

SURVEY OF ADULT SKILLS
FIRST RESULTS

SPAIN

Key issues

- **The gap between the skills proficiency of the youngest and oldest adults in Spain is the second largest in the survey.**
- **About one in four adults in Spain scores at the lowest levels in literacy and almost one in three in numeracy. A large proportion of adults show poor proficiency in using common computer applications.**
- **Higher skills proficiency dramatically increases the chances of being employed, reduces the risk of unemployment and is associated with high wages.**

The survey

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

- literacy – the ability to understand and respond appropriately to written texts;
- numeracy – the ability to use numerical and mathematical concepts; and
- problem solving in technology-rich environments¹ – 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 Spain from September 2011 to April 2012.
A total of 6 055 adults aged 16-65 were surveyed in Spanish, Galician, Basque, Catalan or Valencian.

¹ Spain, together with Italy, France and Cyprus** did not participate in the problem-solving assessment.

Adults in Spain show below-average proficiency in literacy and numeracy compared with adults in the other participating countries.

Literacy

Only 0.7% of adults in all countries that participated in the survey are proficient in literacy at the highest level, Level 5. In Spain, as well as in other 10 participating countries, no adult scores at this level. Some 4.7% of adults in Spain score at Level 4 – a smaller proportion than the average 11.1% across all participating countries, but larger than the 3.3% of adults in Italy who score at this level.

- 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).

In most countries, the largest proportion of adults score at Level 3 in literacy (38.2 %), except Spain, France, Ireland, Italy and Poland, in all of which the largest proportion of adults scores at Level 2.

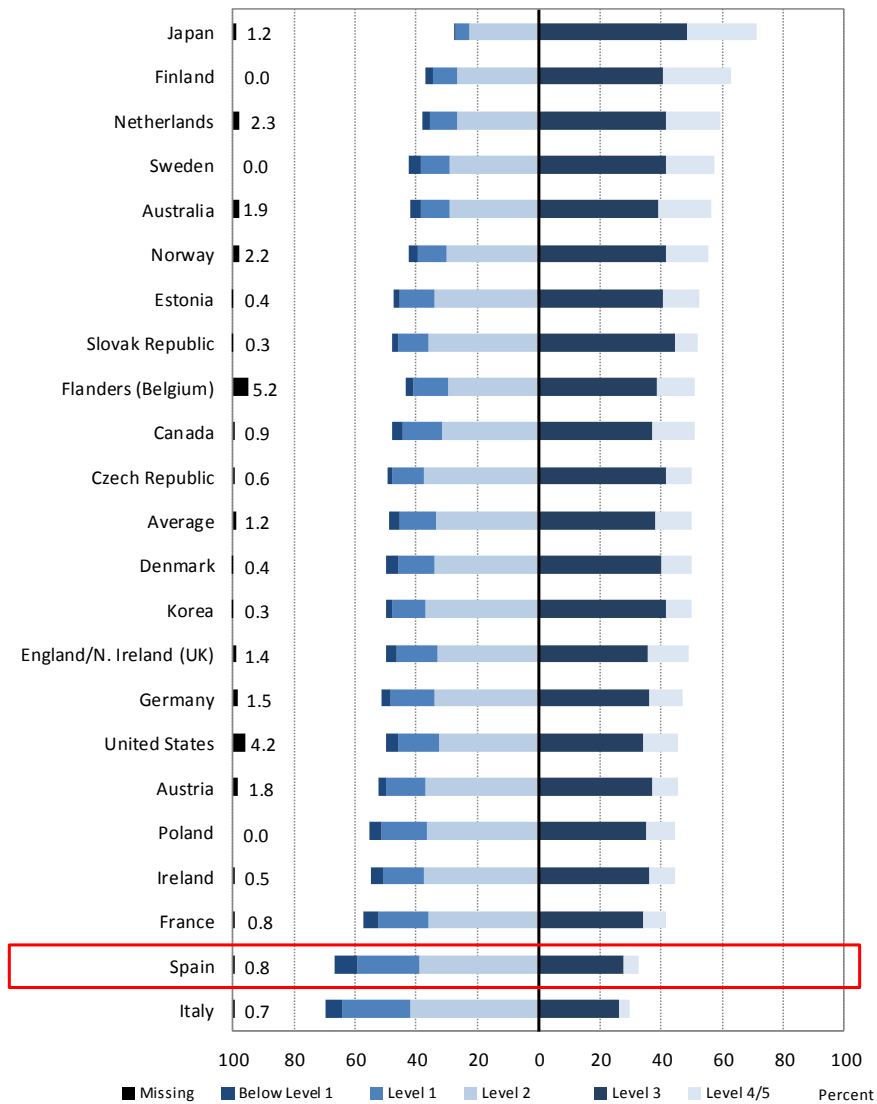
- Adults performing at Level 3 can understand and respond appropriately to dense or lengthy texts, and can identify, interpret, or evaluate one or more pieces of information and make appropriate inferences using knowledge text structures and rhetorical devices.

Across all participating countries, about one in three adults (33.3%) scores at Level 2 in literacy. The largest proportion of adults scoring at this level are found in Italy (42.0%), Cyprus** (33.0%) and Spain (39.1%), although Austria (37.2%), the Czech Republic (37.5%), Ireland (37.6%) and Korea (37.0%) also show large shares of adults at this level.

- Adults performing at Level 2 can undertake tasks that require the respondent to make matches between the text, either digital or printed, and information, and may require paraphrasing or low-level inferences

Literacy proficiency among adults

Percentage of adults scoring at each proficiency level in literacy



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

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).

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

Numeracy

Some 12.4 % of adults across all participating countries score at Level 4/5 in numeracy; Spain (4.1 %) and Italy (4.5%) show the lowest proportion of adults at this level.

- At Level 4, adults can understand a broad range of mathematical information that may be complex, abstract or found in unfamiliar contexts.

In most countries, the largest proportion of adults (34.4%, on average) scores at Level 3 in numeracy; however, in Spain, France, England/Northern Ireland (UK), Italy, Ireland, Korea, Poland and United States, the largest proportion of adults scores at Level 2. Japan, Slovakia, the Czech Republic and the Netherlands have the largest proportion of adults (more than 40%) at this level, while Italy (24.4%) and Spain (24.5%) have the smallest proportion at this level.

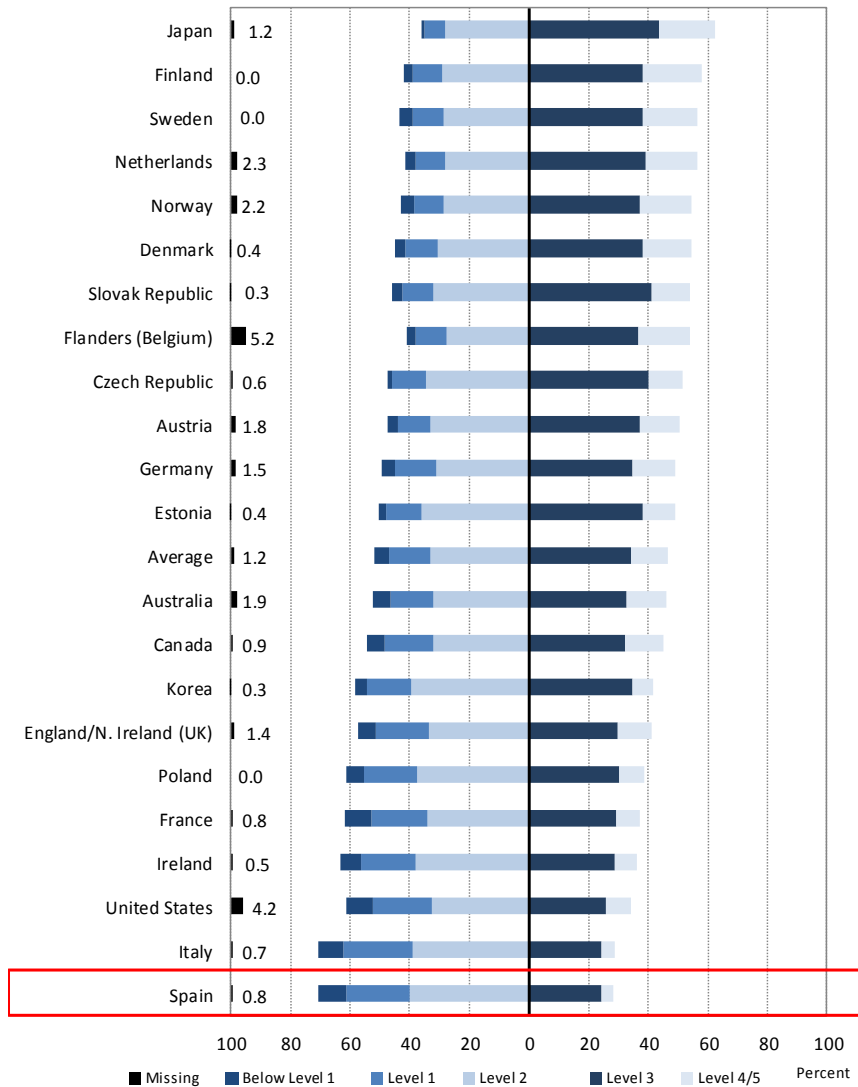
- At Level 3, adults have a good sense of number and space; can recognise and work with mathematical relationships, patterns, and proportions expressed in verbal or numerical form; and can interpret and perform basic analyses of data and statistics in texts, tables and graphs.

Around one-third of adults (33.0%) scores at Level 2 in numeracy. Spain has the highest proportion of adults at this level (40.1%) followed by Korea (39.4%) and Italy (38.8%)

- At Level 2 adults can undertake tasks requiring the application of two or more steps or processes involving calculation with whole numbers and common decimals, percentages and fractions; simple measurement and spatial representation; estimation; and interpretation of relatively simple data and statistics in texts, tables and graphs.

Numeracy proficiency among adults

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



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

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).

Source: Survey of Adult Skills (PIAAC) (2012), Table A2.5

Spain’s 16-24 year-olds are more proficient than the overall adult population in all domains assessed, and are notably more proficient than the country’s 55-65 year-olds. However, there is room for improvement since young adults in Spain perform below the average of their peers in other countries in literacy and numeracy.

Spain’s 16-24 year-olds perform better than any other age group in literacy; in numeracy, they are only outperformed by 25-34 year-olds. The difference in numeracy scores between this group (16-24) and the overall population is one of the largest – nine score points – among all participating countries, the same as in Poland and France and smaller only than that in Korea (18 score points).

Young adults in Spain have lower proficiency in numeracy than their peers in Finland, Japan and the Netherlands and higher proficiency than those in Italy and the United States. Although Spain’s young adults still score 16 points below this group average in numeracy, this is a great improvement compared with Spain’s 55-65 year-olds, who score 32 points below average in this age group.

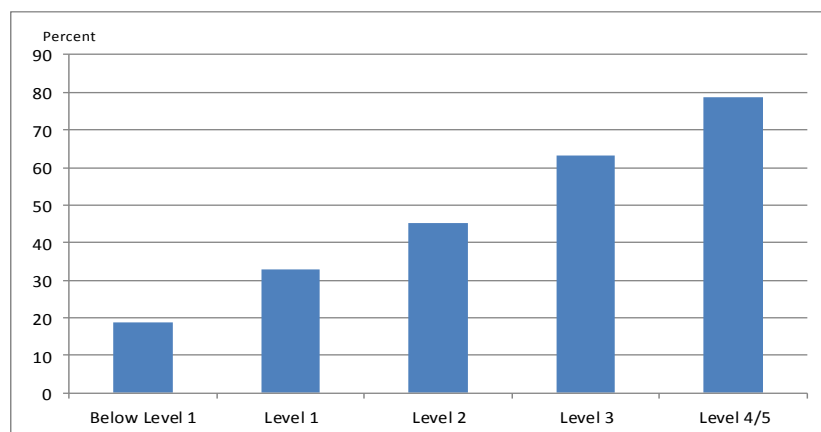
Those who start work at an early age, particularly those working in low-skilled jobs, show a greater likelihood of having poorer skills proficiency than those who remain in education. This translates into very limited opportunities for young people to develop their information-processing skills beyond very low levels of functionality.

As in most other countries, there is a significant number of adults who have very low proficiency in literacy and numeracy in Spain.

Almost one in three adults in Italy (31.7), Spain (30.6%), the United States (28.7) and France (28%), scores at the lowest levels of numeracy, a high proportion compared to the average of 19%. About one in four adults in Italy (27.7%), Spain (27.5%) followed by France (21.6) score at the lowest levels of literacy, a high proportion compared with the average of 15.5% and that of countries like Japan (4.9%) and the Slovak Republic (11.6).

Participation rate in adult education, by literacy proficiency levels

Percentage of Spanish adults who participated in adult education and training during year prior to the survey, by level of proficiency in literacy



Source: Survey of Adult Skills (PIAAC) (2012), Table A5.7 (L).

A large proportion of Spanish adults have minimal familiarity with computers, and a large proportion have poor proficiency in accessing, analysing and communicating information using common computer applications.

Spain has a high proportion of adults (17%) who reported that they have no prior experience with computers compared to the average of 9% among all participating countries, although larger proportions of these adults are found in Italy (24%), Slovakia (22%), Cyprus** (18%) and Poland (20%). However, 6% of adults in Spain failed the computer assessment because they lacked ICT skills – around about the same as the average (5%) and a smaller proportion compared to Japan (11%), Korea (9%) and Poland (7%).

Demand for adult learning in Spain is four times higher among high-skilled workers than among low-skilled workers.

Adult learning helps to develop and maintain key information-processing skills. High skilled adults are four times more likely to participate in adult education and training than the low-skilled adults. Learning opportunities made accessible to both high- and low-skilled workers increases the probability of re-employment after job loss, particularly among those workers who have only an upper secondary education or less.

In Spain, over 40% of adults participate in adult learning, compared to over 60% in the Nordic countries, and less than 30% in Italy. Only 19% of adults who score below Level 1 in literacy participate in adult learning compared to 79% who score at the highest level. It is a vicious cycle in which highly educated adults further develop and maintain their skills, while those with low levels of education don't. The key policy challenge is to help low-skilled adults break from this vicious cycle.

Immigrants have very low levels of literacy proficiency in the language/s of the survey.

Immigrants, particularly foreign-language immigrants, as a group, show low proficiency in the official language(s) of receiving countries, both in absolute terms and relative to native-born adults whose first language is the same as that used in the assessment. Foreign-language immigrants in Spain are less proficient in literacy than the average for this group. However, the gap in literacy proficiency between foreign-language immigrants and native-born, native-language speakers in Spain is smaller than that in other countries, and the same as the average among all countries (almost 37 score points). The largest gap in literacy proficiency between these two groups – more than 59 score points – is found in Sweden (over 59 score points).

With the exception of age, the relationship between most socio-demographic characteristics and proficiency in Spain is similar than that observed in other countries.

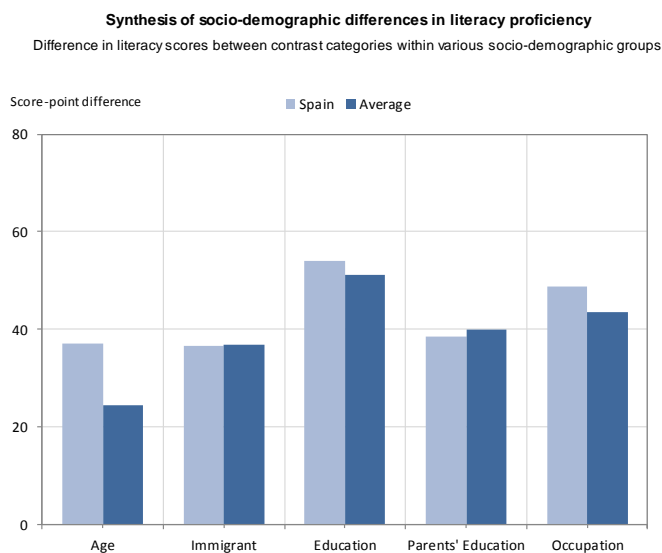
In most countries, including Spain, there are differences in skills proficiency related to socio-demographic characteristics, such as gender, age, level of education and social background.

Spain, along with Ireland, Japan, Korea, the Netherlands and Sweden, shows one of weakest associations, among young people, between socio-economic background and literacy proficiency.

Across all countries that participated in the survey, proficiency peaks among 25-34 year-olds while the proficiency of 55-64 year-olds is generally the lowest of all age groups. This is true in Spain too, though in literacy, 16-24 year-olds show higher proficiency than all other age groups. The gap in Spain in proficiency between the youngest and oldest age groups is among the largest observed after other factors, such as educational attainment and immigrant background, are taken into account.

On average across countries, men have higher proficiency in numeracy than women. The advantage of men compared to women in Spain is 12.5 scores points, less than one point above the average of 11.7 points.

Germany shows the widest gender gap in favour of men, and Norway, Sweden and the United States also show wider-than-average gender gaps in numeracy proficiency in favour of men. In literacy, the score gap between men and women is much smaller than that in numeracy. Men in Spain outperform women in literacy by only 4.6 score points, which is only 2.7 points higher than the average of 1.9 points and less than observed in the Netherlands (6.1 points) and Germany (5.1 points).

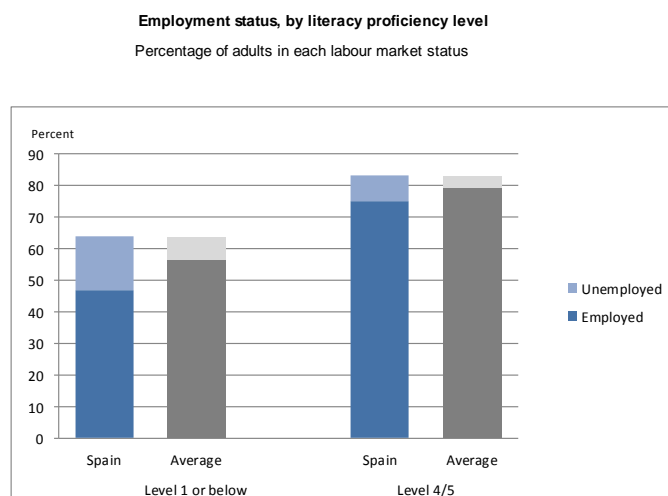


Notes: The estimates show the differences between the two means for each contrast category). The differences are: 16-24 year-olds minus 55-65 year-olds (age), native born and native language minus foreign born and foreign language (immigrant), tertiary minus less than upper secondary (education), at least one parent attained tertiary minus neither parent attained upper secondary (parents' education) and skilled minus elementary occupations (occupation).

Source: Survey of Adult Skills (PIAAC) (2012), Table A3.2(L), Table A3.6(L), Table A3.9(L), Table A3.15(L) and Table A3.19(L).

Higher proficiency in literacy and numeracy translates into greater labour force participation and higher wages.

In all participating countries, there is a positive relationship between proficiency and labour force participation and employment. Individuals with higher levels of proficiency in literacy and numeracy have greater chances of participating in the labour market and of being employed and less chances of being unemployed than individuals with lower levels of proficiency, on average.



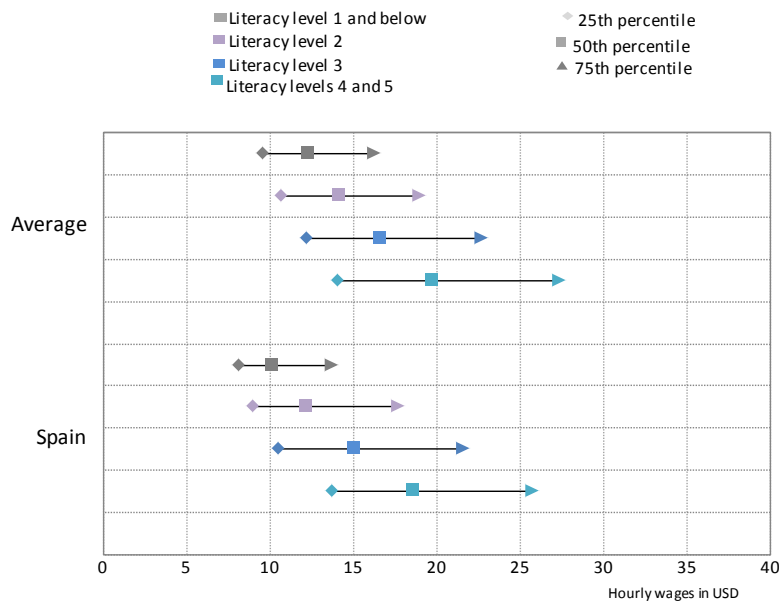
Source: Survey of Adults Skills (PIAAC) (2012), Table A6.3 (L)

Some 75% of Spanish respondents scoring at Level 4/5 in literacy are employed, while only 47% of those scoring at or below Level 1 are. This difference is similar to that observed in Finland and Ireland. Meanwhile, the rate of inactivity (17%) among Spain’s highly proficient (Level 4/5) adults is the same as the average among participating countries.

Wages are also affected by proficiency in information-processing skills. In Spain, the best-paid workers who score at Level 4/5 in literacy earn about USD 12.00 more per hour than the best-paid workers who score at or below Level 1. However, there is slight overlap in the wage distributions at different levels of proficiency. For instance, in Spain, a median earner with Level 2 proficiency in literacy earns about the same as a low-paid worker with Level 4/5 proficiency. This is probably due to the large differences in wages earned by adults who score at Level 4/5, a situation also observed in other countries.

Distribution of wages, by literacy proficiency level

25th, 50th and 75th percentiles of the wage distribution



Notes : Employees only. Hourly wages, including bonuses, in purchasing-power-parity-adjusted USD.
 Source: Survey of Adults Skills (PIAAC) (2012), Table A6.4 (L).

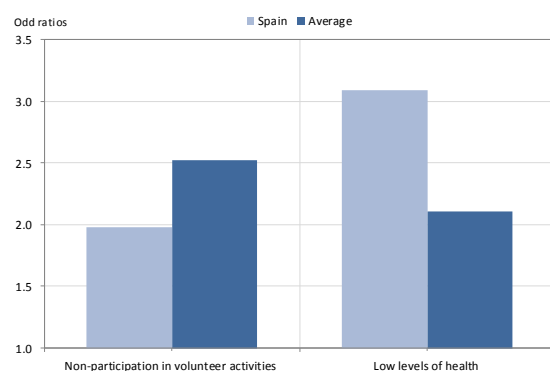
The link between higher literacy proficiency and social outcomes, such as trust in others, belief that an individual can have an impact on the political process, and participation in volunteer and associative activities, is weaker in Spain than in most other countries, except when considering health.

In most participating countries, individuals proficient in literacy at or below Level 1 have greater chances, relative to those of adults with Level 4/5 proficiency, of distrusting others, believing they have little impact on the political process, not participating in volunteer activities and reporting poor health. In Spain, these differences are almost nonexistent except for adults scoring at or below Level 1 in literacy that are two times more likely, compared with those with a high level of literacy, of not participating in volunteer activities and three times the chance of reporting poor health.

The Survey of Adult Skills also collected information about the use of information-processing and other generic skills in the work-place. Linked with data about workers' proficiency in these skills, this information provides a picture of the match – or mismatch – between workers' skills and the tasks they are asked to perform in their jobs.

Spanish workers write, solve problems and use computers at the average level observed across OECD countries participating in the survey. They read slightly less and use mathematics slightly more. The country has one of the largest proportions (17%), of workers whose proficiency in literacy is above the maximum required by their job (over-skilling) and a small proportion (less than 3%) of workers whose proficiency in literacy is below the minimum required by their job (under-skilling) among all participating countries. In Spain, there is a wage penalty of around 10% associated with being over-skilled compared to being well-matched to the requirements of the job. This suggests that there is a considerable room for improving the use of information processing skills at work in Spain. Redesign of job tasks to make better use of these skills could bring considerable benefits both to many Spanish workers and to the economy as a whole in terms of increased productivity. The wage premium for being under-skilled in literacy compared to being well-matched is the highest observed among all countries in the study, though this should be seen in the context of the very small proportion of workers in this situation.

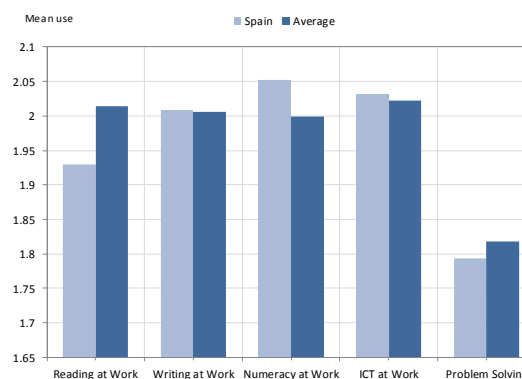
Low literacy proficiency and negative social outcomes
Odds ratio showing the likelihood of adults scoring at or below Level 1 in literacy reporting fair or poor health, or of not participating in volunteer activities (adjusted)



Notes: Reference group is adults scoring at Level 4/5 in literacy.

Source: Survey of Adult Skills (PAAC) (2012), Table A6.9(L).

Average use of information-processing skills at work



Notes: Skills use indicators are standardised to have a mean of 2 and a standard deviation of 1 across the entire survey sample.

Source: Survey of Adult Skills (PAAC) (2012), Table A4.1.

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

- Around 166 000 adults aged 16-65 were surveyed in 24 countries and sub-national regions: 22 OECD member countries – Australia, Austria, Belgium (Flanders), Canada, the Czech Republic, Denmark, Estonia, Finland, France, Norway, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden, the United Kingdom (England and Northern Ireland), and the United States; and two partner countries – Cyprus** and the Russian Federation
- Data collection for the Survey of Adult Skills took place from 1 August 2011 to 31 March 2012 in most participating countries. In Canada, data collection took place from November 2011 to June 2012; and France collected data from September to November 2012.
- 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.

**A. 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”.

B. 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.

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.

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**For more information on the Survey of Adult Skills (PIAAC)
and to access the full *OECD Skills Outlook 2013* report, visit:**

<http://skills.oecd.org/skillsoutlook.html>

www.oecd.org/site/piaac

