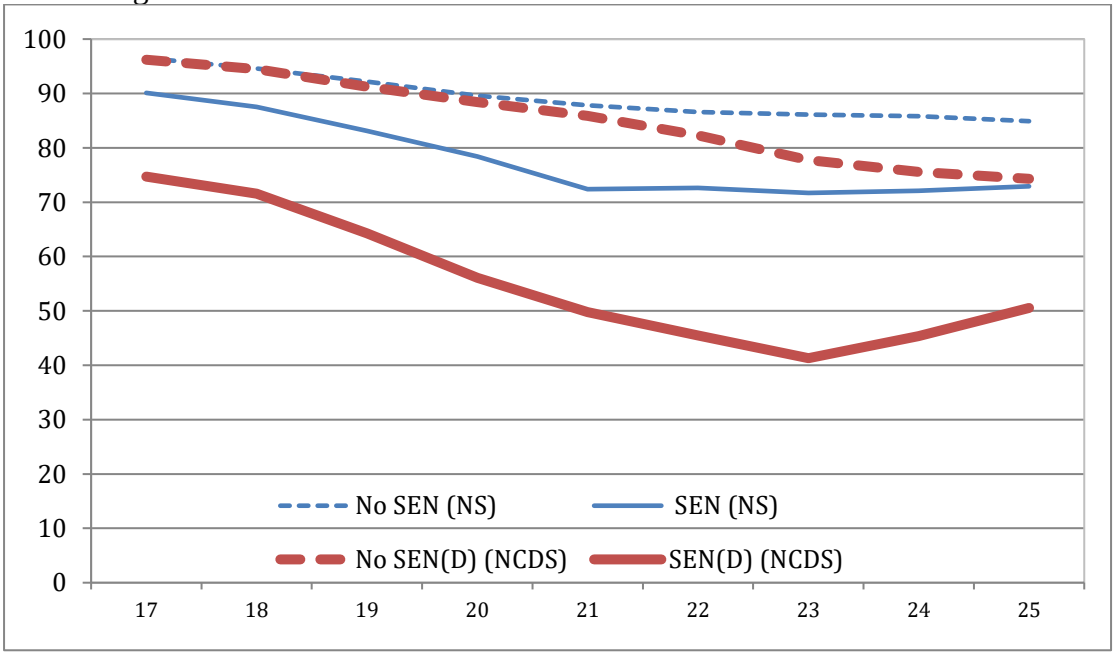
Figure 2: comparison of the percentage in EET by SEND status and cohort in each year between age 17 and 25: Men



Note: NCDS (1958 Cohort) imputed, Next Steps [NS] weighted

Figure 3: comparison of the percentage in EET by SEND status and cohort in each year between age 17 and 25: Women



Note: NCDS (1958 Cohort) imputed, Next Steps [NS] weighted

Women in NCDS spent less time in EET compared to the Next Steps cohort,

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reflecting the earlier transition to motherhood and family care roles that were typical at this time. But this does not explain why women identified with SEND should be particularly likely to drop out of the labour market. It may suggest that supply side factors are at play, with particularly negative responses to those women identified with SEND, who are already a very small – and thus highly specific – group of the population, as disability reinforces concerns about productivity (cf. the discussion Maroto et al. 2019). It should be born in mind that the specific types of SEND tend to differ between men and women, and in addition, that, particularly for this cohort there were more opportunities for manual occupations for men than women. These factors may contribute to the specific disadvantage faced by women with SEND.

Differentiating among the Next Steps cohort those with a Statement from those with SEN but no Statement (see Supplementary materials: Table S2, Figures S2 & S3), the economic and educational outcomes of those with a Statement are substantially poorer, as we might expect. Nevertheless, those with SEN and no Statement still experience clear gaps in economic outcomes. And as Figures S2 and S3 show, even for those with a Statement, the EET gaps are not as large as for the 1958 cohort.

We seem to see a consistent pattern, then, that the penalty associated with SEND has declined across cohorts, though it remains larger for women than for men: the relatively disadvantaged position of women, indicating a negative interaction between sex and disability status, appears to persist. The findings suggest cohort change; and we posited that if we were observing cohort change, we would be likely to see most of any SEND gap in EET for the younger cohort being accounted for by differences in educational attainment. To examine this, we turn to our decomposition results.

Table 2 shows the results from the decompositions. For young men from the Next Steps cohort, most of the EET gap can be attributed to differences in educational attainment;

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but this is not the case for the 1958 cohort, nor for women in the Next Steps cohort. If men and women in the NCDS identified with SEND had the same set of academic characteristics as their non-SEND peers, the gap in EET would have been around 17 months and 27 months respectively, leaving around two-thirds of the gap unexplained. Among women from the Next Steps cohort, although somewhat more could be accounted for by education, over 50 per cent (or around 7 months' worth of EET) remained unexplained (taking into account family background as well).

When we focus only on those with a Statement in Next Steps (Supplementary materials, Table S3), we find consistent results in that educational differences are largely driving the EET gaps for men, but less so for women.

Table 2: Blinder–Oaxaca decomposition of the SEND gap in months spent in EET between ages 17 to 25, by cohort and sex

	Men		**Women**	
	Next Steps	1958 cohort	Next Steps	1958 cohort
Months in EET: No SEN(D)	94.0	91.2	92.9	78.7
Months in EET: SEN(D)	89.1	66.0	80.6	40.3
Gap in EET months 17-25	4.9	25.2	12.3	38.4
Months gained				
If same qualifications as No-SEN(D)	3.9	7.9	4.8	11.7
If same social class as No-SEN(D)	0.5	0.1	0.4	1.7
Overall	4.4	8.0	5.2	13.4
% explained by qualification + social class differences	89.8%	30.7%	42.3%	34.9%
% unexplained	10.2%	69.3%*	57.7%*	65.1%*

*significant p<.05

Does the EET gap increase up to age 50?

Looking across the lifetime up to age 50 for the older cohort, we find that total cumulative EET gaps amounted to over nine years less in EET for men identified with SEND compared to those without, and nearly 12 years less for women with SEND compared to those without, over a 34-year period. Figure 4 shows how these were distributed over that time period, while

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Table S4 in the Supplementary materials shows the total gaps, alongside a range of economic outcomes at age 50. Among men, the disability gap increased, albeit with some fluctuation, from around 10% to reach more than 20% by the time the men were in their late 30s. It then levelled off somewhat or even decreased as employment rates between men with and without SEND converged a little. However, shares EET did not exceed 80% from the early thirties for the SEND group, while for those without SEND they barely dropped below 90% across the period.

Among women, the gap started higher at above 20% and increased to more than 30% in their early 20s. The overall pattern for women of dropping participation followed by a steady increase from the early thirties was echoed for women identified with SEND but with sharper declines and a somewhat greater rate of the recovery. The gap stood at around 10% at the end of the period, though with a fall off for all at age 50. These patterns indicate that increasing life course disability gaps of those identified with SEND early in life are not driving age differences between older and younger disabled people. Rather the closing gaps in more recent years might suggest policy impacts, or contextual effects from a more buoyant labour market, preceding the crash of 2008, when the cohort reached the age of 50.

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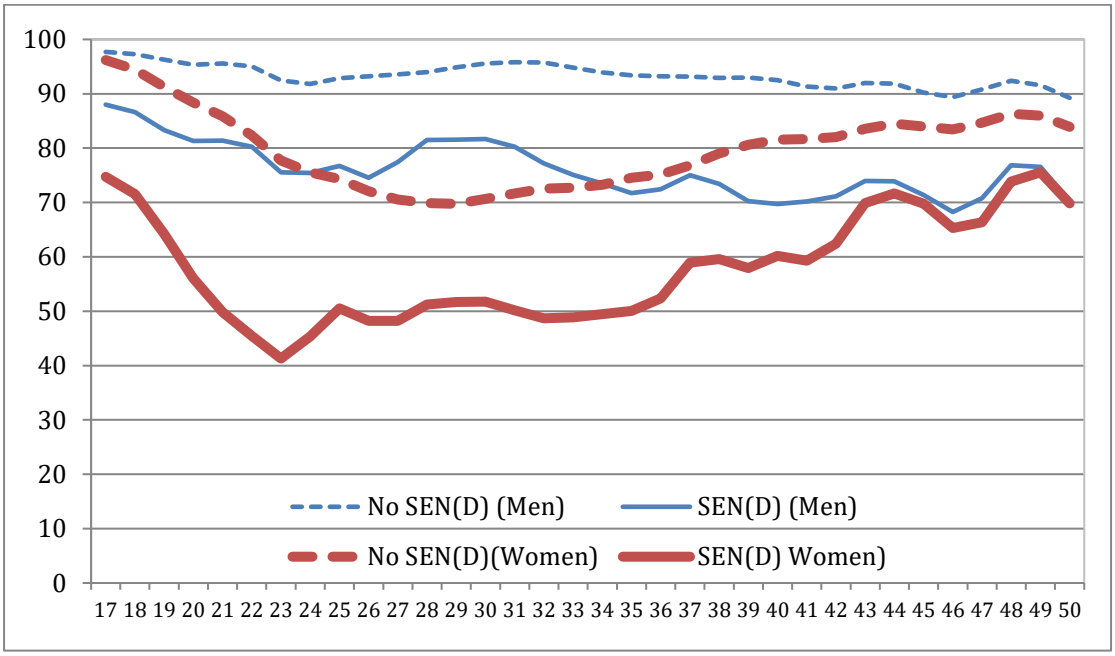
Figure 4: Proportion of Men and Women in EET by SEND status between January 1975 and December 2008 (1958 cohort)



Note: NCDS (1958 Cohort) imputed

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 3 shows that only around one-third of the gap is attributable to differences in qualifications. Nevertheless, if men and women with SEND had the same qualifications and social class background as their non-SEND peers, they could have expected to have spent an additional 40 and 45 months respectively in EET – 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 employment contexts for much of their working lives.

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Table 3: Blinder–Oaxaca decomposition of the SEND gap in months spent by men and women in EET between the ages of 17 to 50 (1958 Cohort)

	Men	**Women**
Months in EET: No SEN(D)	309.7	259.7
Months in EET: SEN(D)	198.9	119.7
Gap in EET months 17-50	110.7	139.9
Months gained		
If same qualifications as No-SEN(D)	40.8	44.2
If same social class as No-SEN(D)	-0.8	0.3
Total months' explained	40.0	44.5
% explained by qualification + social class differences	36.1%	31.8%
% unexplained	63.9%*	68.2%*

*significant p<.05

Discussion

Identifying the impact of disability on labour market outcomes is notoriously difficult, vexed as it is by issues of both potential differential productivity of disabled workers and the reverse causation caused by the impact of unemployment and marginal work on health, alongside differing and disputed classifications of disability itself, and the heterogeneity within that category (Schwitter et al. 2025; Fouquet 2025; Blanck et al. 2025). At the same time, it is clear that many disabled people, given the opportunity, not only wish to work but can sustain employment under appropriate conditions (DWP 2023; Berthoud 2008). 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, as well as changing policies to facilitate the inclusion of those with SEN, in aiding the movement of disabled people into – and to stay in – work remains a moot question.

In this paper, we set out to identify whether young people identified with SEND in childhood who were entering the labour market in recent years faced the same barriers as those who were doing so some three decades earlier. By relying on a measure of disability constructed in the School setting, namely SEND, that thereby precedes labour market entry,

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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 is long-term, cumulative disadvantage associated with childhood SEND status.

In line with previous research, we illustrated divergence in education and employment outcomes for young adults in their mid-20s between those identified with SEND in their school years and those not. We illustrated that the impacts on participation appear to be larger for women with SEND, even if fewer women are so classified. This may indicate that the challenges girls with SEND face are more severe, that the nature of the types of SEND they experience, which tend to differ from those experienced by boys, are less conducive to labour market participation, or it may reflect on the ways in which disabled women are particularly penalised, as argued, for example, by Maroto et al. (2019). While differing from studies in other countries, this finding is consistent with recent research on SEN for England (see Duckworth et al. 2025), and with the interaction potentially driven by reinforcing concerns about competence and productivity. The fact that the gap is greater for the older cohort is also consistent with such concerns being modified as women's occupational status has improved. The smaller shares of girls identified with SEND in both cohorts may also imply that there is a stronger labelling effect for those who are marked out in this way.

The gaps in EET were evident for both the cohorts; but were markedly smaller in the more recent one. 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 educational qualifications; and this was indeed largely the case. By contrast, education explained less of the disadvantage of the older cohort, both indicating the lower salience of formal qualifications for those born in 1958 and suggesting that they faced a more disabling environment at labour market entry.

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Our findings are consistent with the argument that disabled people today face somewhat less labour market disadvantage than earlier cohorts; but we did not find evidence for cumulative employment gaps among the older cohort. The more U-shaped gradient we observed may suggest that it is not just the younger cohort that has benefited from the shift in policy response and changing context, but that, more recently, the older cohort has, too.

Our findings that the disability gap was more severe for women, particularly those from the older cohort, and that education provided less explanation for the gap for women from the younger cohort draw attention to the importance of supply-side factors in shaping labour market opportunities, the possible differences in labelling processes as they apply to men and women, and the fact that men and women continue to enter highly gendered occupational structures, which may be less accommodating of female than male special needs, even as women's participation and occupational attainment has increased over time.

Given the changes in how SEND is defined 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 by restricting analysis of the younger cohort to those with a Statement. The results were consistent with the main findings: an attenuated employment gap among the younger cohort, a higher proportion being accounted for by education, particularly for men, and somewhat worse outcomes for women.

The implications of our findings our threefold. First, they speak to the potential of policy and a more conducive social and employment context to offer some improvement to the labour market outcomes of disabled people. Second, they illustrate that for older adults identified with SEND in childhood, more recent changes cannot compensate for a lifetime of disadvantage in terms of work (and income) lost, highlighting the need to ensure adequate support in later working life. 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

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for labour market outcomes in more recent generations. As disability increases in prevalence (Banks et al. 2024), it is crucial to ensure that all those with SEND who can achieve qualifications do so (Chatzitheochari and Platt 2019). But there is also a clear need for effective alternatives to formal qualifications, particularly for those who are unlikely to be able to attain them, as well as better vocational opportunities. Over and above the role of qualifications and alternative routes to paid work to aid the employment and employment transitions of those with SEND, there is also continuing potential for policy to address the impacts of SEND that do not flow through educational attainment, including the life-time consequences of early life stigmatisation and employer discrimination (Schwitter et al. 2025).

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 identified with SEND in childhood differed across the two cohorts; and our results are suggestive rather than conclusive, particularly as we are comparing only two timepoints. SEND by definition captures a range of conditions and impairments that are likely to have differential consequences. Disability in general is a dynamic process (Jones 2010; Maroto et al. 2019), with people moving into and out of disability status; and the nature of the disability is relevant for labour market outcomes (DWP 2023, Banks et al. 2024, Longhi et al. 2012). Clearly, by focusing on those identified with SEND in childhood, our analysis also cannot speak to the experience of those who become disabled later in life. Similarly, SEND categorisation changes within school careers (Duckworth et al. 2025), some cease to be categorised as such and for others, conditions are picked up later, and the extent to which childhood SEND translates into disability in adulthood also varies. Our samples of children with SEND are not necessarily classified disabled in adulthood, and it is likely that some categories of SEND are more consequential than others. By contrast with some studies (e.g. Erikson and Macmillan 2018), our sample

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sizes are insufficient to enable us to identify possible differential patterns by condition/ SEND category. At the same time, treating those with SEND as a whole is consistent with much of the literature that highlights the salience of SEND as an ascriptive category, and a, somewhat neglected, measure of social stratification (Powell 2003; Tomlinson 2017; Chatzitheochari and Platt 2019). Given the well-recognised association with educational careers (Duckworth et al. 2025; Carroll et al. 2022), drawing attention to the residual impacts of being identified with SEND additionally highlights supply-side processes in shaping the outcomes of youth classified as SEND in the School setting. The fact that the consequences of SEND for labour market outcomes are greater for women also highlights the relevance of the complex interaction of labelling and scarring process in shaping economic outcomes across the lifecourse. Our approach is in line with the social model of disability, rather than attempting to locate economic consequences within the specific condition or impairment. Thus, while we cannot speak to the micro-level processes that link specific conditions to the ability to gain or sustain employment, we offer insights into societal change in terms of how far the consequences of SEND may change over time in response to wider contextual changes.

We contend that we have contributed to enhancing understanding of the labour market barriers facing those identified with SEND in childhood. With rising rates of disability, including among youth (Banks et al. 2024), and ongoing challenges to maintaining employment among the disabled population, these issues are highly salient. SEND attribution now affects a large number of children (Hutchinson et al. 2021). The economic well-being of a substantial part of the future population is therefore at issue, and merits more sustained sociological consideration (Wells, Sandefur, and Hogan 2003; Erickson and Macmillan 2018; Chatzitheochari et al. 2022). 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

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outlined here persist, and the extent to which existing employment gaps are mitigated or continue over time.

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AI Use Disclosure

No use was made of AI at any point in the work on this paper or in any part of it.

Data and Code Availability

All data sets used in the paper are available from the UK Data Service: https://ukdataservice.ac.uk/: Study Numbers: SN 5545: Next Steps: Sweeps 1-9, 2004-2023; SN 5560 National Child Development Study Response and Outcomes Dataset, 1958-2013; SN 7717 National Child Development Study Deaths Dataset, 1958-2016; SN 5565 National Child Development Study: Childhood Data from Birth to Age 16, Sweeps 0-3, 1958-1974; SN 6137 National Child Development Study: Age 50, Sweep 8, 2008-2009; SN 6942 National Child Development Study: Activity Histories, 1974-2013; SN 5566 National Child Development Study: Age 23, Sweep 4, 1981, and Public Examination Results, 1978.

Analysis code is available at: https://osf.io/veza3/

Declaration of Interest Statement:

The authors have no interest to declare

Ethical Approval

No primary data were collected for this study. Secondary data which had been deposited in the UK Data Archive were accessed subject to the agreements of the End User License /

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Special Licence. The data had been subject to ethical approval at the time of collection: see: https://cls.ucl.ac.uk/about/information-governance/. LSE does not require ethics review for projects which only make secondary use of deposited data, as here.

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