Hungary

Highlights

- On average, adults in Hungary perform well above the OECD average in numeracy but slightly below in literacy. The proportion of adults performing at the highest two levels in problem solving in technology-rich environments is close to the OECD average.
- The proportion of low performing adults in Hungary is close to the OECD average in the case of literacy and problem-solving in technology rich environments but lower than the average for numeracy.
- The difference in the proficiency of high and low educated adults in both literacy and numeracy is greater than the OECD average in Hungary.
- Parental education has a stronger relationship with proficiency in Hungary than is the case across OECD countries on average.
- Differences in proficiency related to age are small in Hungary. In addition, the proficiency differences between men and women in the country are negligible.
- Adults in Hungary have lower levels of engagement in numeracy practices at work than the average OECD country, but a higher intensity for numeracy use in everyday life compared to the OECD average.
- Proficiency in literacy and years of education have a relatively strong association with employment and wages in Hungary.
- In Hungary, as in other OECD countries, higher proficiency in literacy and numeracy has a positive impact on several non-economic outcomes, such as trust in others, political efficacy, participation in volunteer activities and self-reported health.

Box 1. The Survey of Adult Skills

The Survey of Adult Skills (PIAAC) provides a picture of adults' proficiency in three key information-processing skills:

- literacy – the ability of understand and respond appropriately to written texts;
- numeracy – the ability to use numerical and mathematical concepts; and
- problem solving in technology-rich environments – the capacity to access, interpret and analyse information found, transformed and communicated in digital environments.

Proficiency is described in terms of a scale of 500 points divided into levels. Each level summarises what a person with a particular score can do. Six proficiency levels are defined for literacy and numeracy (Levels 1 through 5 plus below Level 1) and four for problem solving in technology-rich environments (Levels 1 through 3 plus below Level 1).

The survey also provides a rich array of information regarding respondents' use of skills at work and in everyday life, their education, their linguistic and social backgrounds, their participation in the labour market and other aspects of their well-being.

**The Survey of Adult Skills was conducted in Hungary from August 2017 to April 2018.
Some 6 150 adults aged 16-65 were surveyed.**

On average, adults in Hungary perform well above the OECD average in numeracy but slightly below the average in literacy. The proportion of adults performing at the highest two levels in problem solving in technology-rich environments is close to the OECD average.

The average numeracy score of adults in Hungary (272 points) was significantly higher than the OECD average of 262 points but the average score in literacy (264 points) was similar to the OECD average (266 points).
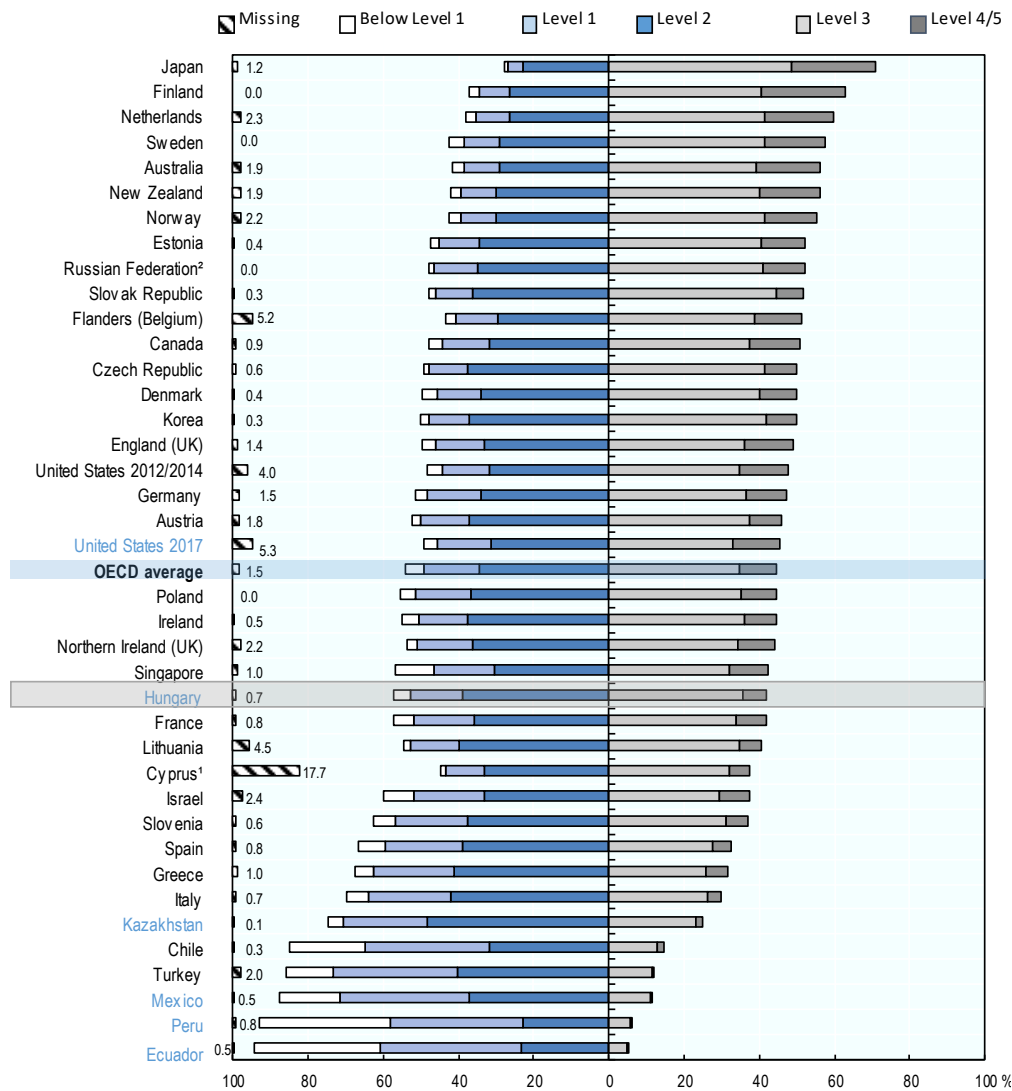
13.9% of adults in Hungary are proficient at Level 4 or 5 in numeracy, above the average of 10.9% across participating OECD countries. At Level 4, adults understand a broad range of mathematical information that may be complex, abstract or found in unfamiliar contexts. **Some 35.5% of adults are proficient at Level 3 in numeracy**, similar to the OECD average of 31.2%. At this level, adults have a good sense of number and space; can recognise and work with mathematical relationships, patterns, and proportions expressed in verbal or numerical form; and can interpret and perform basic analyses of data and statistics in texts, tables and graphs.

In comparison, some 6.6% of adults attain the two highest levels of proficiency (Level 4 or 5) in literacy, compared to the 10.0% of adults across participating OECD countries. At Level 4, adults can integrate, interpret and synthesise information from complex or lengthy texts that contain conditional and/or competing information (for more details on what adults can do at each proficiency level, see the table at the end of this note). **Some 35.4% of adults are proficient at Level 3 in literacy**, marginally higher than the average of 34.6% of adults across participating OECD countries. Adults performing at this level can understand and respond appropriately to dense or lengthy texts, and can identify, interpret or evaluate one or more pieces of information and make appropriate inferences using knowledge text structures and rhetorical devices.

On average, across the OECD countries participating in the Survey of Adult Skills, around one in three adults (29.7%) is proficient at the two highest levels of problem-solving proficiency (Level 2 or 3). Hungary has proportions of high-performing adults (28.5%) which are close to the OECD average. Adults at Level 3 can complete tasks involving multiple computer applications, a large number of steps, and the discovery and use of ad hoc commands in a novel environment. At Level 2, adults can complete problems that involve a small number of computer applications, and require completing several steps and operations to reach a solution.

Figure 1. Literacy proficiency among adults

Percentage of adults scoring at each proficiency level in literacy

Legend: Missing | Below Level 1 | Level 1 | Level 2 | Level 3 | Level 4/5

Country	Missing value
Japan	1.2
Finland	0.0
Netherlands	2.3
Sweden	0.0
Australia	1.9
New Zealand	1.9
Norway	2.2
Estonia	0.4
Russian Federation²	0.0
Slovak Republic	0.3
Flanders (Belgium)	5.2
Canada	0.9
Czech Republic	0.6
Denmark	0.4
Korea	0.3
England (UK)	1.4
United States 2012/2014	4.0
Germany	1.5
Austria	1.8
United States 2017	5.3
OECD average	1.5
Poland	0.0
Ireland	0.5
Northern Ireland (UK)	2.2
Singapore	1.0
Hungary	0.7
France	0.8
Lithuania	4.5
Cyprus¹	17.7
Israel	2.4
Slovenia	0.6
Spain	0.8
Greece	1.0
Italy	0.7
Kazakhstan	0.1
Chile	0.3
Turkey	2.0
Mexico	0.5
Peru	0.8
Ecuador	0.5

Notes: Adults in the missing category were not able to provide enough background information to impute proficiency scores because of language difficulties, or learning or mental disabilities (referred to as literacy-related non-response).

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus."
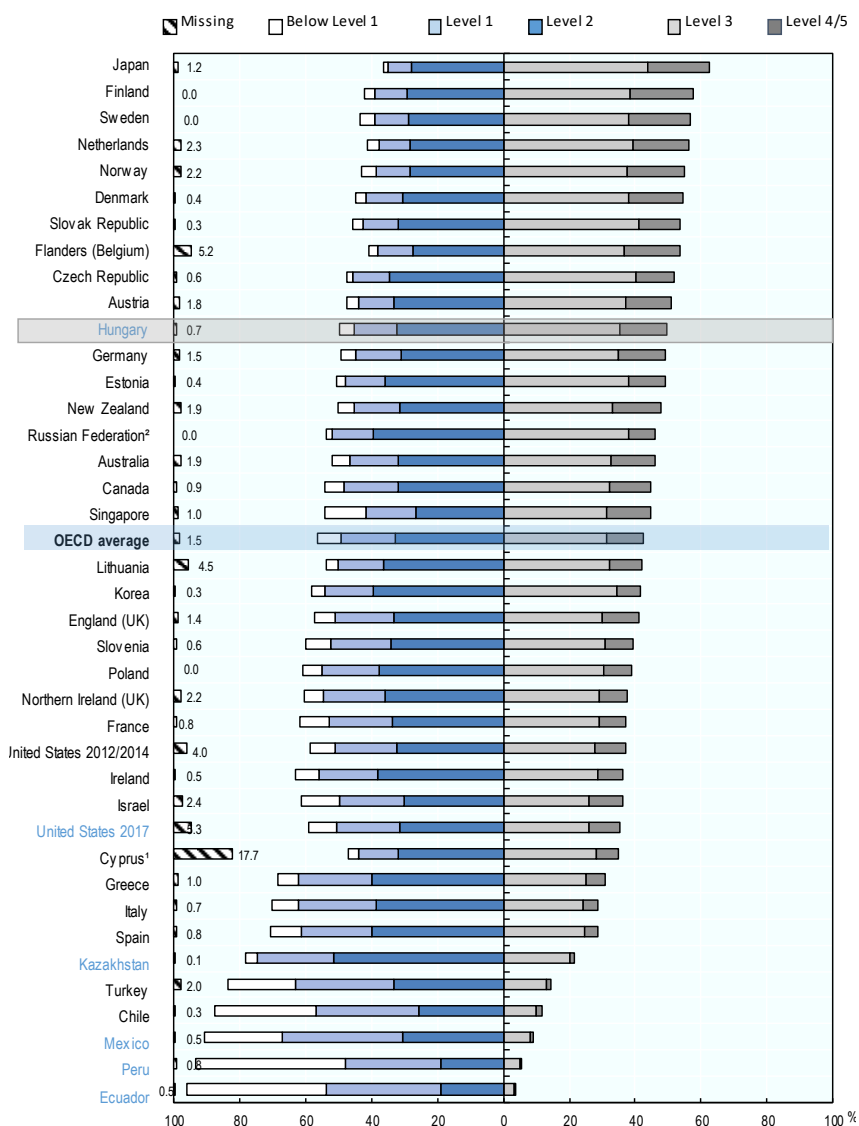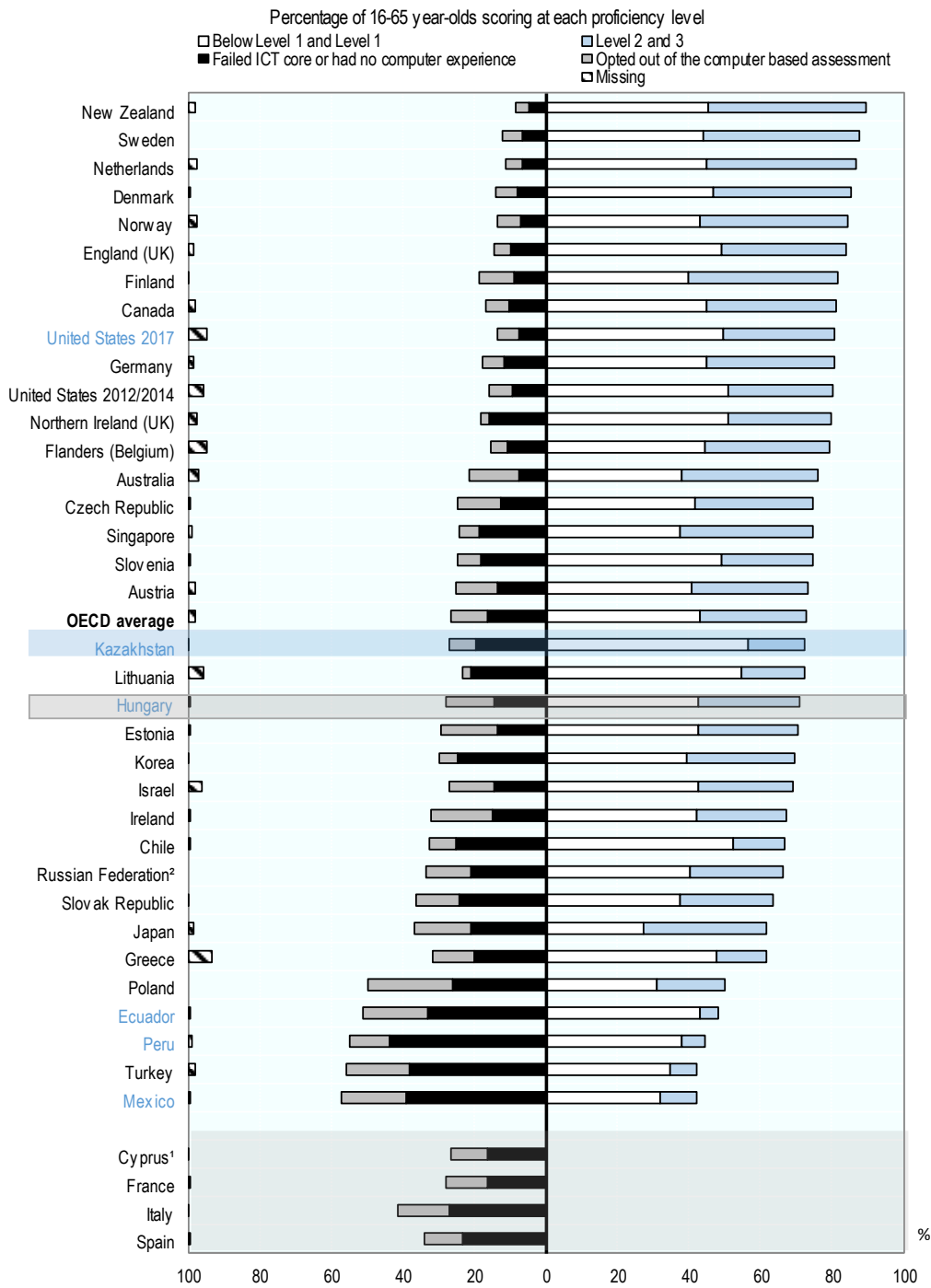
2. The sample for the Russian Federation does not include the population of the Moscow municipal area. More detailed information can be found in the Technical Report of the Survey of Adult Skills, Third Edition (OECD, 2019).

Countries and economies are ranked in descending order of the combined percentages of adults scoring at Level 3 and at Level 4/5.

Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Table A2.1.

Figure 2. Numeracy proficiency among adults

Percentage of adults scoring at each proficiency level in numeracy

Legend: Missing, Below Level 1, Level 1, Level 2, Level 3, Level 4/5

Country	Missing
Japan	1.2
Finland	0.0
Sweden	0.0
Netherlands	2.3
Norway	2.2
Denmark	0.4
Slovak Republic	0.3
Flanders (Belgium)	5.2
Czech Republic	0.6
Austria	1.8
Hungary	0.7
Germany	1.5
Estonia	0.4
New Zealand	1.9
Russian Federation²	0.0
Australia	1.9
Canada	0.9
Singapore	1.0
OECD average	1.5
Lithuania	4.5
Korea	0.3
England (UK)	1.4
Slovenia	0.6
Poland	0.0
Northern Ireland (UK)	2.2
France	0.8
United States 2012/2014	4.0
Ireland	0.5
Israel	2.4
United States 2017	3.3
Cyprus¹	17.7
Greece	1.0
Italy	0.7
Spain	0.8
Kazakhstan	0.1
Turkey	2.0
Chile	0.3
Mexico	0.5
Peru	0.6
Ecuador	0.5

Notes: Adults in the missing category were not able to provide enough background information to impute proficiency scores because of language difficulties, or learning or mental disabilities (referred to as literacy-related non-response).
1. See note 1 under Figure 1
2. See note 2 under Figure 1
Countries and economies are ranked in descending order of the combined percentages of adults scoring at Level 3 and at Level 4/5.
Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Table A2.3.

Figure 3. Proficiency in problem solving in technology-rich environments among adults

Percentage of 16-65 year-olds scoring at each proficiency level

Percentage of 16-65 year-olds scoring at each proficiency level

☐ Below Level 1 and Level 1   ☐ Level 2 and 3
■ Failed ICT core or had no computer experience   ☐ Opted out of the computer based assessment
☐ Missing

Notes: Adults included in the missing category were not able to provide enough background information to impute proficiency scores because of language difficulties, or learning or mental disabilities (referred to as literacy-related non-response). The missing category also includes adults who could not complete the assessment of problem solving in technology-rich environments because of technical problems with the computer used for the survey. Cyprus¹, France, Italy and Spain did not participate in the problem solving in technology-rich environments assessment.

1. See note 1 under Figure 1
2. See note 2 under Figure 1

Countries and economies are ranked in descending order of the combined percentages of adults scoring at Levels 2 and at Level 3.
Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Table A2.7.

The proportion of low performing adults in Hungary is close to the OECD average in the case of literacy and problem-solving in technology rich environments but lower than the average for numeracy

Around one in five of adults in Hungary attain only Level 1 or below in literacy (18.5%) and numeracy (17.7%). These proportions are close to the OECD average in the case of literacy (19.7%) but are significantly lower than the average proportion of adults in the OECD performing at the lowest proficiency levels in numeracy (23.5%). At Level 1 in literacy, adults can read brief texts on familiar topics and locate a single piece of specific information identical in form to information in the question or directive. In numeracy, adults at Level 1 can perform basic mathematical processes in common, concrete contexts, for example, one-step or simple processes involving counting, sorting, basic arithmetic operations and understanding simple percentages.

Some 14.4% of Hungarian adults (compared with 16.3% of adults in all OECD participating countries/economies) indicated that they had no prior experience with computers or lacked basic computer skills; and some 42.6% score at or below Level 1 in problem solving in technology-rich environments (compared to the OECD average of 43%). At Level 1, adults can use only widely available and familiar technology applications, such as e-mail software or a web browser, to solve problems involving few steps, simple reasoning and little or no navigation across applications. Some 13.7% of adults in Hungary (10.0%, on average across OECD countries) chose to opt out of the computer assessment.

Performance of highly educated adults in Hungary is well above the OECD average in both literacy and numeracy.

In all countries, level of education has a positive association with performance in the PIAAC assessment. In OECD countries that participated in PIAAC, the average difference between tertiary-educated adults and adults with lower than upper secondary education is 61 score points in literacy and 70 score points in numeracy. The gaps in proficiency between high and low educated adults in literacy and numeracy proficiency are larger than the OECD average in Hungary at 77 and 87 score points respectively.

Figure 4. Synthesis of socio-demographic differences in literacy proficiency
Difference in literacy scores between contrast categories within various socio-demographic groups
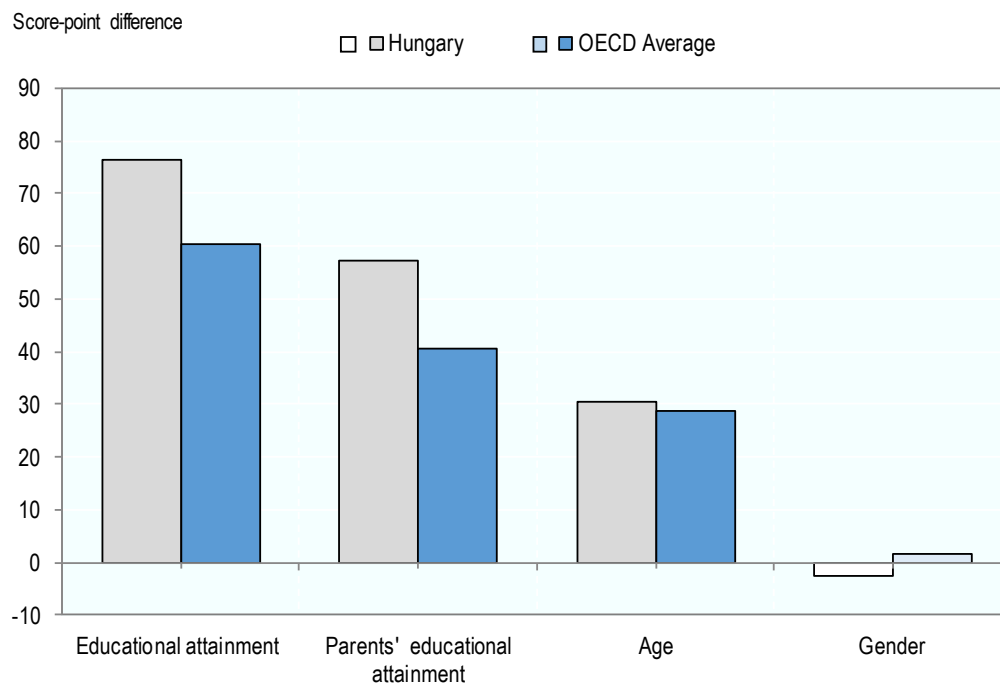
Notes: Statistically significant differences are marked in a darker tone. The estimates show the differences between the two means for each contrast category). The differences are: tertiary minus less than upper secondary (educational attainment), at least one parent attained tertiary minus neither parent attained upper secondary (parents' educational attainment) 25-34 year-olds minus 55-65 year-olds (age) and men minus women (gender).
Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Tables A3.1(L), A3.2(L), A3.5(L), A3.8(L),and A3.11(L).

In Hungary, tertiary-educated adults score higher than the average adult with the same level of education in OECD countries by about 4 points in literacy and by about 18 points in numeracy. Hungary has one of the largest proportions of tertiary-educated adults scoring at level 4/5 in numeracy among the OECD countries in PIAAC (33% compared to an average of 23% for the OECD)

As in other countries, accounting for differences in other socio-demographic characteristics such as age, gender, and parents' educational attainment reduces the strength of the associations between proficiency and level of educational attainment, although not by a large amount.

In comparison with 25-65 year olds, the differences in proficiency by level of education are relatively stronger in Hungary among young adults. The difference in proficiency between young adults aged 20-24 years who are enrolled in or have completed tertiary level studies and other young people is 45 score points in Hungary, compared to an OECD average of 35 score points. Similarly, the score point gap between early school leavers (young adults aged 16-24 years who have left education without attaining an upper secondary qualification) in Hungary and other young people still in education is 58 score points compared to an OECD average of 41 score points (see **Error! Reference source not found.**).

Parental education has a stronger relationship with proficiency in Hungary than is the case across OECD countries on average.

The association of parental education with proficiency is stronger in Hungary as compared to other OECD countries on average. In Hungary, adults with at least one tertiary-educated adults scored on average 57 points higher in literacy than adults from families in which neither of the parents attained upper secondary level education compared to an OECD average of 41 score points.

Figure 5. Youths literacy scores

Mean literacy proficiency scores of 16-24 year-olds, by educational attainment
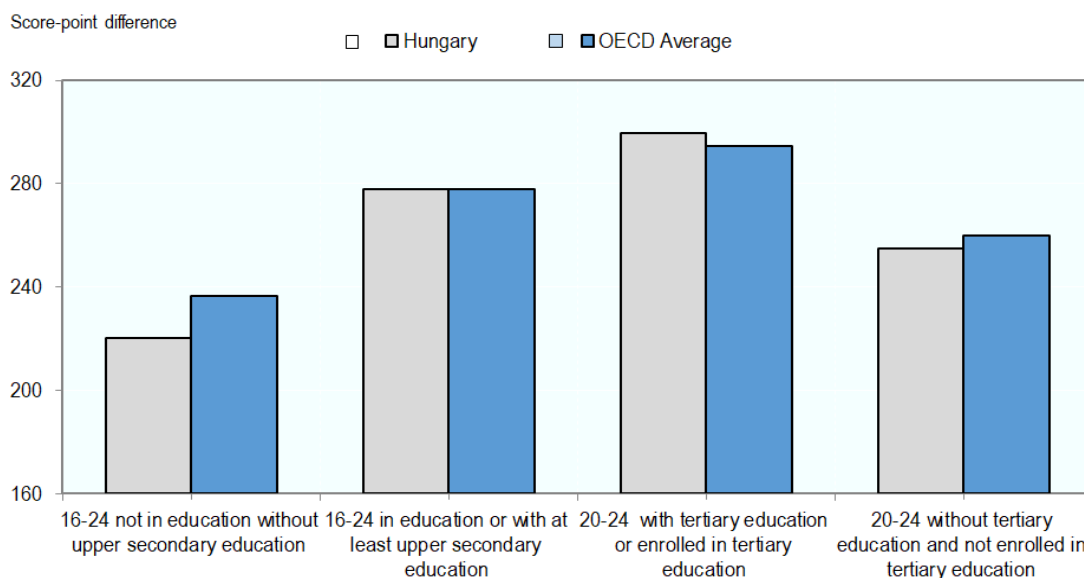
Notes: Lower than upper secondary includes ISCED 1, 2 and 3C short. Upper secondary includes ISCED 3A, 3B, 3C long and 4. Tertiary includes ISCED 5A, 5B and 6. Where possible, foreign qualifications are included as the closest corresponding level in the respective national education systems. *Source*: Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Tables A3.1(L), A3.2(L), A3.5(L), A3.8(L),and A3.11(L).

Differences in proficiency related to age are small in Hungary. In addition, the proficiency differences between men and women in the country are negligible.

In most countries, adults aged 25-34 years have the highest average proficiency in literacy and adults aged 55-65, the lowest. This is also true in Hungary. Average scores of older adults (246 score points) and those aged 25-34 years (276 score-points) in Hungary are in line with OECD average (248 and 277 score points respectively) (see **Error! Reference source not found.**). There is much less variation across countries in the magnitude of proficiency differences between adults aged 55-65 years and those aged 25-34 years. In most countries, about half of the gap can be accounted for by differences in observable characteristics, notably in educational attainment, as younger cohorts are normally more educated than older cohorts.

In problem-solving in technology rich environments, the share of older adults (55-65 year olds) in Hungary that is proficient at Level 2 or 3 is similar to the OECD average. In the case of adults aged 25-34 years, the share at Level 2 or 3 is close to 41 percent (in line with the OECD average), and the share of such adults that failed the ICT core or lacked ICT experience is below average, at 5 percent.

Gender differences in literacy and numeracy skills are typically small in Hungary, as is true across the OECD countries on average. Hungary is one of the few countries where there is nearly no gender difference in numeracy proficiency. This is due to the higher than average performance of Hungarian women. With an average score of 271 score points, women in Hungary score some 15 points above the OECD average (while men score only 6 points above the average). Gender gaps in Hungary are essentially identical (and extremely small) to the OECD average, in both literacy and numeracy. The numeracy proficiency of women aged more than 45 in Hungary is almost 20 points above the OECD average, and one of the highest overall.

Gender differences are also small in the domain of problem solving in Hungary. As is true across OECD countries, men in Hungary have a slight advantage over women. In Hungary, some 32 percent of men performed at Level 2 or 3, compared 28 percent of women, a difference of around 4 percent (similar to the OECD average of 4 percent). The proportion of men in Hungary who had no computer experience or failed the ICT core test was 15.1 percent compared to 13.8 percent for women. The gap of 1.3 percentage points in favour of women compares to an OECD average of 0.7 percentage points in favour of men.

Figure 6. Engagement in numeracy practices in everyday life and at work

Index of intensity of engagement in numeracy practices in everyday life and at work
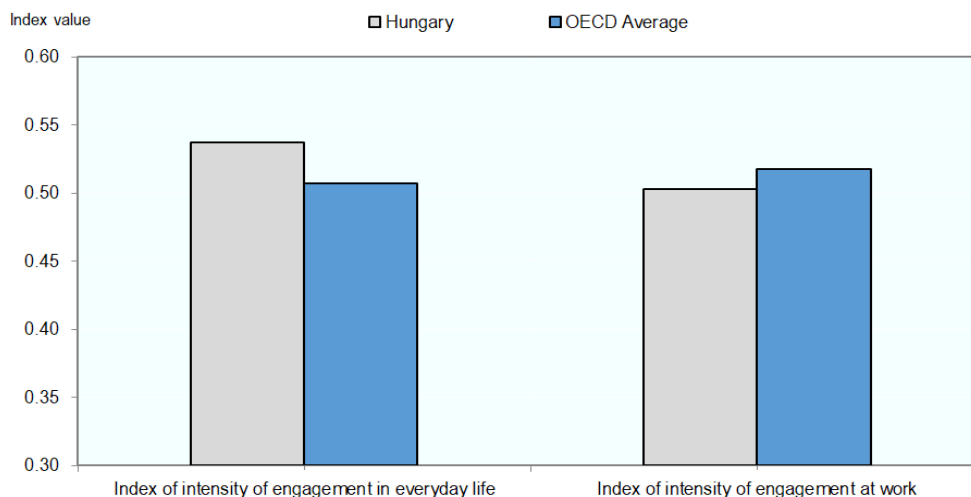
Notes: The index of intensity of engagement is an average across individuals in the country, and ranges between 0 and 1.
Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018),Table A4.2.

Adults in Hungary have lower levels of engagement in numeracy practices at work than the average OECD country, but a higher intensity for numeracy use in everyday life compared to the OECD average.

Countries ranking low in skills use in everyday life (Italy, Kazakhstan, Peru, Turkey) also rank low in use at work, and the same holds true for countries ranking at the top of the distribution (Finland, New Zealand, United States, the Czech Republic). It suggests that the use of skills in everyday life and at work are highly, albeit imperfectly, correlated at the country level.

Hungary, however, displays lower-than-OECD-average intensity in engagement in numeracy practices at work, and higher-than-OECD-average intensity for numeracy use in everyday life. This is in contrast to countries like Peru, Ecuador, and Mexico, which rank in the lower part of the distribution of engagement in numeracy practices and those like the United States, which rank in the upper part of the distribution, for both indicators of interest.

Proficiency in numeracy and years of education are comparatively strong predictors of employment and wages in Hungary.

In Hungary, though there is a positive association between numeracy proficiency and years of education with the likelihood of employment, the association is less strong than across the OECD countries on average. A Hungarian individual who scores one standard deviation higher than another on the numeracy scale (around 56 score points) is 1.1 percentage points more likely to be employed than unemployed, after accounting for years of education and other socio-demographic characteristics. Similarly, an increase in one standard deviation in the number of years in formal education (around 3.3 years) is associated with a 1.6 percentage points increase in the chances of being employed, keeping years of education and other socio-demographic characteristics constant. With the returns to proficiency being positive in Hungary, it stands in contrast to countries like Ecuador, Mexico and Peru where there are low or negative returns to proficiency and education, which in most cases are not statistically significant.

Figure 7. Effect of education and numeracy proficiency on the likelihood of being employed and on wages

Marginal effects (as percentage point change) of a one standard deviation increase in years education and numeracy on the likelihood of being employed among adults not in formal education and on wages
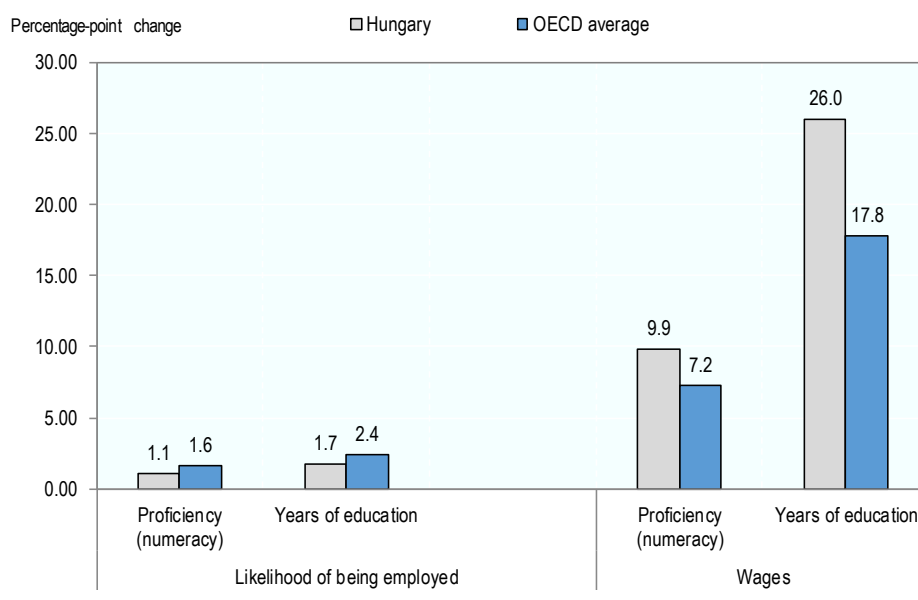
Notes: The reference category is "unemployed" for the modelisation of the likelihood of being employed and results are adjusted for gender, age, marital and foreign-born status. Hourly wages, including bonuses, in PPP-adjusted USD (2012). Coefficients from the OLS regression of log hourly wages on years of education and proficiency, directly interpreted as percentage effects on wages. Coefficients adjusted for age, gender, foreign-born status, numeracy skills at work and tenure. The wage distribution was trimmed to eliminate the 1st and 99th percentiles. One standard deviation in proficiency in numeracy is 56 points. One standard deviation in years of education is 3.3 years. All values are statistically significant (at the 5% level).
Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018),Table A5.1, Table A5.2.

Proficiency and schooling have significant and distinct effects on hourly wages. In Hungary, an increase in one standard deviation in numeracy proficiency is associated with a 9.9% increase in hourly wages and an increase in years of education by one standard deviation brings about a bigger increase in hourly wages of about 26.1%, keeping years of education and other socio-demographic characteristics constant. Returns to proficiency are higher in Hungary than on average. Across the OECD countries that have implemented the Survey of Adult Skills in any one of the three rounds, an increase in one standard deviation in numeracy proficiency is associated with a 7.2% increase in hourly wages, keeping years of education and other socio-demographic characteristics constant. An increase in years of education by one standard deviation brings about a bigger increase in hourly wages of about 17.8%, all else being equal. In fact, Hungary shows the second highest returns to years of education, across all OECD participating countries, after Slovenia and at par with Turkey.

The contribution of information-processing skills to the variance of hourly wages is higher in Hungary (7.8%) as compared to the OECD average of 4.5%. Overall, however, years of schooling are more important in understanding the returns to human capital than proficiency. In Hungary, years of education account for around 20% of the variance of wages as compared to the OECD average of 11.7%. As such, Hungary is similar to Finland, Poland, Singapore and Slovenia.

In Hungary, as in other OECD countries, higher proficiency in literacy and numeracy has a positive impact on several non-economic outcomes, such as trust in others, political efficacy, participation in volunteer activities and self-reported health.

On average in the OECD, proficiency in information-processing skills is positively associated with trust, volunteering, political efficacy and self-assessed health. The relationships with political efficacy and self-assessed health hold even after accounting for the usual range of socio-demographic characteristics. On the other hand, the association with trust becomes very small and that with volunteering is no longer statistically significant, once account is made for other individual characteristics.

In Hungary, all these relationships are positive and statistically significant. Hungary shows stronger associations between proficiency in literacy and numeracy and variables such as trust and self-assessed health as compared to the OECD average. These associations, however, are weaker than the OECD average in the case of political efficacy and in line with the average in the case of volunteering.

Figure 8. Effect of literacy proficiency on positive social outcomes

Marginal effects (as percentage point change) of one standard deviation increase in literacy proficiency score on the probability to report high- and low- levels of trust and political efficacy, good to excellent health, or participating in volunteer activities
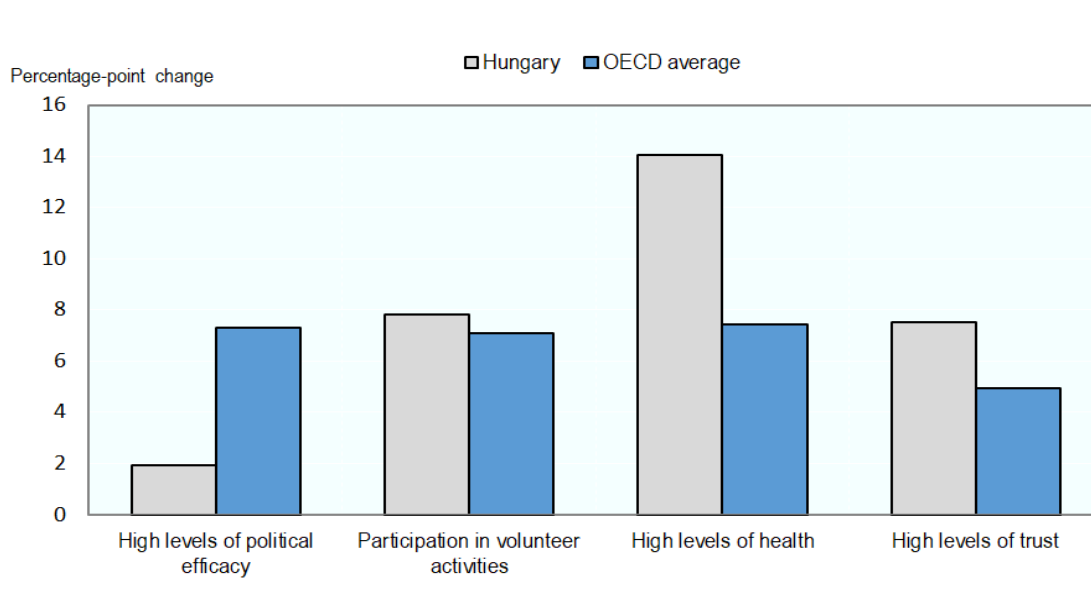
Notes: All differences are statistically significant.
Source: Survey of Adult Skills (PIAAC) (2012, 2015, 2018), Table A5.8(L).

Key facts about the Survey of Adult Skills (PIAAC)

What is assessed

- The Survey of Adult Skills (PIAAC) assesses the proficiency of adults from age 16 onwards in literacy, numeracy and problem solving in technology-rich environments. These skills are "key information-processing competencies" that are relevant to adults in many social contexts and work situations, and necessary for fully integrating and participating in the labour market, education and training, and social and civic life.

- In addition, the survey collects a range of information on the reading- and numeracy-related activities of respondents, the use of information and communication technologies at work and in everyday life, and on a range of generic skills, such as collaborating with others and organising one's time, required of individuals in their work. Respondents are also asked whether their skills and qualifications match their work requirements and whether they have autonomy over key aspects of their work.

Methods

- The first cycle of the Survey of Adults Skills has been conducted over three rounds of data collection. The first round surveyed around 166 000 adults aged 16-65 years in 24 countries (or regions within these countries) in 2011-12. In Australia, Austria, Canada, Cyprus*, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden and the United States – the sample was drawn from the entire national population. In Belgium, the data were collected in Flanders; in the United Kingdom, the data were collected in England and Northern Ireland (data are reported separately for England and Northern Ireland in the report).

- Nine countries (or regions within these countries) took part in a second round of data collection in 2014-15: Chile, Greece, Jakarta (Indonesia), Israel, Lithuania, New Zealand, Singapore, Slovenia and Turkey. A total of 50 250 adults were surveyed. In all countries except Indonesia, the entire national population was covered. In Indonesia, the data were collected in the Jakarta municipal area only.

- The third round was conducted in 2017-18 in six countries: Ecuador, Hungary, Kazakhstan, Mexico, Peru and the United States. A total of 34 792 adults were surveyed. Note that the United States had already participated in Round 1. This brought the number of participating countries and economies to a total of 39.

- The language of assessment was the official language or languages of each participating country. In some countries, the assessment was also conducted in widely spoken minority or regional languages.

- Two components of the assessment were optional: the assessment of problem solving in technology-rich environments and the assessment of reading components. Twenty of the 24 participating countries administered the problem-solving assessment and 21 administered the reading components assessment.

- The target population for the survey was the non-institutionalised population, aged 16 to 65 years, residing in the country at the time of data collection, irrespective of nationality, citizenship or language status.

- Sample sizes depended primarily on the number of cognitive domains assessed and the number of languages in which the assessment was administered. Some countries boosted sample sizes in order to have reliable estimates of proficiency for the residents of particular geographical regions and/or for certain sub-groups of the population such as indigenous inhabitants or immigrants. The achieved samples ranged from a minimum of approximately 4 500 to a maximum of nearly 27 300.

- The survey was administered under the supervision of trained interviewers either in the respondent's home or in a location agreed between the respondent and the interviewer. The background questionnaire was administered in Computer-Aided Personal Interview format by the interviewer. Depending on the situation of the respondent, the time taken to complete the questionnaire ranged between 30 and 45 minutes.

- After having answered the background questionnaire, the respondent completed the assessment either on a laptop computer or by completing a paper version using printed test booklets, depending on their computer skills. Respondents could take as much or as little time as needed to complete the assessment. On average, the respondents took 50 minutes to complete the cognitive assessment.

Proficiency levels: Literacy and numeracy

Level	Score range	Literacy	Numeracy
Below Level 1	Below 176 points	Tasks at this level require the respondent to read brief texts on familiar topics and locate a single piece of specific information. There is seldom any competing information in the text. Only basic vocabulary knowledge is required, and the reader is not required to understand the structure of sentences or paragraphs or make use of other text features.	Tasks at this level require the respondent to carry out simple processes such as counting, sorting, performing basic arithmetic operations with whole numbers or money, or recognising common spatial representations.
1	176 to less than 226 points	Tasks at this level require the respondent to read relatively short digital or print texts to locate a single piece of information that is identical to or synonymous with the information given in the question or directive. Knowledge and skill in recognising basic vocabulary, determining the meaning of sentences, and reading paragraphs of text is expected.	Tasks at this level require the respondent to carry out basic mathematical processes in common, concrete contexts where the mathematical content is explicit. Tasks usually require one-step or simple processes involving counting; sorting; performing basic arithmetic operations; and identifying elements of simple or common graphical or spatial representations.
2	226 to less than 276 points	Tasks at this level require the respondent to make matches between the text, either digital or printed, and information, and may require paraphrasing or low-level inferences.	Tasks at this level require the application of two or more steps or processes involving calculation with whole numbers and common decimals, percents and fractions; simple measurement and spatial representation; estimation; and interpretation of relatively simple data and statistics in texts, tables and graphs.
3	276 to less than 326 points	Texts at this level are often dense or lengthy. Understanding text and rhetorical structures is often required, as is navigating complex digital texts.	Tasks at this level require the application of number sense and spatial sense; recognising and working with mathematical relationships, patterns, and proportions expressed in verbal or numerical form; and interpreting data and statistics in texts, tables and graphs.
4	326 to less than 376 points	Tasks at this level often require the respondent to perform multiple-step operations to integrate, interpret, or synthesise information from complex or lengthy texts. Many tasks require identifying and understanding one or more specific, non-central idea(s) in the text in order to interpret or evaluate subtle evidence-claim or persuasive discourse relationships.	Tasks at this level require analysis and more complex reasoning about quantities and data; statistics and chance; spatial relationships; and change, proportions and formulas. They may also require understanding arguments or communicating well-reasoned explanations for answers or choices.
5	Equal to or higher than 376 points	Tasks at this level may require the respondent to search for and integrate information across multiple, dense texts; construct syntheses of similar and contrasting ideas or points of view; or evaluate evidence based arguments. They often require respondents to be aware of subtle, rhetorical cues and to make high-level inferences or use specialised background knowledge.	Tasks at this level may require the respondent to integrate multiple types of mathematical information where considerable translation or interpretation is required; draw inferences; develop or work with mathematical arguments or models; and critically reflect on solutions or choices.

Description of proficiency levels in problem solving in technology-rich environments

Level	Score range	The types of tasks completed successfully at each level of proficiency
No computer experience	Not applicable	Adults in this category reported having no prior computer experience; therefore, they did not take part in the computer-based assessment but took the paper-based version of the assessment, which does not include the problem solving in technology-rich environment domain.
Failed ICT core	Not applicable	Adults in this category had prior computer experience but failed the ICT core test, which assesses basic ICT skills, such as the capacity to use a mouse or scroll through a web page, needed to take the computer-based assessment. Therefore, they did not take part in the computer-based assessment, but took the paper-based version of the assessment, which does not include the problem solving in technology-rich environment domain.
"Opted out" of taking computer-based assessment	Not applicable	Adults in this category opted to take the paper-based assessment without first taking the ICT core assessment, even if they reported some prior experience with computers. They also did not take part in the computer-based assessment, but took the paper-based version of the assessment, which does not include the problem solving in technology-rich environment domain.
Below Level 1	Below 241 points	Tasks are based on well-defined problems involving the use of only one function within a generic interface to meet one explicit criterion without any categorical or inferential reasoning, or transforming of information. Few steps are required and no sub-goal has to be generated.
1	241 to less than 291 points	At this level, tasks typically require the use of widely available and familiar technology applications, such as e-mail software or a web browser. There is little or no navigation required to access the information or commands required to solve the problem. The tasks involve few steps and a minimal number of operators. Only simple forms of reasoning, such as assigning items to categories, are required; there is no need to contrast or integrate information.
2	291 to less than 341 points	At this level, tasks typically require the use of both generic and more specific technology applications. For instance, the respondent may have to make use of a novel online form. Some navigation across pages and applications is required to solve the problem. The task may involve multiple steps and operators. The goal of the problem may have to be defined by the respondent, though the criteria to be met are explicit.
3	Equal to or higher than 341 points	At this level, tasks typically require the use of both generic and more specific technology applications. Some navigation across pages and applications is required to solve the problem. The task may involve multiple steps and operators. The goal of the problem may have to be defined by the respondent, and the criteria to be met may or may not be explicit. Integration and inferential reasoning may be needed to a large extent.
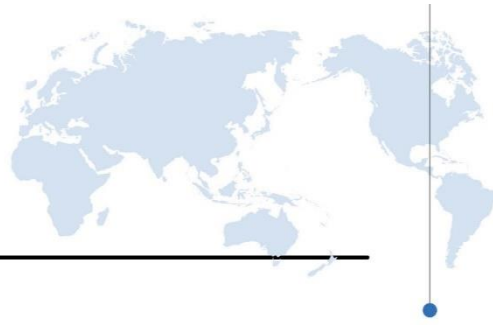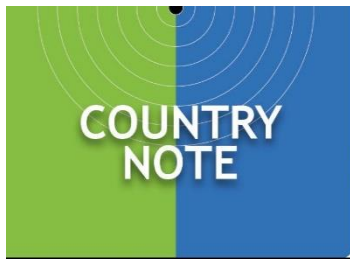
SKILLS MATTER: ADDITIONAL RESULTS FROM THE SURVEY OF ADULT SKILLS

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**For more information on the Survey of Adult Skills (PIAAC)
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www.oecd.org/site/piaac

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