



Department
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Survey of Adult Skills 2023 (PIAAC): Low skills thematic report

Research report

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Executive summary

Introduction

The 2023 OECD Survey of Adult Skills (Cycle 2) found around 20% of adults in England (aged 16-65) had low basic skills in literacy, numeracy, or both. This represents an estimated 8.5 million adults (Wheater *et al.*, 2024). In 2012 (Cycle 1), it was estimated that 9 million adults had low skills in literacy, numeracy or both (OECD, 2020). Therefore, while there has been a small improvement since 2012, the number of adults with low skills remains high and with many sectors currently facing skills shortages, upskilling adults remains a key priority.

England performs better than the international average, with lower proportions of low performers than most OECD countries (Wheater *et al.*, 2024). However, progress has been uneven; whilst numeracy skills have improved since 2012, literacy skills have shown no marked improvement.

This report aims to answer the following research questions:

1. What are the characteristics of adults with low skills in England and how has this changed over time?
2. What is the relationship between low skills and employment?
3. What is the relationship between low skills and earnings?
4. What do the education trajectories for adults with low skills look like?

Throughout this report we make international comparisons to other countries who took part in this survey. We compare England with individual comparison countries, including other G7 countries (Canada, France, Germany, Italy, the United States, but excluding Japan) and two high-performing Northern European countries (namely, Finland and Sweden). In this report, we call these countries 'comparator countries'. We also make comparisons between England and an average of 21 countries who participated in both 2012 and 2023 (including England). We refer to this as the average of 'Cycle 1 comparator countries'.

Who are England's low-skilled adults?

We review the characteristics of all adults that were categorised as having at least one of the following: low skills in literacy, low skills in numeracy or low skills in problem solving (attainment scores at Level 1 or below).

We do this in two ways. Firstly, for data from England, we look at the demographic make-up of low-skilled adults in literacy, numeracy or adaptive problem solving (that is, the percentage within the low-skilled group that have a specific characteristic).

Secondly, for international comparisons, we report on the changes over time regarding the proportion of a specific demographic group (for example, out of all men or all women) within each country that were low-skilled.

The demographic composition of low-skilled adults in England has shifted significantly since 2012, in general reflecting broader population changes.

- **Gender:** Women in England were more likely than men to have low numeracy skills (57% of the low-skilled numeracy group were women). For literacy, the split was equal. This contrasts with most of our comparator countries where men were more likely to be low-skilled in literacy.
- **Age:** Over half (56% literacy, 54% numeracy) of all low performers were aged 45 and above. The proportion of young adults (24 years old and below) with low skills in literacy has almost halved since 2012, from 20% to 11%, and also reduced for numeracy 19% to 13%— a positive development suggesting that education reforms have had an impact on skills.
- **Region:** Most low performers lived in the South, followed by the North and Midlands in England, which has not changed between 2012 and 2023. This is largely reflective of how the population in England is distributed. However, when we compare the proportion of adults in each region who were low skilled, adults in the South were less likely to be low skilled in literacy compared to other regions.
- **Ethnicity:** In the low-skilled group there was a smaller proportion of adults with a White ethnic background in 2023 and a larger proportion of adults with an Asian ethnic background than what was seen in the wider population (aged 16–65).
- **Language:** Disproportionally more adults who did not learn English as a first language were low-skilled compared to their proportion of the whole England population. However, adults who had a first language other than English were less likely to be low-skilled than their counterparts in comparator countries.
- **Country of birth:** Disproportionally more adults who were born outside of the UK had low skills compared to the breakdown seen for the whole population. A larger proportion of low-skilled adults were born outside the UK in 2023 compared to 2012 and this reflects population changes. Despite this, adults born outside of the UK to parents also born outside of the UK were less likely to be low-skilled than their counterparts in France, Italy and the United States.
- **Highest qualifications:** Highest educational qualifications among low-skilled adults have risen. In 2012, below upper secondary level qualifications were more common amongst low-skilled adults whereas in 2023, upper secondary qualifications (such as five or more GCSEs or A levels) were the most common

qualifications. This is partially driven by younger people remaining in education for longer. It also suggests that higher qualifications do not necessarily protect against being low-skilled in numeracy and/or literacy.

Parental qualifications have also risen. While it was more prevalent for low-skilled adults to also have parents with low qualifications, around 20% had at least one parent with tertiary qualification in 2023 (up from 12% in 2012).

- **Digital use:** Between 72% and 75% of low-skilled adults used devices daily at work or outside work, higher than seen across Cycle 1 comparator countries. However, 6-12% never used devices at home or work to access information.

Low skills, employment and earnings

Adults with low skills face significant employment challenges. In 2023, only 55-56% of low-skilled adults were employed, compared with 75% of all adults. The unemployment rate for adults with low skills in numeracy had decreased significantly since 2012 (from 11% to 7%), however, 37-38% were outside the labour force entirely in 2023 (neither employed nor seeking work). Cycle 1 comparator countries had a higher employment rate of low-skilled adults (61-64% on average) than England.

The employment profile of low-skilled adults has improved in some respects; a larger proportion of low-skilled adults worked in skilled occupations in 2023 than in 2012. The largest proportion work in semi-skilled white-collar occupations. Around three-quarters of low-skilled adults in employment (72-76%) reported they were over-qualified for their current job in 2023, meaning their formal qualifications exceeded what they believed was required for their role. More work would need to be done to understand what is causing this as it suggests a severe qualification-job mismatch. According to the OECD (2024b), England also had the highest over-qualification rate across OECD countries (37% of all workers compared to 23% OECD average).

Within the low-skilled group, there was little variation across income distribution. The general earnings distribution across all skill levels has remained unchanged since 2012. The use of ICT skills at work was related to higher earnings amongst the low-skilled group. Almost half (49%) of low-skilled adults in the highest third of earners use ICT skills more than 80% of the time at work, suggesting digital skills can provide a pathway to better pay for those with low basic skills.

Employment pathways: what happens over time?

To investigate the pathways for adults with low skills in England, we compare birth-cohorts from the 2012 survey with the equivalent cohort in the 2023 survey. We compare the age groups (1) 34 and below, (2) 35–44, and (3) 45–54 in the 2012 study with the corresponding age-cohort 11 years later. In order to keep the sample size within each

category at a workable level, this analysis combined low-skilled adults across both literacy and numeracy.

- Over time and within their respective birth cohorts, younger low-skilled adults were more likely to move out of unemployment than older low-skilled adults.
- Older low-skilled adults were increasingly moving out of the workforce, and they seem to be more so than 11 years ago.
- Over time and within their respective birth cohorts, younger low-skilled adults were more likely to move between different occupation and industry types than older adults.

Key Implications

1. **Age matters:** While younger low-skilled adults show positive trajectories, half of all low performers were 45 and over, putting this group at increased risk of labour market exclusion.
2. **Qualifications alone are insufficient:** The rise in qualifications among low-skilled adults suggests more work is needed to understand how best to develop essential literacy and numeracy skills consistently as part of higher-level qualifications.
3. **Adults whose first language was not English are overrepresented:** Although adults who were born outside of the UK or who learnt English as an additional language were less likely to have low skills than their counterparts in our comparator countries, 33-35% of this group were low-skilled. Government and education institutions should consider how best to target programmes to develop these skills for adults who have English as an additional language.
4. **Digital skills premium:** For low-skilled adults, ICT skills at work correlate with higher earnings and suggests that digital upskilling could improve incomes without requiring major qualification acquisition.
5. **Under-utilisation:** a smaller proportion of low-skilled adults are employed in England compared with Cycle 1 comparator countries, representing lost economic productivity and individual potential.
6. **Persistent gender gap:** Women were more likely to be low-skilled in numeracy, and this persists across time and most of our comparator countries.

1. Introduction

The 2023 OECD Survey of Adult Skills (Cycle 2) estimated that 8.5 million adults aged 16 to 65 in England had low basic skills (that is low proficiency in literacy, low proficiency in numeracy, or both). In 2012 (Cycle 1), it was estimated that 9 million adults had low skills in literacy and / or numeracy (OECD, 2020).

Adults achieving PIAAC Level 1 or below in literacy, numeracy or problem solving in the OECD Survey of Adult Skills were classified as having low skills. Adults with low literacy skills struggle to complete tasks involving longer texts with distracting information, while those with low numeracy skills struggle to complete mathematical tasks with distracting information or conduct multi-step mathematical processes.

In this report, we look at adults with low skills in each domain separately (literacy, numeracy and problem solving). The exception is in Chapter 4, where we follow the OECD approach and identify low-skilled adults depending on whether they have low skills in literacy and / or numeracy in order to meet reporting standards for small cohort groups.

The PIAAC literacy and numeracy proficiency levels are not equivalent to England's National Qualification Framework (NQF) levels in literacy and numeracy. A comparison between PIAAC levels in Cycle 1 and the 2011 Skills for Life survey was carried out in 2013 for the Cycle 1 national report (Wheater *et al.*, 2013). We have reproduced the calibration in Appendix A of this report for ease of reference.

Reforms since 2012 to support low achievers include the Lifetime Skills Guarantee, which provides funding for adults without an existing full NQF Level 3 (A level equivalent) qualification to study for free (Prime Minister's Office and Johnson, 2020). This is in addition to the entitlement for individuals aged 19 and over who have not previously achieved a Level 2 qualification or are assessed as being below Level 2 in English and mathematics to study for free to obtain them (Education and Skills Funding Agency and DfE, 2024). The government continues to promote 'Skills for Life' through the 'It all starts with skills' campaign to encourage adults to gain the skills and qualifications they need to progress, including improving their 'essential skills' (English, mathematics and digital skills) (DfE, 2025). This includes the recently completed Multiply programme (2021-2025) to help adults who do not have a Level 2 mathematics qualification build confidence with numbers and improve their numeracy skills (DfE, 2021) and the statutory digital entitlement introduced in August 2020 for adults with low digital skills to gain an essential digital skills qualification.

But despite these reforms, data from the 2023 survey suggests that around 20% of England's population (16–65-year-olds) currently still have low skills. Whilst the percentage of low-skilled adults with numeracy has decreased since 2012, there was no marked improvement for literacy (Table 1). However, in 2023, England has a lower proportion of low performers in all domains than internationally (Wheater *et al.*, 2024).

Table 1 Percentage of adults at or below Level 1 proficiency levels in each domain in England and the Cycle 1 comparator countries average

Domain	Country	Cycle 1 (2012) Level 1 or below	Cycle 2 (2023) Level 1 or below
Literacy	England	17%	18%
Literacy	Cycle 1 comparator countries	16%	22%
Numeracy	England	24%	21%
Numeracy	Cycle 1 comparator countries	19%	22%
Problem solving	England	NA*	21%
Problem solving	Cycle 1 comparator countries	NA*	26%

Note: The Cycle 1 comparator country average includes 21 countries who participated in both 2012 and 2023 of the Survey of Adult Skills, including England. For a full list of all countries, please refer to (Wheater *et al.*, 2024).

*Problem solving is not comparable across cycles.

Source: OECD, PIAAC 2023 database

1.1. This report

In the first cycle of PIAAC in 2012, data was collected in three rounds, and England participated in Round 1 alongside 21 other countries. In this report, we focus on reporting changes since the Round 1 data collection in Cycle 1. When discussing changes amongst these countries over time, for the purposes of this report, we call this the average of the ‘Cycle 1 comparator countries’. This is based on the average of 21 countries who participated in both 2012 and 2023 (including England).

Where appropriate, we compare England with individual comparison countries, which are other G7 countries (Canada, France, Germany, Italy, the United States, but excluding Japan) and two high-performing Northern European countries (namely, Finland and Sweden). In this report, we call these countries ‘comparator countries’.

The problem solving assessment in Cycle 1 (2012) was of adults’ information processing skills in technology-rich environments, whereas Cycle 2 (2023) measured adaptive

problem solving, focusing on adults' ability to adapt when conditions change. As such, problem solving is not comparable across cycles.

This report focuses on England's low performers and investigates their characteristics and links to employment and salary prospects and explores how these have changed over time and how this compares internationally.

For more details on the methodology and assessment design of the PIAAC main study and implications for the interpretation of results, please refer to (Wheater *et al.*, 2024, Chapter 1).

1.2. Demographic changes

It is important to note that there were changes in demographic characteristics across the wider population (16–65-year-olds) between Cycle 1 (2012) and Cycle 2 (2023). See (Wheater *et al.*, 2024, Appendix table B1) for more information. For example:

- There has been a statistically significant increase in the proportion of adults who were born outside the UK compared with 2012.
- A statistically significantly smaller proportion of adults in 2023 learned English as a first language.
- A significantly smaller proportion of adults in 2023 were of White ethnicity and there were significantly higher proportions of adults in other ethnicities.
- In 2023, more adults were employed and fewer were unemployed or out of the labour force compared to 2012.
- There was a large increase in the proportion of adults in 2023 with a professional occupation, compared to 2012.

Some of these shifts may naturally be reflected within the demographic make-up of the low-skilled group and therefore, these numbers need to be interpreted with this in mind.

2. Characteristics of adults with low skills in England and internationally

This chapter summarises the characteristics of all adults that were categorised as having at least one of the following: low skills in literacy, low skills in numeracy or low skills in problem solving (attainment scores at Level 1 or below).

We do this in two ways. Firstly, for data from England, we look at the demographic make-up of low-skilled adults in literacy, numeracy or adaptive problem solving (that is, the percentage within the low-skilled group that have the specific characteristic). This helps us to identify whether there is a particularly large group with a certain characteristic in England that is low-skilled.

Secondly, for international comparisons, we report on the changes over time regarding the proportion of a specific demographic group (for example, out of all men or all women) that were low-skilled within each of our comparator countries. This allows us to identify whether there is a higher risk of being low-skilled for certain groups, taking into account the different demographic make-ups of countries.

In this chapter, we make comparisons with demographic characteristics of low-skilled adults in other G7 countries (Canada, France, Germany, Italy, the United States, but excluding Japan) and two high-performing Northern European countries (namely, Finland and Sweden). Japan was excluded as it has a comparatively homogeneous population, meaning many variables (such as immigration) have low cell counts and were therefore unsuitable for sub-group analysis. The full data tables for each country can be found in the PIAAC Data Explorer (OECD, 2025). See Chapter 1.7 in the national PIAAC report (Wheater *et al.*, 2024) for notes on interpreting country comparisons.

2.1. Background

The 2023 Survey of Adult Skills national report identified the following factors with significant associations with low proficiency in literacy, numeracy and adaptive problem solving (see Chapter 7 in (Wheater *et al.*, 2024):

- having lower qualifications
- belonging to particular ethnic groups
- being born outside the UK
- having parents who have low qualification levels
- not having computer experience in everyday life
- working in certain occupation groups.

The socio-demographic characteristics associated with low proficiency in literacy and numeracy in 2023 were largely consistent with those in 2012. As such, this report

investigates these demographics (and some additional key characteristics) to identify changes between 2012 and 2023 for England's low performers.

Table 2 presents the overall percentage of adults with Level 1 and below across the three domains for each of our comparator countries. The data shows that countries such as France, Italy or the United States had a large increase in the percentage of adults that were low-skilled in literacy whereas numeracy remained stable over time. Countries such as Finland and Sweden had a small proportion of low performers in both cycles.

Table 2 Percentage of adults with low skills across all comparator countries

Comparator country	Cycle 2 (2023) Literacy	Cycle 1 (2012) Literacy	Cycle 2 (2023) Numeracy	Cycle 1 (2012) Numeracy	Cycle 2 (2023) Problem solving
Canada	19%	17%	20%	23%	22%
England	18%	17%	21%	24%	21%
Finland	12%	11%	12%	13%	14%
France	28%	22%	28%	28%	30%
Germany	22%	18%	20%	19%	22%
Italy	35%	28%	35%	32%	46%
Sweden	12%	13%	12%	15%	14%
United States	28%	18%	34%	30%	32%

Source: OECD, PIAAC 2023 database

Table 3 presents the distribution of key demographics of low-skilled adults in literacy, numeracy and problem solving across Cycle 1 (2012) and Cycle 2 (2023) in England. Sections 2.2, 2.3 and 2.4 will look at each of the key demographics of gender, age and region in more detail.

Table 3 Breakdown of low-skilled adults by key characteristic

Characteristic	Cycle 2 (2023) Literacy	Cycle 1 (2012) Literacy	Cycle 2 (2023) Numeracy	Cycle 1 (2012) Numeracy	Cycle 2 (2023) Problem solving
Men	50%	51%	43%	44%	48%
Women	50%	49%	57%	56%	52%
Less than 24 years old	11%	20%	13%	19%	10%
25–34 years old	13%	18%	15%	19%	14%
35–44 years old	19%	18%	18%	18%	19%
45–54 years old	27%	23%	25%	24%	26%
55–65 years old	29%	21%	29%	21%	30%
North	30%	32%	29%	31%	29%
Midlands	24%	21%	23%	22%	22%
South	46%	46%	47%	47%	48%

Source: OECD, PIAAC 2023 England database

2.2. Low skills and gender

Key findings

- In 2023, women in England were more likely to have low numeracy skills than men. This was also true for all other comparator countries, except for Finland.
- In 2023, in most comparator countries, men were more likely to be low-skilled in literacy than women. This was not the case for England or Canada, where there was no difference and a 1-percentage point difference respectively).

For England, the low-skilled literacy group in 2023 consisted of 50% men and 50% women. Women were more likely to have low numeracy skills than men; the low-skilled numeracy group consisted of 43% men and 57% women. There were 48% men and 52% women with low skills in problem solving.

The picture for literacy and numeracy has remained stable since 2012 in England. For literacy in 2012: 51% of the low-skilled population were men, while 49% were women. For numeracy, 44% of those with low skills were men while 56% were women.

For the international comparison, Table 4 presents in turn at the proportion of men who were low-skilled in literacy (out of all men) and the proportion of women who were low-skilled in literacy (out of all women) in 2012 and 2023.

**Table 4 Proportion of men and women that were low-skilled in literacy
(international)**

Country	Literacy (2023) Men	Literacy (2023) Women	2023 percentage point difference (Men- Women)	Literacy (2012) Men	Literacy (2012) Women	2012 percentage point difference (Men- Women)
Canada	20%	19%	1	16%	17%	0
England	18%	17%	0	17%	16%	1
Finland	14%	10%	4	11%	10%	2
France	30%	26%	3	22%	21%	1
Germany	24%	21%	4	17%	19%	-2
Italy	37%	33%	4	29%	27%	3
Sweden	13%	11%	3	13%	14%	-1
United States	29%	26%	3	19%	17%	2

Note: percentage point differences take into account the rounding of figures.

Source: OECD, PIAAC 2023 database

In 2023 there was no difference in the proportion of low-skilled men and low-skilled women in literacy in England, and 1 percentage point for Canada. However, in the other comparator countries men were more likely to be low-skilled in literacy than women.

In Italy, France and the United States, the proportion of men and women in the population who were low-skilled in literacy increased between 2012 and 2023, whereas England and Sweden, this remained fairly stable.

Table 5 shows the proportion of men who were low-skilled in numeracy (out of all men) and the proportion of women who were low-skilled in numeracy (out of all women) in 2012 and 2023.

Table 5 Proportion of men and women that were low-skilled in numeracy (international)

Country	Numeracy (2023) Men	Numeracy (2023) Women	2023 percentage point difference (Men- Women)	Numeracy (2012) Men	Numeracy (2012) Women	2012 percentage point difference (Men- Women)
Canada	17%	23%	-6	19%	26%	-6
England	18%	24%	-6	21%	27%	-6
Finland	12%	12%	0	12%	14%	-2
France	26%	29%	-3	26%	30%	-4
Germany	19%	21%	-2	15%	23%	-8
Italy	34%	37%	-3	29%	35%	-6
Sweden	11%	14%	-3	12%	17%	-4
United States	32%	36%	-4	27%	33%	-6

Note: Percentage point differences take into account the rounding of figures.

Source: OECD, PIAAC 2023 database

In 2023, in all of our comparator countries, with the exception of Finland, more women tended to be low-skilled in numeracy than men. However, the magnitude of this gender gap differed by countries. Canada and England had the largest gap between men and women with low numeracy skills in 2023 (six percentage point difference) compared with other comparator countries.

Some of our comparator countries have seen a reduction in the gender difference in low-skilled adults for numeracy since 2012, but England, France, Sweden and Canada have remained mostly unchanged.

2.3. Low skills and age

Key findings

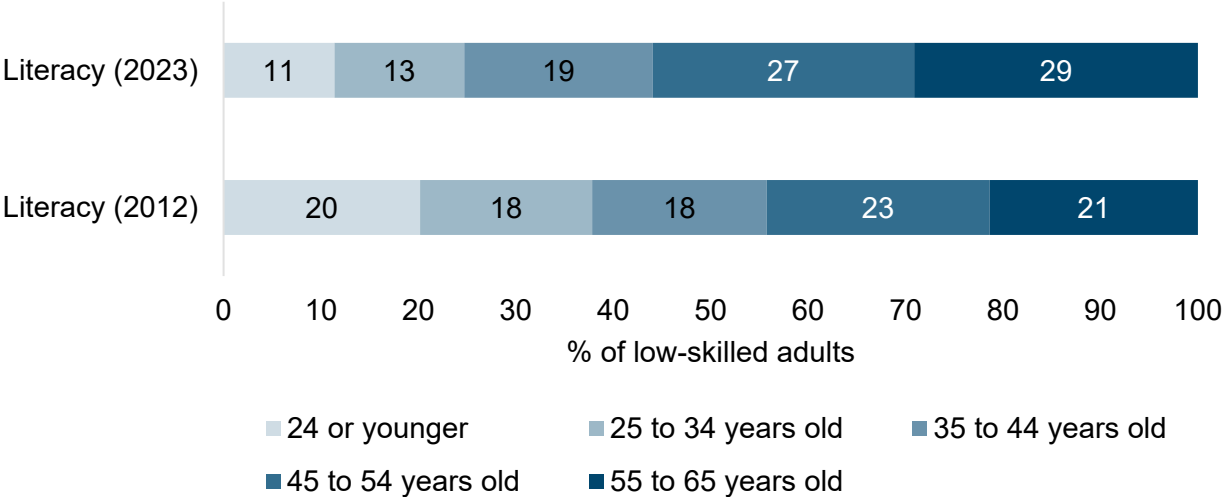
- Over half (56% literacy, 54% numeracy) of all low performers were aged 45 and above.
- The proportion of young adults (aged 24 years old and below) with low skills in literacy has almost halved compared to 2012.

The 2023 OECD Survey of Adult Skills found considerable improvement in the skills of young adults in England since the previous survey in 2012 (Wheater *et al.*, 2024). In 2012, 16–24-year-olds in England were among the lowest performers compared to their peers internationally in literacy and numeracy. Further, whereas the youngest adults (aged 16–24) performed better than the oldest (aged 55–65) in most countries, in 2012, the youngest adults in England performed similarly to the oldest adults.

As reported in our thematic analysis specifically looking at young people (Classick *et al.*, forthcoming), 12% of young adults aged 16–24 in the England population were low-skilled in literacy and 16% of were low-skilled in numeracy in 2023.

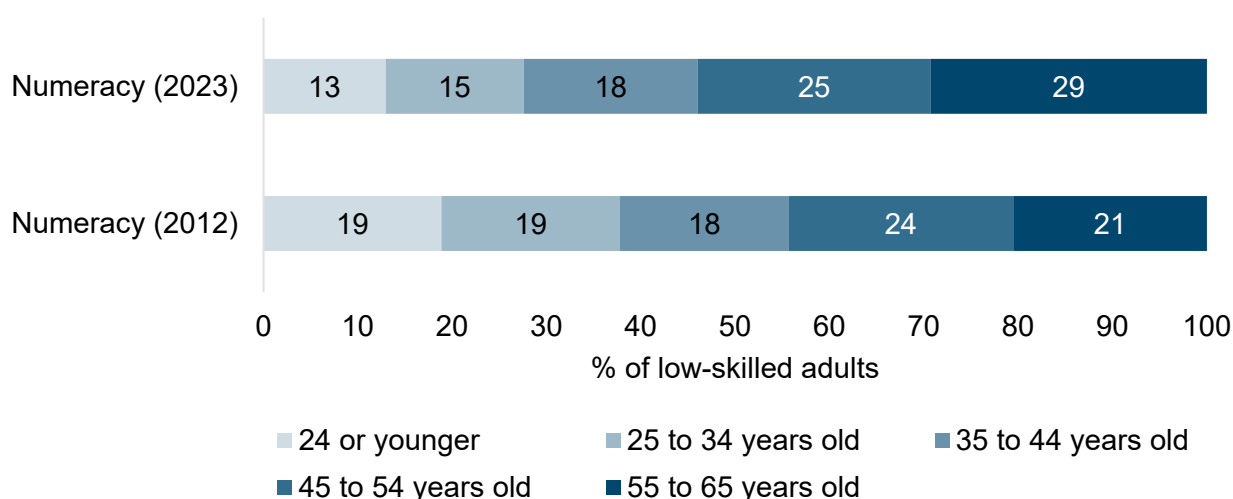
Figure 1 and Figure 2 show the distribution of low-skilled adults in literacy and numeracy in England in 2012 and 2023, broken down by respondents’ age group.

Figure 1 Proportion of low-skilled adults by respondents’ age group – literacy



Source: OECD, PIAAC 2023 England database

Figure 2 Proportion of low-skilled adults by respondents' age group – numeracy



Source: OECD, PIAAC 2023 England database

In 2023, among those who were classified as being low-skilled, 11% of low-skilled adults in literacy and 13% of low-skilled adults in numeracy were aged 24 or below. Over half (56% literacy, 54% numeracy) of all low performers were aged 45 and above. A similar pattern with the minority of low skilled adults being aged 24 and below (11% for literacy, 12% for numeracy) and the majority of low skilled adults being over the age of 45 (55% for literacy, 53% for numeracy) was also seen consistently, on average, across the Cycle 1 comparator countries.

When compared to 2012, the proportion of low-skilled young adults (aged 24 and less) has decreased by six-percentage points for numeracy and nine-percentage points for literacy. The proportion of low-skilled older adults (55–65-year-olds) has in turn increased across both domains. For more detailed on the performance of young people over time, see our other thematic report (Classick *et al.*, forthcoming).

2.4. Low skills and region (England)

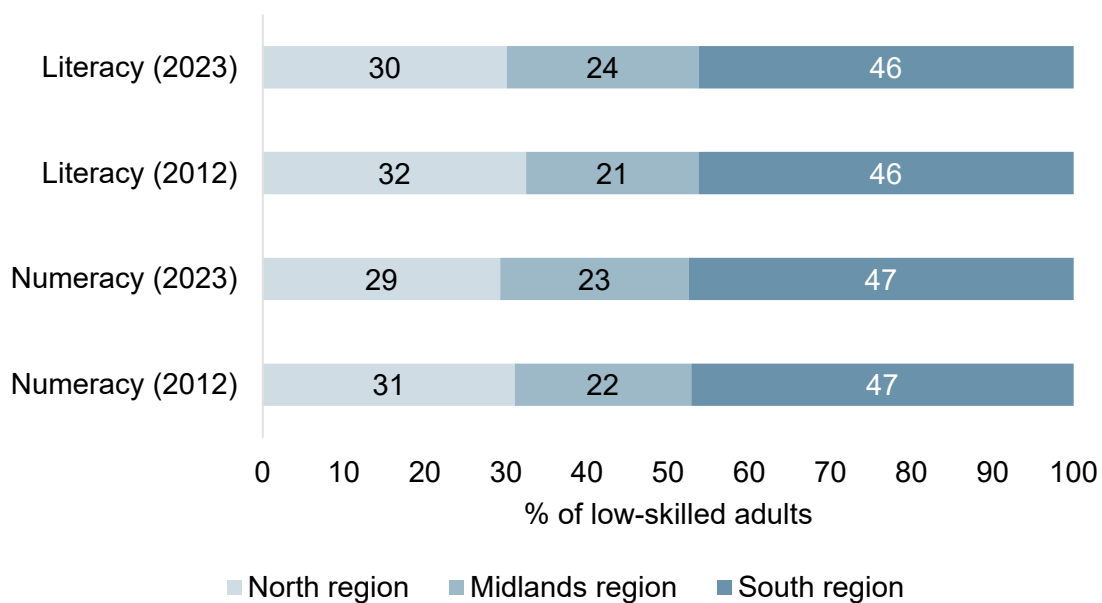
Key findings

- Most low performers lived in the South, followed by the North and Midlands in England, which has not changed between 2012 and 2023. This is largely reflective of how the population in England is distributed.
- However, when we compare the proportion of adults in each region who were low skilled, adults in the South were less likely to be low skilled in literacy compared to other regions.

In 2023, the largest proportion of low performers across all literacy and numeracy were based in the South of England (46% and 47%, respectively), followed by the North of England (29% and 30%, respectively) and the Midlands (23% and 24%, respectively)¹. This reflects the distribution within the wider population with the South of England accounting for a significant portion of England's population. This distribution has largely remained stable since 2012 and also reflects the Midlands having a smaller population size, across both cycles.²

Figure 3 shows the proportion of all low-skilled adults based on which area in England they lived in (in 2012 and 2023).

Figure 3 Regional distribution of low-skilled adults in England



Source: OECD, PIAAC 2023 England database

In addition to showing where adults with low skills were distributed across the country (Figure 3) Table 6 presents the percentage of total the population in each of the three combined regions that had low skills in both cycles. The data suggests that in 2023, adults in the South were less likely to be low skilled in literacy compared to other regions, but for numeracy in 2023, all regions had a similar distribution of adults with low skills. In the North, there was a significant decrease in percentage of adults with low skills in numeracy.

¹ For the region analysis, a new variable was created by merging North East, North West and Yorkshire & Humberside into a new 'North' category, 'South' was created by merging Eastern, London, South East and South West, and 'Midlands' was created by merging East Midlands and West Midlands. This was necessary as the cell count for the original variable was too small.

² Appendix B provides additional information on the breakdown by region to describe the total population within each of the three key areas in England that has low skills in 2012 and 2023.

Table 6 Percentage of population that are low-skilled across the three collated regions in England

Region	Cycle 2 (2023) Literacy	Cycle 1 (2012) Literacy	Cycle 2 (2023) Numeracy	Cycle 1 (2012) Numeracy	Cycle 2 (2023) Problem solving
North	19%	18%	*22%	26%	22%
Midlands	21%	18%	25%	28%	24%
South	14%	14%	21%	18%	18%

Asterisk (*) indicates a Cycle 2 proportion which is statistically significantly different from Cycle 1.

Source: OECD, PIAAC 2023 England database

2.5. Low skills and ethnic background

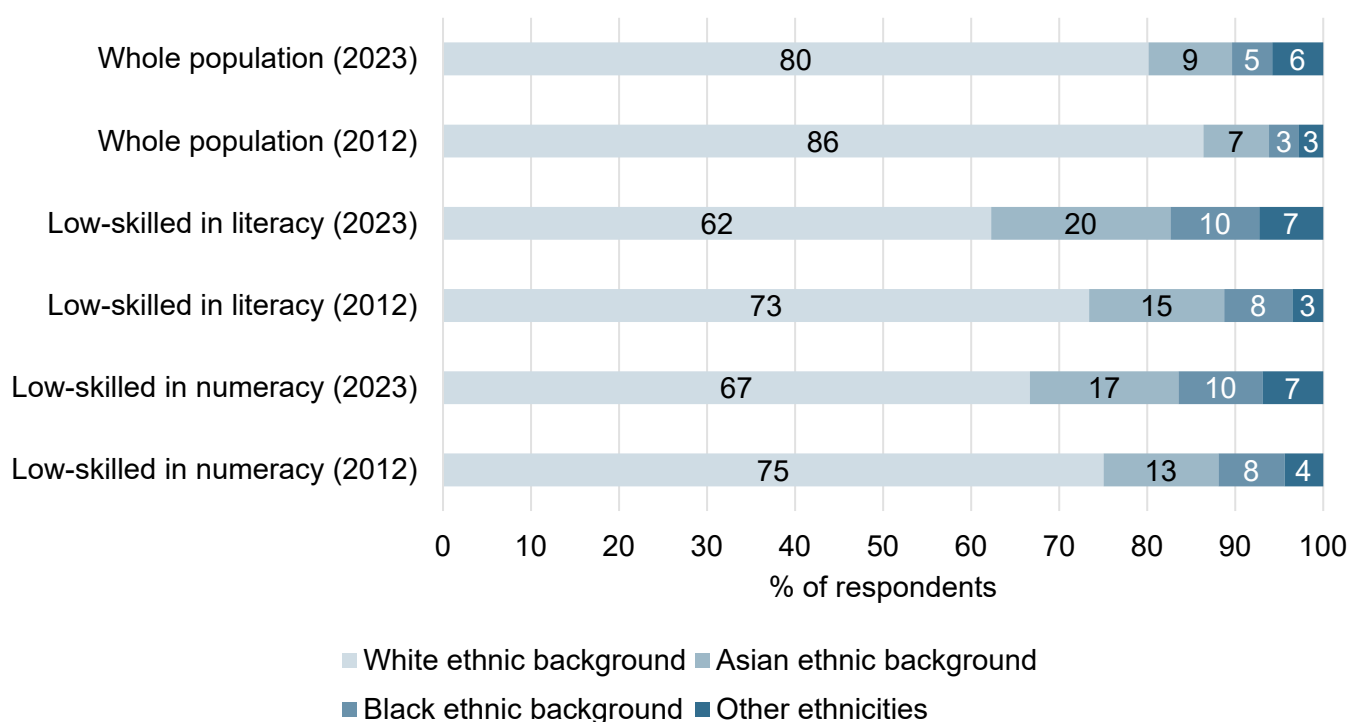
Key findings

- In 2023, in the low-skilled group there was a smaller proportion of adults with a White ethnic background and a larger proportion of adults with an Asian ethnic background than what was seen in the wider population.
- There was a smaller proportion of low-skilled adults with a White ethnic background, and a larger proportion of adults with an Asian ethnic background in 2023 compared to 2012, reflecting wider population shifts.

In 2023, 62% of all low-skilled adults in literacy had a White ethnic background and 67% of all low-skilled adults in numeracy had a White ethnic background. Depending on the domain, 17% to 20% of low-skilled adults came from an Asian ethnic background and 10% of the low-skilled group from a Black ethnic background. There were fewer adults from a White ethnic background and more adults from an Asian ethnic background in the low-skilled group than what was seen in the wider population.

Figure 4 shows the distribution of adults with low skills in literacy and numeracy by ethnic group. This also includes the distribution of ethnic groups within the whole population for comparison.

Figure 4 Changes to ethnic groups background distribution



Source: OECD, PIAAC 2023 England database

In 2023, there was a smaller proportion of low-skilled adults in both literacy and numeracy with a White ethnic background compared to 2012. In contrast, the proportion of low-skilled adults from an Asian ethnic background has increased by about a third (5 percentage points for literacy and 4 percentage points for numeracy) between the two cycles. Within the wider population, there was a 2-percentage point increase in adults with an Asian ethnic background.

2.6. Low skills and first language learnt as a child

Key findings

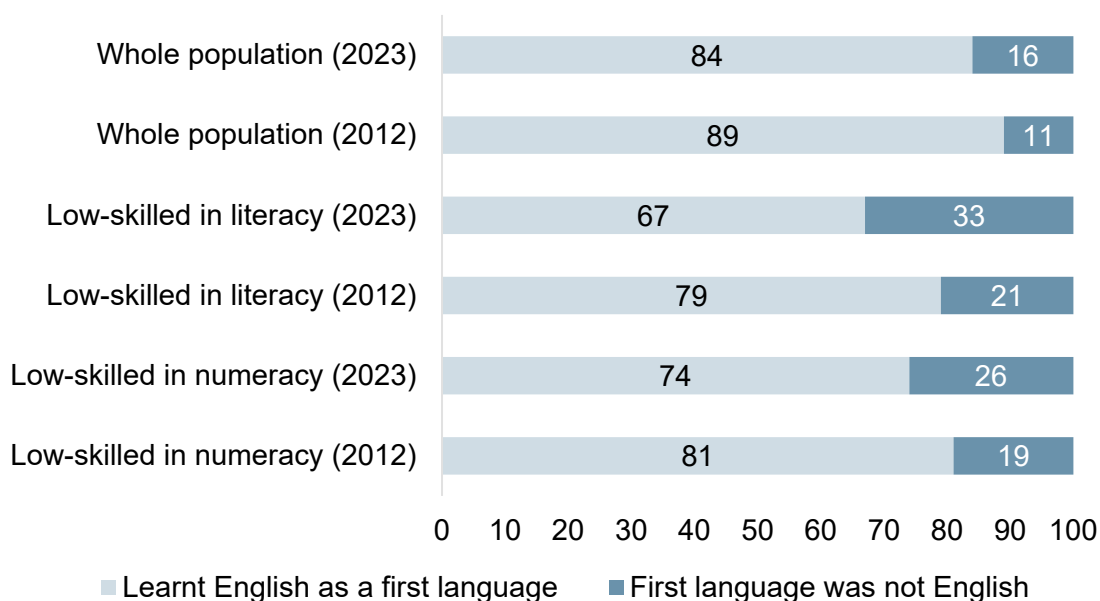
- Disproportionally more adults who learnt a language other than English were low-skilled compared to the breakdown seen for the whole population.
- The proportion of low-skilled adults with a first language other than English has significantly increased over time, reflecting population changes. However, this group has increased proportionally more in the low-skilled group (particularly for literacy) than what was observed across the whole population, meaning that this group are more likely to be low-skilled.
- For England, in 2023, roughly one-third (33% to 35% depending on domain) of adults whose first language was not English were also low-skilled, which was lower than Italy, United States, France and Germany.

In 2023, 67% of those with low skills in literacy learnt English as a child and one-third (33%) of adults with low literacy skills did not learn English as a child. A slightly higher percentage (albeit a similar majority pattern) was also found for numeracy and problem solving, where for 74% and 71% of low-skilled adults, English was not learnt as a first language.

The pattern found in the wider population shows that in England, the majority of all adults learnt English as a first language (89%). This means that disproportionately more adults with a first language other than English were low-skilled compared to the breakdown seen for the whole population.

Figure 5 shows the demographic make-up of low-skilled adults within England depending on whether English was a first language.

Figure 5 Changes to proportion of adults with English as first language



Source: OECD, PIAAC 2023 England database

The proportion of low-skilled adults who learnt English as a first language has significantly decreased across literacy and numeracy between 2012 and 2023 (13 percentage points decrease for literacy, 7-percentage points decrease for numeracy). The proportion of low-skilled adults with a first language other than English has significantly increased over time. Although the proportion of all adults with English as a first language has decreased between 2012 and 2023, the proportion of the low-skilled adult population with English as a first language has decreased by more, meaning that this group are less likely to be low-skilled. Conversely, although the proportion of all adults who did not learn English as a first language has also increased between 2012 and 2023, the proportion of the low-skilled adult population who did not learn English as a

first language has increased more (particularly for literacy), meaning that this group are more likely to be low-skilled.

When breaking this down by gender (Table 7), amongst both those who learnt English as a first language and those who did not, the low-skilled group in literacy and problem solving consisted of roughly the same percentage of men and women. For numeracy, amongst both those who learnt English as a first language and those who did not, the low-skilled group consisted of more women than men, following the wider gender pattern seen across all those with low numeracy skills. These patterns have remained stable over time for literacy and numeracy.

Table 7 Low skills and first language learnt as a child by gender

Language	Gender	Cycle 2 (2023) Literacy	Cycle 1 (2012) Literacy	Cycle 2 (2023) Numeracy	Cycle 1 (2012) Numeracy	Cycle 2 (2023) Problem solving
English not a first language	Women	51%	49%	56%	58%	50%
English not a first language	Men	49%	51%	44%	42%	50%
English a first language	Women	51%	49%	57%	56%	52%
English a first language	Men	49%	51%	43%	44%	48%

Source: OECD, PIAAC 2023 England database

For international comparisons, we looked across our comparator countries to see the proportion of adults who learnt the language of the assessment as a child that were categorised as being low-skilled (out of all adults who learnt the language of the assessment as a child within a country) and the proportion of adults who did not learn the language of the assessment as a child that were categorised as being low-skilled (out of all adults who did not learn the language of the assessment as a child in a country).

In 2023, in Italy, United States, France and Germany, 40% to 60% of adults who did not learn the language of the assessment as a child were low-skilled in literacy and numeracy. For England, this number was comparatively smaller: roughly one-third (35% for literacy, 33% for numeracy) of adults whose first language was not English were low-

skilled. For Finland, only 18% and 13% of adults who did not learn the test language as a child were low-skilled in literacy or numeracy, respectively.

Over time, the proportion of adults who did not learn the test language as a child and were low-skilled varied significantly between countries. For example, in both Sweden and Finland the proportion that were low-skilled in numeracy has roughly halved since 2012 (and there has also been a decrease for literacy) and in Germany there was a significant increase in the proportion that were low-skilled in literacy.

2.7. Low skills and migration history

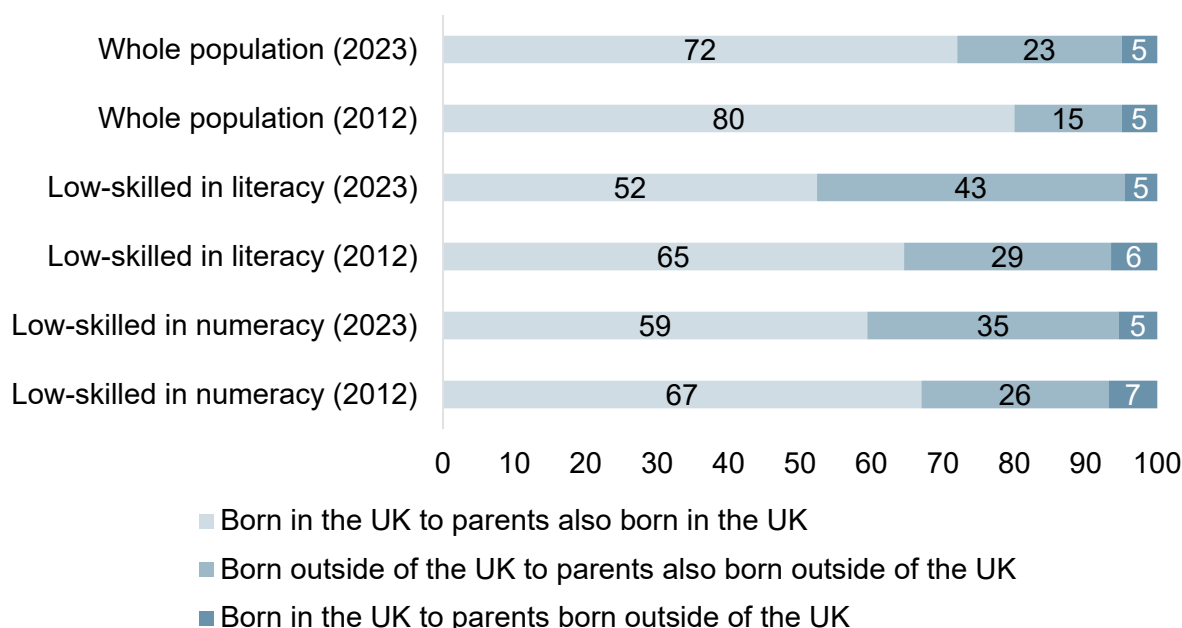
Key findings

- Disproportionally more adults who were born outside of the UK were low-skilled compared to the breakdown seen for the whole population.
- A larger proportion of low-skilled adults were born outside of the UK in 2023 compared to 2012, reflecting a general increase in adults who have moved to the country since 2012.
- In 2023, for England, adults born outside of the UK to parents also born outside of the UK were less likely to be low-skilled than their counterparts in France, Italy and United States.

In England in 2023, just over half (52%) of adults with low skills in literacy were born in the UK to parents also born in the UK, 43% of all low-skilled adults in literacy were born outside of the UK to parents also born outside of the UK, and a minority (5%) was born in the UK to parents born outside of the UK.

Figure 6 shows the proportion of low-skilled adults in England by their migration history for 2012 and 2023 compared with the proportions in the whole population.

Figure 6 Proportion of whole population and low-skilled adults by migration history in England



Source: OECD, PIAAC 2023 England database

There were some slight differences when comparing low performers in literacy with those for numeracy. In England in 2023, 59% of adults with low skills in numeracy were born in the UK to parents also born in the UK, slightly higher than for the low-skilled literacy group (52%). For literacy, 43% of the low-skilled numeracy group were born outside of the UK to parents also born outside of the UK, and 5% were born in the UK to parents born outside of the UK. Around a third (35%) of the low-skilled numeracy group were born outside of the UK to parents also born outside of the UK, and 5% were born in the UK to parents born outside of the UK.

Within the low-skilled group, there were disproportionately more adults who were born outside of the UK compared to what would be expected in the wider population.

In England, the proportion of low-skilled adults that were born outside of the UK to parents also born outside of the UK increased significantly between 2012 and 2023, particularly for literacy. This increase, in part, reflects changes to immigration found in the wider population, reflecting a general increase in first-generation immigrants who have moved to the country since 2012.

In contrast, the proportion of low-skilled adults born in the UK to parents also born in the UK decreased significantly, again, particularly for literacy.

When looking at the gender distribution of low-skilled adults born outside of the UK to parents also born outside of the UK, there was an even distribution of 50% men and 50% women for both literacy and problem solving. For numeracy, the low-skilled group

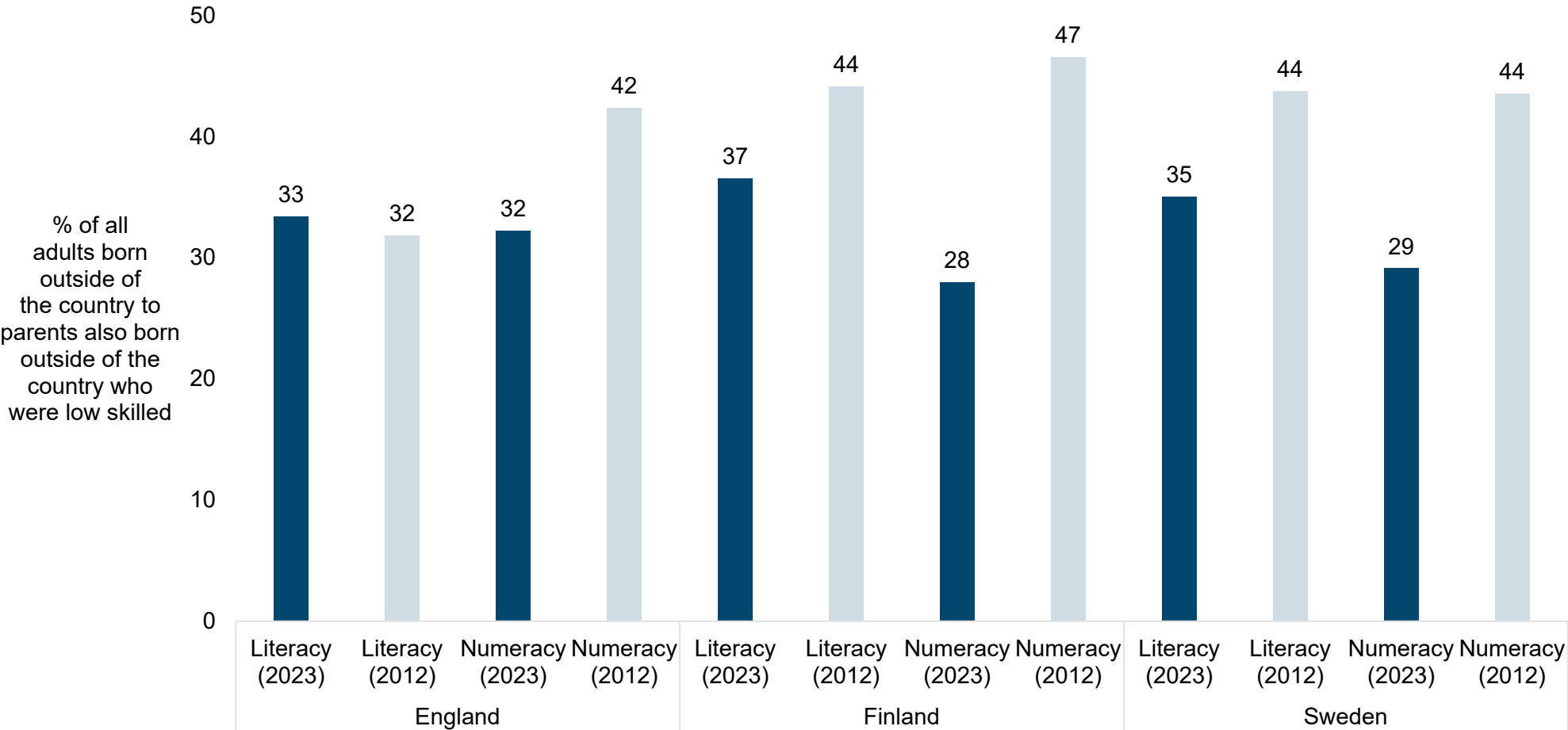
consisted of slightly more women (54%) than men (46%), following the wider gender pattern seen across all those with low numeracy skills. These patterns have remained stable over time for numeracy and literacy.

For an international comparison, we looked at the proportion of adults born outside each comparator country to parents also born outside the country who had low skills in literacy or numeracy in 2012 and 2023. We have not reported on the proportion of native non-immigrants or second-generation immigrants that were low-skilled within each country as the sample size for some of our comparator countries did not meet reporting standards or would reveal disclosing information by deduction.

In 2023, in France, Italy and United States, around half, or just over half, of adults born outside the country to parents born outside the country (out of all adults born outside the country to parents born outside the country) were low-skilled in numeracy or literacy (between 50% to 58%). The proportion low-skilled adults in literacy or numeracy was comparably lower for England, Canada, Sweden and Finland (between 24% to 37%).

Figure 7 presents the data for 2012 and 2023 in England and high performing European countries Sweden and Finland.

Figure 7 Proportion of adults born outside of the country to parents also born outside the country who had low skills (international)



Source: OECD, PIAAC 2023 database

For Sweden and Finland, the proportion of adults with low skills has dropped since 2012. England followed this pattern for numeracy which showed a 10-percentage point drop in low numeracy skills between 2012 and 2023 (see Figure 7). This follows the general pattern of a drop in adults with low numeracy skills in the wider population in England since 2012.

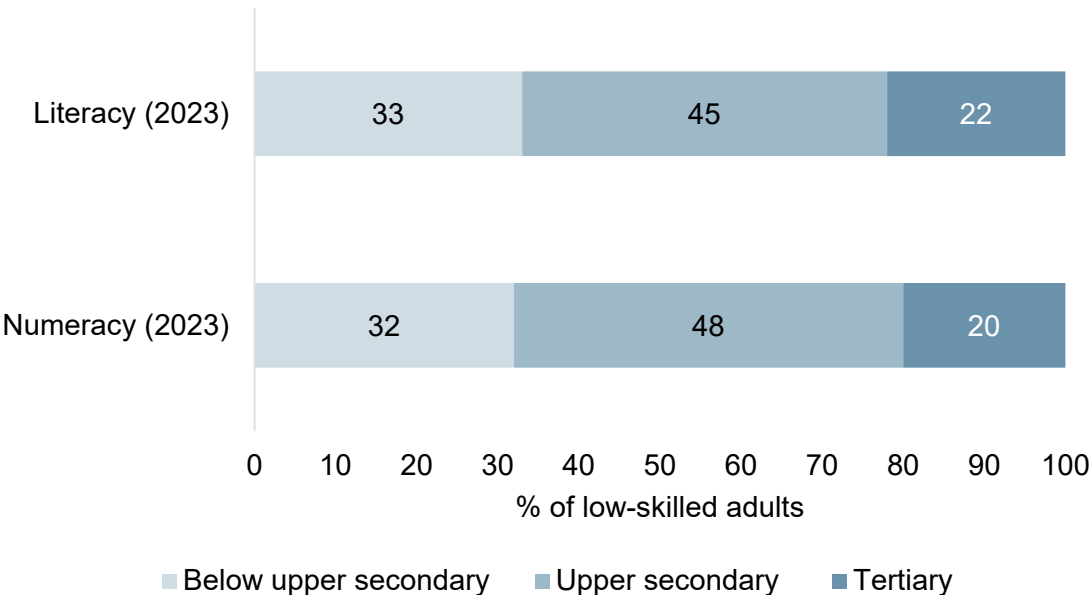
2.8. Low skills and educational qualification levels

Key findings

- In 2023, upper secondary qualifications were the most common qualification amongst low-skilled adults.
- In 2012, the majority of low-skilled adults had below upper secondary level education qualifications. This means that educational qualification levels amongst the low-skilled group increased between 2012 and 2023.

Figure 8 shows the proportion of low-skilled adults in England in 2023 by their education qualification levels³.

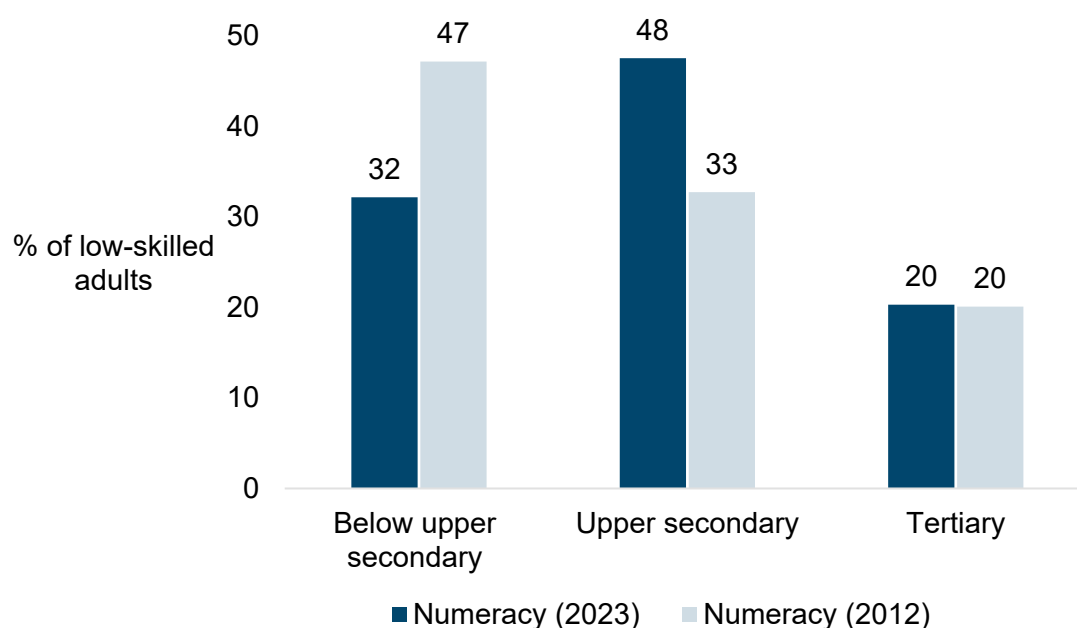
Figure 8 Low-skilled adults in England in 2023 and their educational qualification levels in literacy and numeracy



³ Below upper secondary qualifications include those with no formal qualifications and those with lower-level qualifications such as Entry Level qualifications, Basic Skills qualifications or fewer than five GCSEs (classified as ISCED 1, 2 and 3 short). Upper secondary qualification levels include those with five or more GCSEs, BTEC Level 2 or 3 qualifications, and A levels (ISCED 3 and 4). Adults with tertiary level qualifications include those with a degree or BTEC Level 4 or higher (ISCED 5, 6, 7 and 8).

Data shows that in 2023, upper secondary qualifications were the most common qualification amongst adults who were low-skilled in numeracy or literacy. Around a fifth of low-skilled adults in both domains had tertiary qualifications in 2023, which was broadly comparable to the average of the Cycle 1 comparator countries (18% for literacy, 16% for numeracy).

Figure 9 Changes in education levels in low-skilled adults – numeracy



Source: OECD, PIAAC 2023 England database

Figure 9 shows that there was a marked change in the distribution of educational qualifications amongst the low-skilled adults between 2012 and 2023. Here we display data for numeracy, but literacy followed a similar pattern. In 2012, nearly half (47%) of lower-skilled adults had below upper secondary level qualifications, while one-third (33%) had an upper secondary qualification. This pattern reversed by 2023, with nearly half (48%) of low-skilled adults now having upper secondary qualifications while 32% only had a below upper secondary level qualification.

As reported in our thematic analysis looking specifically at young people (Classick *et al.*, forthcoming), young people in England in 2023 tended to have higher qualifications than in 2012 which could partially explain the change in qualification levels found amongst the low-skilled. This aligns with raising the participation age in England which required young people to remain in education, or training until 18, and which came into effect in 2015.

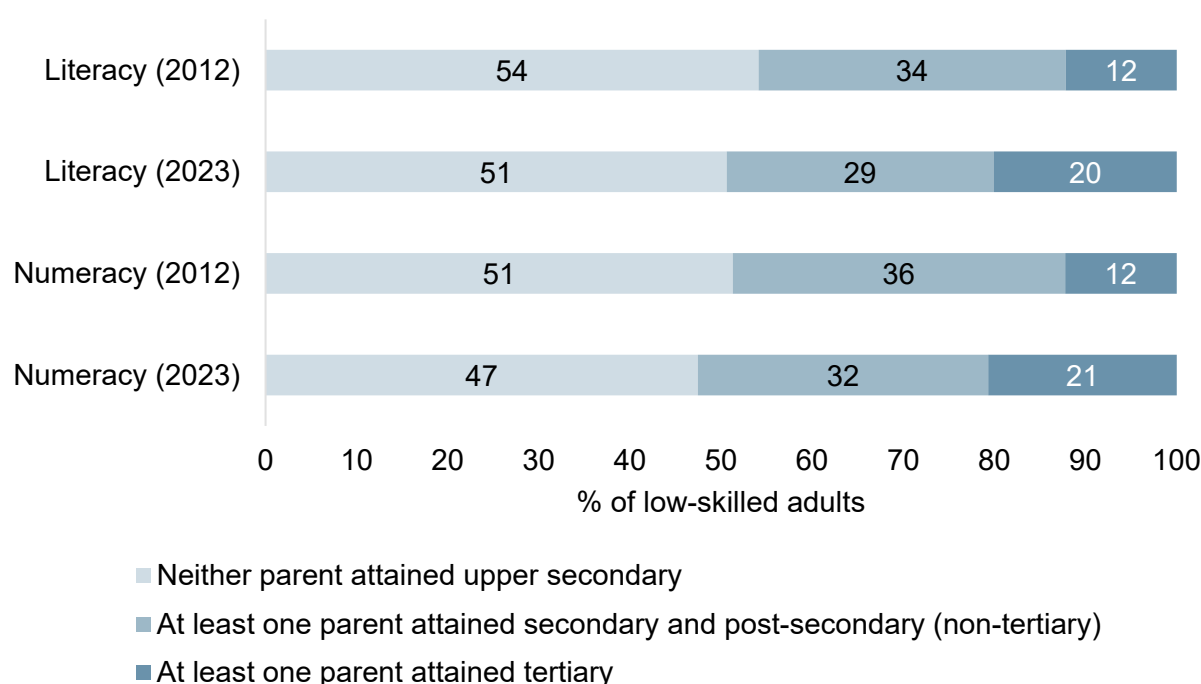
2.9. Low skills and parental qualification levels

Key findings

- It was more common for low-skilled adults to also have parents with low qualifications
More low-skilled adults in 2023 had parents with tertiary education qualifications compared to 2012.
- High performing countries like Sweden and Finland had a smaller proportion of low-skilled adults whose parents had low qualifications, compared to other countries.

Figure 10 shows the proportion of low-skilled adults in England by the parental education level in 2012 and 2023.

Figure 10 Changes in parental qualification education levels for low-skilled adults in England in 2012 and 2023



Note: The sum of percentages in tables may not add to 100 per cent due to rounding.

Source: OECD, PIAAC 2023 England database

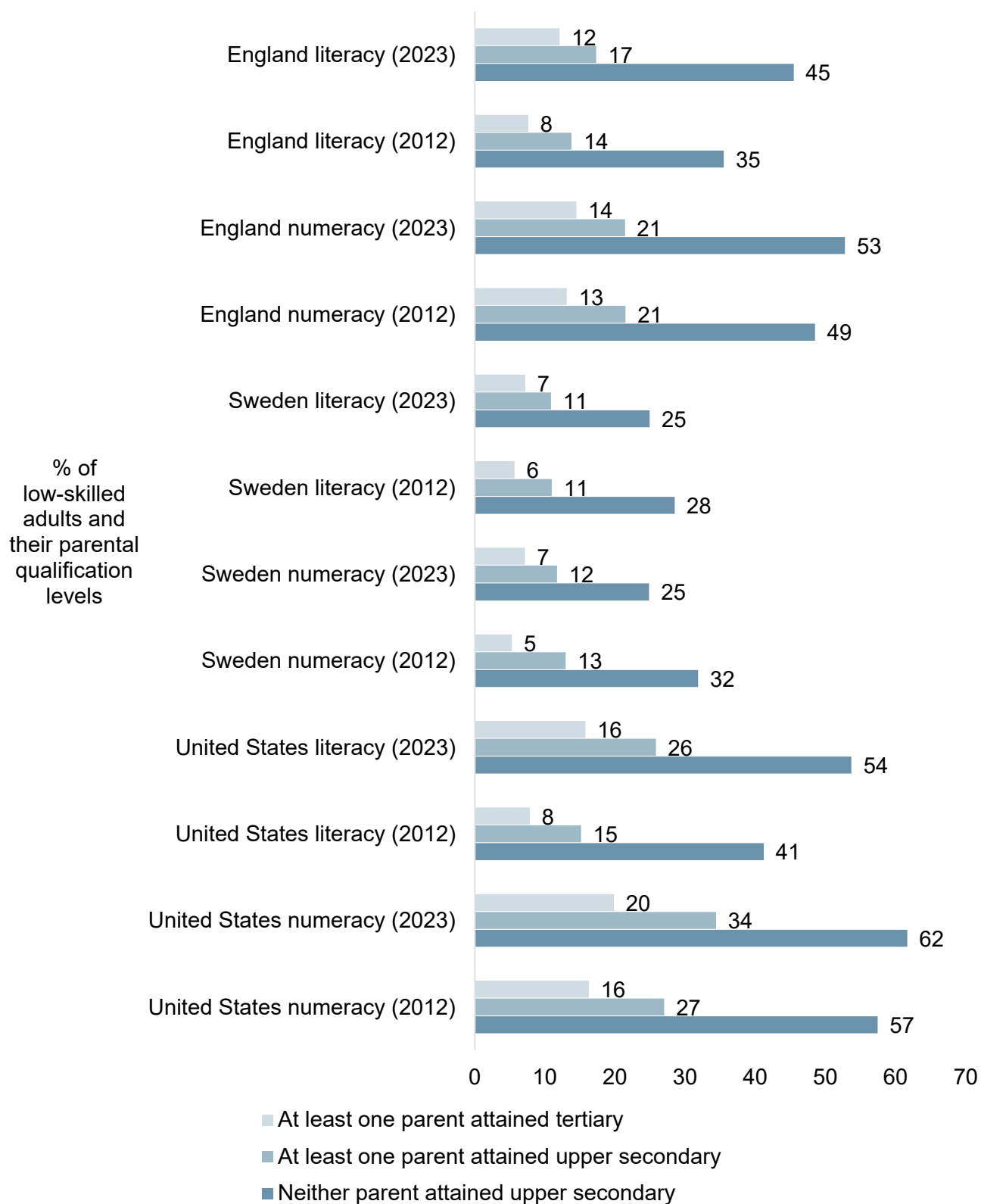
In 2023, for around half of low-skilled adults (51% for literacy, 47% for numeracy) in England, neither parent obtained an upper secondary level qualification. Around one-third (29% for literacy, 32% for numeracy) of low-skilled adults reported that at least one parent attained upper secondary level, while one-fifth (20% for literacy, 21% for numeracy) had at least one parent with a high qualification level (tertiary or above). The Cycle 1 comparator countries average of those whose parents did not attain upper

secondary qualifications was 43% for those who had low skills in both literacy and numeracy.

Between 2012 and 2023, there was a significant 8-percentage point increase in low-skilled adults (for both literacy and numeracy) with highly educated parents (tertiary or above). The proportion of low-skilled adults whose parents had lower qualifications remained largely stable over time. The number of people staying in full time education until the age of 24 has generally increased over the last 3 decades (ONS, 2016). In 1999, the then prime minister, Tony Blair, called for half of young adults to go into higher education (BBC, 1999). Whilst the timing of this does not explain a general increase in higher education for the oldest parents, it might explain an increase for the younger parents of the younger low-skilled adults in 2023.

For the international comparison in Figure 11, we present the proportion of all adults whose parents did not have upper secondary qualifications, with at least one parent who attained upper secondary qualifications, and with at least one parent that had a tertiary level qualification– and that were low-skilled. Data is also shown for the United States and Finland; these countries showed extremes either above or below the proportions of low-skilled adults in England.

Figure 11 International changes in parental education levels of adults with low skills



Source: OECD, PIAAC 2023 database

Regarding comparator countries⁴, in Canada, Germany, Italy and the United States, the proportion of adults whose parents did not obtain upper secondary qualification levels, and that were low-skilled themselves increased between 2012 and 2023 (mostly in literacy).

High performing Sweden and Finland had a smaller proportion of adults whose parents had the lowest qualification levels and who were low-skilled themselves, compared to other countries. These two countries had a smaller proportion of low-skilled adults amongst their whole population compared to other countries (see Table 2).

2.10. Low skills and the use of devices to access information

Key findings

More low-skilled adults in England used devices at work or outside of work daily compared to the average of Cycle 1 comparator countries.

In England, up to 12% of low-skilled adults never use any devices at home or at work to access information.

The national report for England (Wheater *et al.*, 2024) highlighted that more frequent use of ICT skills in the workplace was associated with higher scores in literacy, numeracy and adaptive problem solving compared with adults using these skills infrequently at work.

In 2023, almost three-quarters of all low-skilled adults in England used devices at work or outside of work daily (between 72% to 75% depending on domain). This is higher than the average of Cycle 1 comparator countries (between 58% to 62% for literacy, numeracy or problem solving). In contrast, between 6% to 12% of low-skilled adults in England never use any devices at home or at work to access information.

Access to and frequency of using devices changed significantly between 2012 and 2023. In 2012, around one-third (31% to 36%) of low-skilled adults in England reported never using a device at work, with roughly another third using devices at work every day (32% to 36%). Between 13% and 15% of people reported never using a device outside of work.

⁴ Note, data for this variable was not available for France and therefore, no data for France is reported

3. Low skills, employment and earnings

This chapter explores the relationship between skills, employment and earnings for England's lowest performers, and how this has changed since 2012. Where possible, we compare with the Cycle 1 comparator countries average.

3.1. Low skills and employment

Key findings

- The employment rate was lower within the low-skilled group compared to the whole population.
- The unemployment rate amongst low-skilled adults in England decreased in numeracy since 2012 (the difference was not significant in literacy), and 37-38% are now outside the labour force entirely (neither employed nor seeking work).
- Cycle 1 comparator countries had, on average, a higher employment rate of low-skilled adults than England.

In England, around 55-56% of adults with low literacy or numeracy skills were in employment in 2023. This was markedly below the employment rate for all adults (16–65-year-olds, 75%).

Table 8 shows that the proportion of employed people amongst the low-skilled group has not changed since 2012.

Table 8 Employment status of adults with low skills

Employment status	Country	Cycle 2 (2023) Literacy	Cycle 1 (2012) Literacy	Cycle 2 (2023) Numeracy	Cycle 1 (2012) Numeracy	Cycle 2 (2023) Problem solving
Employed	England	56%	55%	55%	56%	59%
Employed	Cycle 1 comparator countries	*62%	56%	*61%	55%	64%
Unemployed	England	8%	11%	*7%	11%	7%
Unemployed	Cycle 1 comparator countries	*5%	8%	*6%	8%	5%
Outside the labour force	England	37%	34%	38%	33%	34%
Outside the labour force	Cycle 1 comparator countries	*32%	36%	*33%	37%	31%

Asterisk (*) indicates a Cycle 2 proportion which is statistically significantly different from Cycle 1.

Source: OECD, PIAAC 2023 England database

Whilst the employment rate was lower within the low-skilled group compared to the whole population, low performers were less likely to be unemployed in 2023 compared to 2012 (this was significant for adults with low skills in numeracy). The percentage of those outside of the workforce⁵ was not significantly different between 2012 and 2023. When looking at the whole population, the proportion of those outside the workforce has significantly decreased between 2012 (23%) and 2023 (20%) and remains lower than for the low-skilled group.

Across the Cycle 1 comparator countries in 2023, on average 61% to 64% (depending on domain) of low-skilled adults were employed - a higher employment rate compared to England. Internationally, a significantly lower proportion of low-skilled adults were categorised as being outside of the workforce in 2023 compared to 2012. In 2012, the international employment rates (that is, the average for Cycle 1 comparator countries) for

⁵ Outside of the workforce means respondents are not in employment and not looking for work. This could be for several reasons, such as studying, being retired, looking after family, illness or disability, or not needing employment.

low-skilled adults in numeracy and literacy were comparable to England, suggesting a better utilisation of low-skilled adults in other Cycle 1 comparator countries in 2023.

3.2. Low skills and occupation and industry

Key findings

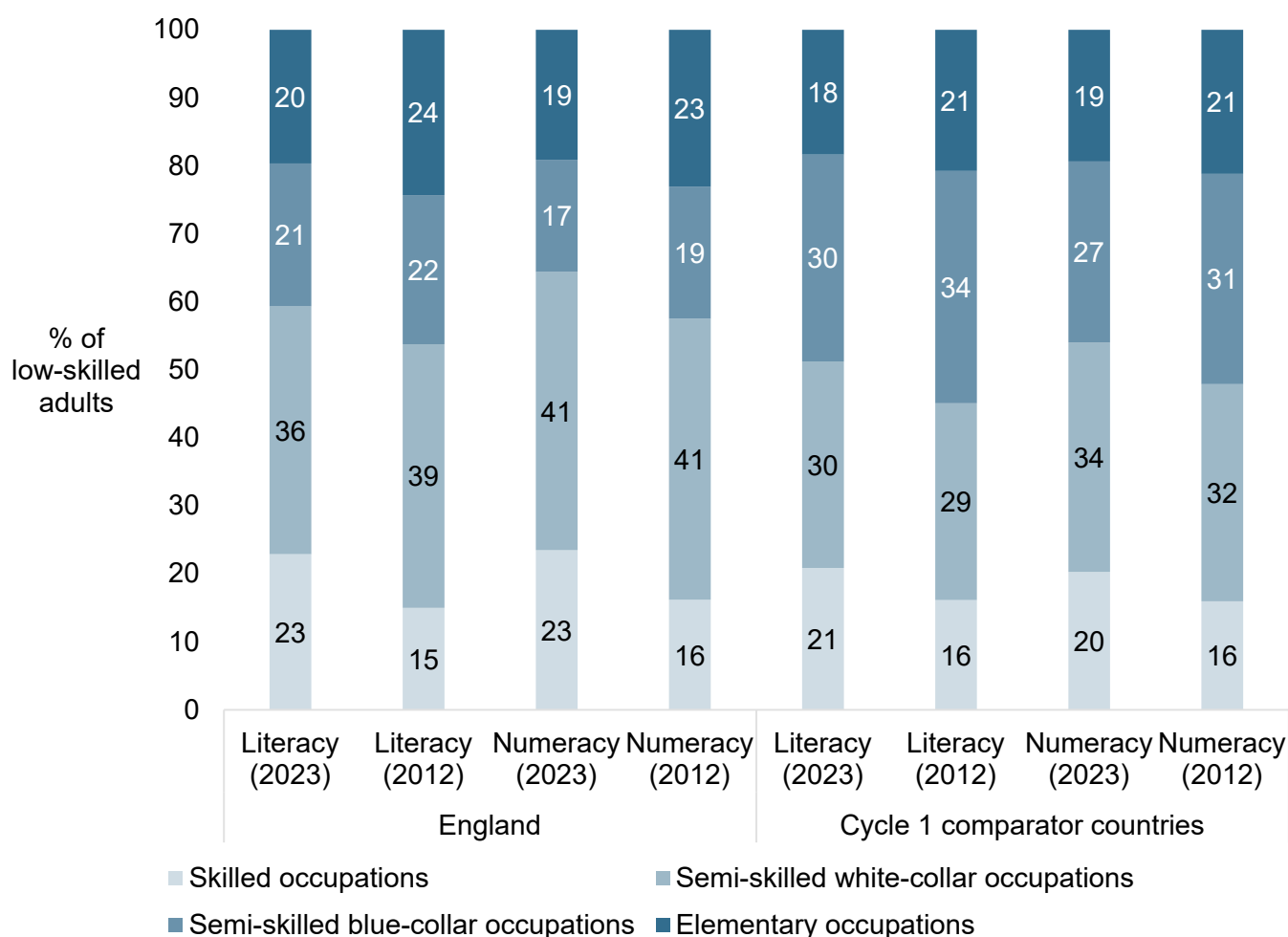
- In 2023, the largest proportion of low-skilled adults worked in semi-skilled white-collar occupations.
- A larger proportion of low-skilled adults were working in skilled occupations in 2023 compared to 2012.

According to (Wheater *et al.*, 2024), adults working in professional, scientific and technical activities had the highest average scores for literacy, numeracy and adaptive problem solving in England. Their average scores in literacy and adaptive problem solving were significantly higher than adults working in the same professions across the =OECD.

Figure 12 shows the proportion of low-skilled adults commonly found to be working in certain occupation types⁶ in England and Cycle 1 comparator countries.

⁶ Elementary occupations are those defined in ISCO-08 as 9-Elementary Occupations. Semi-skilled blue-collar occupations include Skilled Agricultural, Forestry and Fishery Workers; Craft and Related Trades Workers; and Plant and Machine Operators, and Assemblers. Semi-skilled white-collar occupations include Clerical Support Workers and Service and Sales Workers. Skilled occupations include Managers, Professionals, and Technicians and Associate Professionals. Information provided is based on respondents' last or current job.

Figure 12 Changes in occupation type for low-skilled adults



Source: OECD, PIAAC 2023 database

When looking at low-skilled adults in England, in 2023 the largest proportion of low-skilled adults worked in semi-skilled white-collar occupations. This has remained stable over the two cycles. Conversely, in 2023, there were significantly more low-skilled adults working within skilled occupations compared to 2012.

Across the Cycle 1 comparator countries, on average, semi-skilled white-collar and semi-skilled blue-collar occupations were the two most common (or joint most common in the case of literacy) occupations for low-skilled adults in 2023. There was a significant decrease in low-skilled adults working within semi-skilled blue collar, or elementary occupations, on average.

In terms of specific sectors, in 2023 in England, most low-skilled adults worked in industries such as trade, accommodation and transport (19% to 20% across all three domains), followed by non-marketed services (13% to 16%) and business and other services (10% to 11%)⁷. The remaining low-skilled adults fell either into the 'unknown /

⁷ Due to small cell numbers, the industry variable was recoded to match the SIC 07. Non-marketed services included includes public admin and defence, education, health and social work. Trade,

unemployed' category (45% to 48%), and a minority was employed within either primary sector and utilities, the manufacturing or construction industry (jointly 7% to 9%, note that that cell sizes were too low to report these individually for each of these categories). This pattern has remained stable since 2012.

3.3. Low skills and job mismatch

Key findings

- Around three-quarters of low-skilled adults were over-qualified for their current job.

According to OECD analyses, around 7% of workers in England were reported to be under-qualified for their current job, meaning their highest educational qualification was below the level that was typically required for their current job (OECD, 2024c). The Survey of Adult Skills (OECD, 2024c) suggested that aspects such as lack of computer or project management skills were the main reasons amongst the English population (16–65 year old) for being reportedly under-qualified for the current job.

In England, 37% of workers reported to be overqualified, meaning their highest educational qualification was above the level that was typically required for their current job (OECD, 2024c). Across the OECD countries on average, only 23% of workers were reportedly over-qualified. This suggests that worker qualification mismatch (based on level of qualifications for all adults) was very acute in England (OECD, 2024a).

When looking at the low-skilled population specifically, our analysis shows that for England in 2023 the vast majority of low-skilled adults were over-qualified for their current job (76% for literacy, 73% for numeracy, 72% for problem solving). Between 19% and 22% of low-skilled adults (depending on domain) reported that their qualification just matched the job requirements. Less than 7% reported being under-qualified for their current job.

As reported in Section 2.8, the majority of low-skilled adults in England today have upper secondary qualifications despite being low-skilled, which may likely explain the present qualifications mismatch for low performers.

accommodation and transport include wholesale and retail trade, transport and storage, accommodation and food. Primary sector and utilities include agriculture, electricity and gas.

3.4. Low skills and earnings

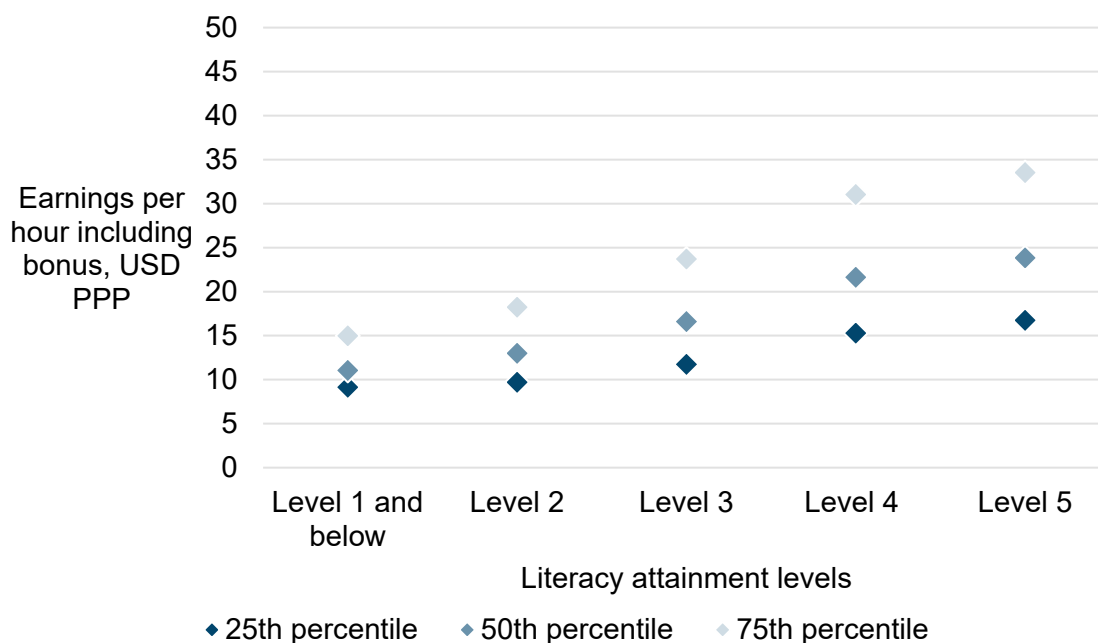
Key findings

- Within the low-skilled group, there was little income variation.
- The general earnings distribution across all skill levels has remained unchanged since 2012.

According to (Wheater *et al.*, 2024), in England in 2023, the highest earners tended to have the highest skills in literacy, numeracy and adaptive problem solving. However, there was little relationship between salary and skills for adults in bottom 50% of earners.

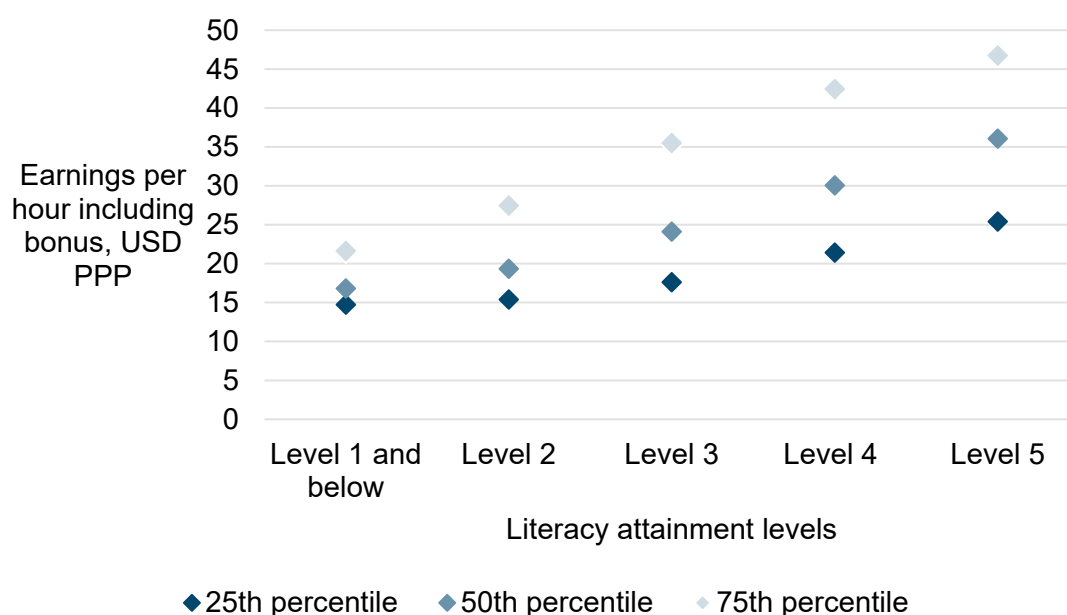
In this section, we looked at the relationship between skills and earnings to establish whether the relationship between earnings for low-skilled adults has changed since 2012 and whether it differs for those with higher skills. Here, earnings were reported as average hourly earnings (we report this in United States Dollars (USD) as this variable allows for international comparisons) and we report on adults across all literacy proficiency levels, which was highly correlated with proficiency levels in numeracy and adaptive problem solving.

Figure 13 Changes in earnings distribution across all literacy proficiency levels – Cycle 1 (2012)



Source: OECD, PIAAC 2023 England database

Figure 14 Changes in earnings distribution across all literacy proficiency levels – Cycle 2 (2023)



Source: OECD, PIAAC 2023 England database

Figure 13 and Figure 14 show that when looking at all adults currently in employment, earnings (measured in USD PPP) increased with respondents' skill levels. Lowest achievers had the smallest income variety (that is, the difference between adults at the 25th and 75th percentile of income distribution), and that income variation increased amongst more highly skilled adults. In terms of the income distribution within each percentile, there have been little changes since 2012. Changes in average earnings between 2012 and 2023 are likely to reflect wider changes in inflation over time.

3.5. Low skill, ICT skills and earnings

Key findings

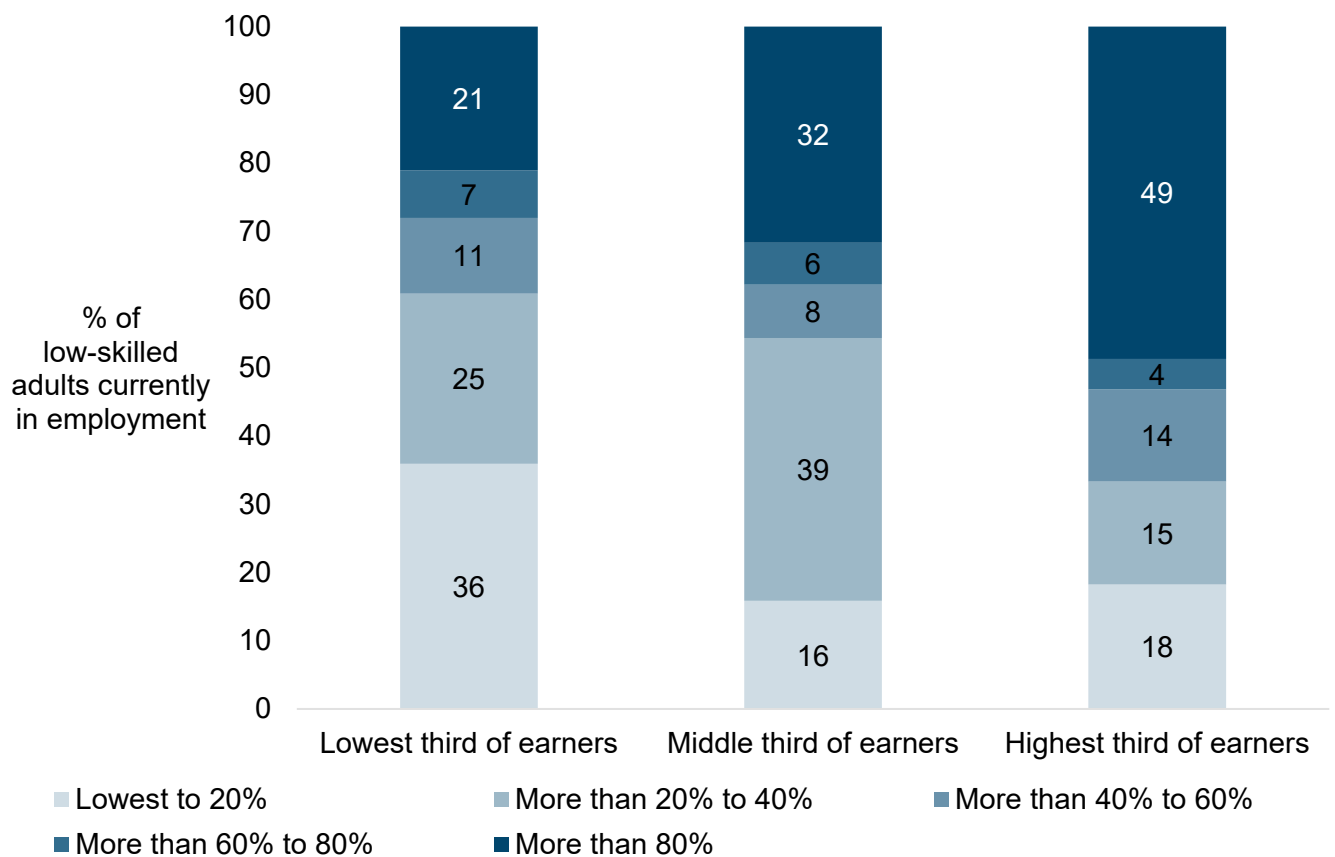
In 2023, the use of ICT skills at work was related to higher earnings amongst the low-skilled group.

As part of our analysis, we also ran correlations to see whether, amongst the low-skilled group, earnings were related to the use of certain skills at work and at home. For adults identified as having low skills, the use of ICT skills at work showed correlations with earnings (0.25-0.28, depending on domain). This suggests that for low performers, having higher ICT skills was linked to earning a higher salary. Other skills at work, such as use of reading or numeracy skills at work, had weaker effects on salary amongst the low-skilled group. As reported in 2012, the index of learning at work, as well as skills in

life, such as use of reading or numeracy skills at home, had little to no relationship with earnings (correlation coefficient between 0.15 to 0.00).

Figure 15 shows the relationship between use of ICT skills at work and earnings for low-skilled adults (literacy) in 2023 in more detail. Adults were grouped in quintiles indicating how often they usually engaged with the ICT in this way from 20% or less of their time to more than 80% of their time. Around half (49%) of low-skilled adults who were earning the most (that is, the highest third of earners) use ICT skills at work most frequently (more than 80% of the time).

Figure 15 Link between frequency of use of ICT skills at work and earnings in 2023



Source: OECD, PIAAC 2023 England database

4. Common employment pathways for low-skilled adults in England

Key findings

- Over time and within their respective birth cohorts, younger low-skilled adults were more likely to move out of unemployment than older low-skilled adults.
- Older low-skilled adults were increasingly moving out of the workforce, and they seem to be more so than 11 years ago.
- Over time and within their respective birth cohorts, younger low-skilled adults were more likely to move between different occupation and industry types than older adults.

In this section we investigate the likely pathways for adults with low skills in England. For this, we compare birth-cohorts from the 2012 survey with the equivalent cohort (11 years older) in the 2023 survey. Note that no longitudinal data was available, so the different cohorts consisted of different adults and therefore is only a proxy to identify trends.

In order to keep the sample size within each category at a workable level, this analysis has combined low-skilled adults across both literacy and numeracy. This means, if an adult was performing at Level 1 or below in *either* literacy *or* numeracy they were included in this analysis. As such, results are not split by domain.

This analysis compares the age groups (1) 34 and below, (2) 35–44, and (3) 45–54 in the 2012 study with the corresponding birth-cohort 11 years later. We look at the proportion of low-skilled adults in low-paid jobs in 2012 versus 2023 and whether the pattern differed by age-group.

4.1. Pathways for unemployed low-skilled adults

In 2023, a low-skilled worker in the youngest age-bracket (aged 34 or below in 2012) was significantly more likely to be employed (60%) and less likely to be unemployed than they would have been 11 years previously (50%).

There were interesting findings for adults moving outside of the labour force compared with 2012. Figure 16 and Table 9 show movement out of the labour market of low skilled adults over time.

Figure 16 Change in percentage of low-skilled adults outside of the labour force since 2012

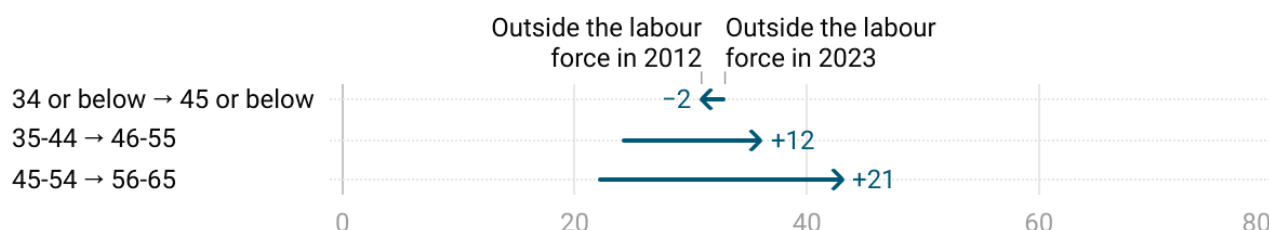


Table 9 Change in percentage of low-skilled adults outside of the labour force since 2012

Age of birth cohort in 2012 and 2023	Outside the labour force (2012)	Outside the labour force (2023)	Difference between 2012 and 2023
34 or below / 45 or below	33	31	-2
35–44 / 46–55	24	36	*+12
45–54 / 56–65	22	43	*+21

Asterisk (*) indicates a statistically significant difference.

Source: OECD, PIAAC 2023 England database

In 2023, a low performer in the middle (aged 35–44 in 2012) or oldest age-group (45–54 in 2012) was significantly more likely to be outside the labour force than 11 years previously. This could be expected as adults are older, but when we compare 45–54-year-olds in 2012 and 2023 (that is the same age groups at different points in time, rather than the same birth-cohort) adults in 2023 were more likely to be out of the labour force and less likely to be employed than the same age-cohort in 2012. This suggests that older low-skilled adults tended to drop out of the labour force and are inactive for reasons, such as caring for family, short-term or long-term illness or disability or choosing not to actively look / apply for jobs (see Figure 16). While it may be expected that adults are increasingly moving out of the workforce, they seemed to be more so than 11 years ago. Over time and within their respective birth cohorts, younger low-skilled adults appear to be more likely to move out of unemployment than older low-skilled adults.

4.2. Occupation pathways of low-skilled adults

Figure 17 and Table 10 show the type of occupations young people are working in and how this has changed between 2012 and 2023.

Figure 17 Change in occupation type for younger low-skilled adults over time

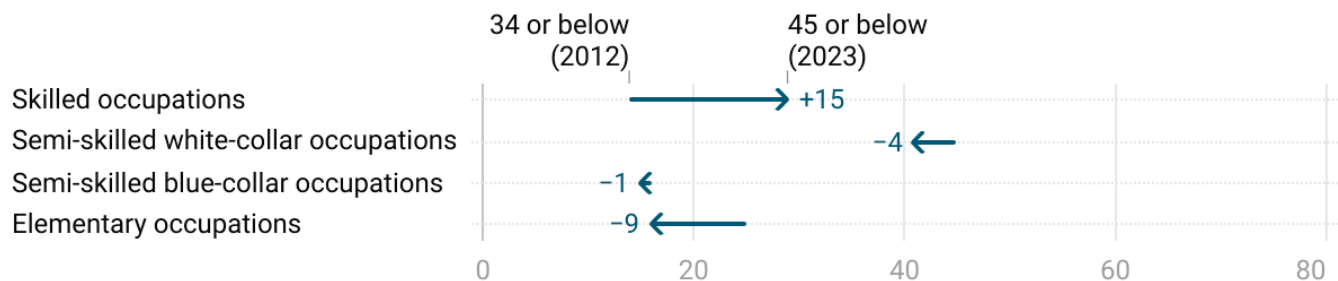


Table 10 Change in occupation type for younger low-skilled adults over time

Occupation type	Those aged 34 or below in 2012	Those aged 45 or below in 2023	Difference between 2012 and 2023
Skilled occupations	14	29	*+15
Semi-skilled white-collar occupations	45	41	-4
Semi-skilled blue-collar occupations	16	15	-1
Elementary occupations	25	16	*-9

Asterisk (*) indicates a statistically significant difference.

Source: OECD, PIAAC 2023 England database

In 2023, low-skilled adults in the youngest birth-cohort were more likely to be working in skilled occupations and less likely to be working in elementary occupations than 11 years previously (see Figure 17). This was the only birth-cohort that showed a significant change. Older low-skilled adults were similarly distributed across occupation types in 2012 and 2023 and most in semi-skilled white-collar occupations. It was also in line with what has been found in our thematic report specifically looking at young people (Classick *et al.*, forthcoming), with 16–24-year olds now more likely to be working in skilled occupations in 2023 compared to 2012.

Figure 18 and Table 11 show the type of industries middle-aged adults (aged 35–44 in 2012) worked in and how this has changed between 2012 and 2023.

Figure 18 Change in industry choice for middle-aged low-skilled adults

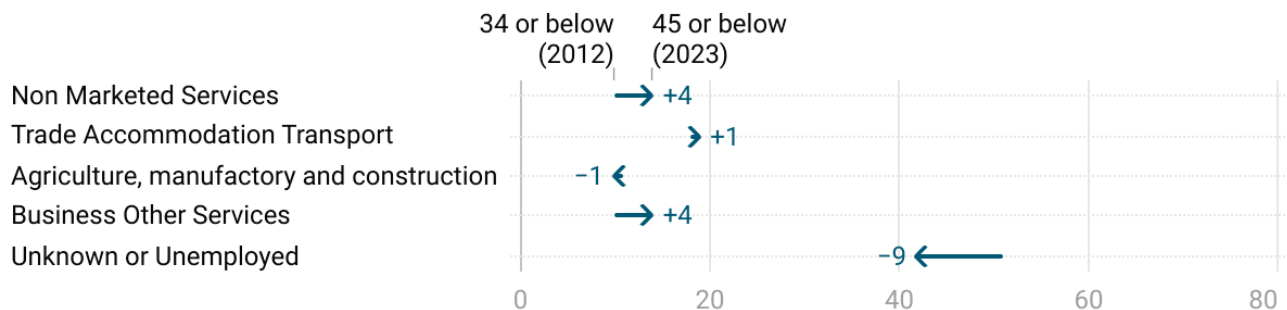


Table 11 Change in industry choice for middle-aged low-skilled adults

Industry	Those aged 34 or below in 2012	Those aged 45 or below in 2023	Difference between 2012 and 2023
Non-marketed services	10	14	+4
Trade, accommodation and transport	18	19	+1
Agriculture, manufactory and construction	11	10	-1
Business or other services	10	14	+4
Unknown or unemployed	51	42	*-9

Asterisk (*) indicates a statistically significant difference.

Source: OECD, PIAAC 2023 England database

Amongst those with a known industry, the majority of younger low-skilled adults (aged 34 or below in 2012) tended to work within trade, accommodation and transport in 2012. In 2023, this was still the most popular destination for the youngest birth cohort amongst those with a known industry, but other areas such as business, other services and non-marketed services have also become more popular occupations amongst low performers (see Figure 18).

Low-skilled workers in the middle age group (aged 35–44 in 2012) also showed strongest preference for jobs in trade, accommodation and transport in 2012, but 11 years later,

more adults had moved to work in business or other services, and in non-marketed services. The oldest age group was dominated by an increase in unknown or unemployed low-skilled adults which resulted in a reduction of jobs across all industries.

5. Conclusion

Despite policy interventions since 2012, England continues to face a substantial low skills challenge. Approximately one in five working-age adults still lack proficiency in basic literacy, numeracy, or both. However, this report also identifies some positive stories and clarifies where attention is most urgently needed.

5.1. Positive findings

The proportion of young adults (24 years old and below) with low skills almost halved between 2012 and 2023. This suggests that education reforms, including raising the participation age to 18, have had an impact on skills.

In 2023, the majority of low-skilled adults were in employment, and the unemployment rate for adults with low skills in numeracy had decreased significantly since 2012. Low-skilled adults were more likely to be working within skilled occupations than in 2012.

Adults who were born outside of the UK or who learnt English as an additional language were less likely to have low skills than their counterparts in some of our comparator countries.

5.2. Persistent and emerging concerns

There are significant challenges highlighted in this report.

Literacy and numeracy skills have not matched the rise in qualifications. Low-skilled adults were more likely to have higher qualifications than in 2012. In 2012, most low-skilled adults had below upper secondary qualifications; in 2023, most have upper secondary qualifications and one-fifth have tertiary qualifications. This is partially driven by younger people remaining in education for longer, but it also suggests that higher qualifications do not necessarily protect against being low-skilled. This mismatch contributes to over-qualification in the labour market, with three-quarters of low-skilled workers reporting holding qualifications that exceed their job requirements.

Older adults face increased risk of exclusion from the workforce. In 2023, over half of low performers across literacy and numeracy were aged 45 and above. Older adults were more likely to be out of the workforce than the same birth-cohort 11 years previously and were less likely to move between different occupation and industry types than younger adults (within their respective birth cohorts) which could be a consequence of navigating shifting job markets in a post Covid-19 world.

There has been no decrease in the proportion of adults with low literacy skills. Whilst the proportion of adults with low skills in numeracy has decreased since 2012, there has been no similar improvement in literacy. Given the importance for good

foundations in literacy to enable workplace learning and communication, this is concerning. One-third of low-skilled adults in literacy did not learn English as a first language (and 36% for numeracy), pointing to continued need for accessible, effective English language provision in order to effectively access literacy and numeracy-related tasks in daily lives and work.

Women continue to have lower numeracy skills than men. This was also true for all other comparator countries, except for Finland. However, most of the other comparator countries have seen a reduction in difference between men and women since 2012.

Low skilled adults in England are under-utilised compared with their counterparts in other Cycle 1 comparator countries. In 2023, 55-56% of low-skilled adults were employed in England, compared to 61-64% across Cycle 1 comparator countries, on average. Concerningly, 37-38% were outside the labour force entirely. England is not successfully utilising its low-skilled population to the extent other countries achieve, representing lost economic productivity and individual potential.

5.3. What does the evidence suggest for areas of focus?

The analysis identifies some priority areas. These include:

- **Exploring how best to connect qualifications and skills.** The rise in higher level qualifications has not protected against low skills in literacy and numeracy. This suggests more work is needed to understand how best to develop these important skills consistently as part of higher-level qualifications.
- **Targeting interventions by age.** Younger and older low-skilled adults face different challenges and, therefore, are likely to require different support. Older adults particularly need support remaining economically active, potentially through skills updating, workplace adjustments, or flexible working.
- **Prioritising digital skills for low-skilled adults in work.** We found an earnings premium for ICT skills use among low performers suggests that digital upskilling could improve incomes without requiring major qualification acquisition.
- **Learning from successes in numeracy skills development.** Numeracy interventions appear more successful than literacy approaches. Understanding why, and applying those lessons to literacy provision, could improve outcomes. For the substantial minority who did not learn English as a first language, more work to understand successful provision to improve literacy is essential.
- **Exploring lessons learnt from how other OECD countries (that is the Cycle 1 comparator countries) achieve higher employment rates for low-skilled adults** could unlock significant economic potential.

- **Understanding and addressing the numeracy gender gap.** Women's persistently lower numeracy proficiency deserves focused investigation. Finland demonstrates that gender parity amongst low skilled adults is achievable.

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Appendix A Comparison of the 2011 Skills for Life survey with the 2013 PIAAC levels

NFER was commissioned to compare the 2011 Skills for Life survey (SfL2011) and the OECD Survey of Adult Skills (2013) PIAAC levels. This comprised (a) a desk review of the two surveys and (b) a calibration between the two surveys (Wheater *et al.*, 2013).

The calibration provides an estimate of the equivalence of PIAAC 2013 levels and NQF levels from SfL2011, and is, therefore, useful to ground PIAAC levels and outcomes in England's national qualifications context.

The full comparison and calibration with caveats is available in Appendix G, Table G1 of Wheeler *et al.*, 2013. There are also some further caveats when making comparisons to PIAAC levels in the 2023 Survey of Adult Skills.

Key caveats are:

- There was no sample that sat both PIAAC 2013 assessments and SfL2011. Therefore, the link between the assessments was based on the assumption that the two samples were the same. This was not an unreasonable assumption as both surveys were weighted to the national population at the time. The comparisons of gender, age, ethnic group, English as a first language and highest qualification were very similar.
- In order to carry out the calibration, the assessments should assess the same construct, for example, the construct of literacy should be the same for both assessments. The desk review found differences in what is assessed as literacy between the two surveys. The frameworks and assessments for numeracy were more similar.
- As discussed in Section 1.5 of the 2024 Survey of Adults Skills national report for England (Wheater *et al.*, 2024), the frameworks for literacy and, particularly, numeracy have changed since 2013 and, therefore, differences between the assessments in PIAAC and SfL2011 may have increased.

We have reproduced the 2013 calibration in Table A.1 for ease of reference.

Table A.1 Summary of the equivalence of PIAAC 2013 levels and NQF levels from SfL2011

OECD PIAAC 2013 Literacy and Numeracy Levels	Rough equivalent National Qualification Framework (NQF) Levels: Literacy	Rough equivalent National Qualification Framework (NQF) Levels: Numeracy
Below Level 1	Entry Level 1 Entry Level 2	Entry Level 1
Level 1	Entry Level 3	Entry Level 2
Level 2	Level 1	Entry Level 3
Level 3	Level 2 and above	Level 1
Level 4	Level 2 and above	Level 2 and above
Level 5	Level 2 and above	Level 2 and above

Source: OECD PIAAC 2013 England database and Skills for Life survey (SfL2011)



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