

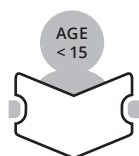
Literacy in Europe: Facts and figures

One in five Europeans

Literacy is fundamental to human development as it enables people to live full and meaningful lives and contribute to their communities and society. Literacy is also essential for learning, as much of learning is mediated through texts. Globally, more than 796 million people have literacy difficulties according to the World Literacy Foundation¹.

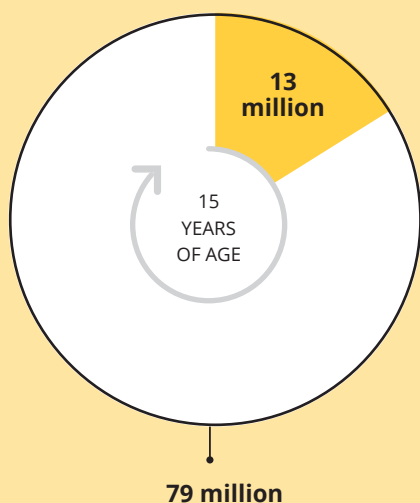
In Europe, one in five 15 year-olds and one in five 16-65 year-olds have poor reading skills. In Europe it is estimated that around 13 million children² under 15 years of age and around 55 million adults between 15 and 65 years of age have literacy difficulties³.

Literacy skills by demographic group



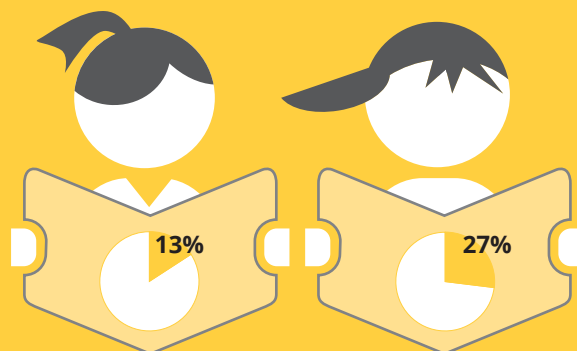
CHILDREN WITH LITERACY DIFFICULTIES IN EUROPE

On average 17% of European 15-year-olds have poor reading skills (Source: PISA, 2012).

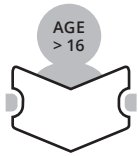


According to the latest PISA report on average 17% of European 15-year-olds (13% of 15-year-old girls and 27% of 15-year-old boys) have poor reading skills and cannot understand their own school textbooks well⁵. 18% of nine-year-olds (13% girls, 24% boys) never or almost never read for fun outside school⁶. Nine-year-olds coming from homes with over 100 books have significantly higher grades compared to students from homes with less than 100 books⁷.

According to the latest PISA report on average 17% of European 15-year-olds (13% of 15-year-old girls and 27% of 15-year-old boys) have poor reading skills and cannot understand their own school textbooks well (Source: PISA, 2012).

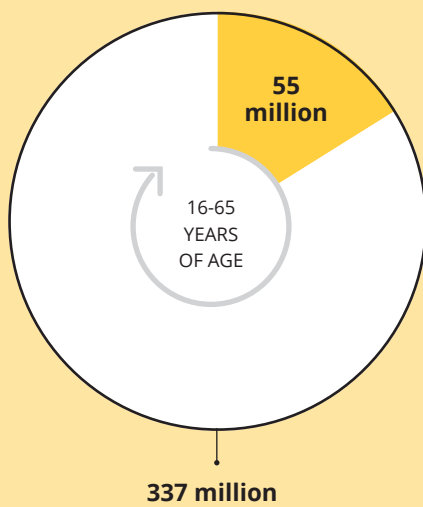


Literacy skills by demographic group



ADULTS WITH LITERACY DIFFICULTIES IN EUROPE

Number of adults (16-65 years of age) with literacy difficulties (Source: PIAAC, 2013).



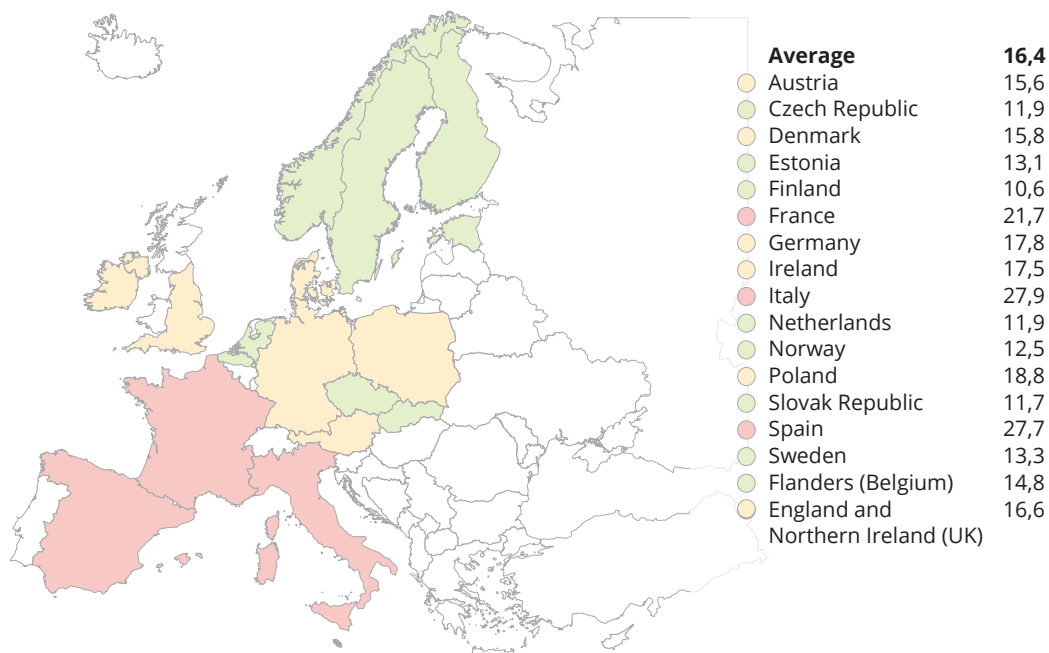
People with literacy difficulties can read at best simple texts, retrieve simple facts, or make straightforward inferences; they are not able to deal with longer or more complex texts, and interpret beyond what is explicitly stated in the text. Not only does this make it hard for them to find or keep a job, it also increases their risk of poverty and social exclusion, limits opportunities for cultural and political participation, lifelong learning and personal growth.

Literacy is also an essential prerequisite for all kinds of learning. In the knowledge-based societies of the 21st century, with the rapid spread of new technologies and a constantly changing work environment, education is no longer limited to childhood and adolescence but instead should be conceptualized as lifelong and lifewide.

For this publication, the PIAAC literacy scores of European adults are studied for several factors: gender, migration status (born in the country studied or not), employment status, highest education and age. For these factors the averages are studied for all 17 European countries involved in PIAAC, as well as per country. For each of these factors a relationship with literacy can be found.

European males have a slightly higher literacy level (271.9, SE 1.1) compared to European females (270.3, SE 1.0). Significantly (<.001) higher scores for men compared to women are found in Austria, Germany, Netherlands, Norway, Spain, Flanders; in Poland women have higher scores compared to men.

Percentage of adults between 16 and 65 years with literacy difficulties.

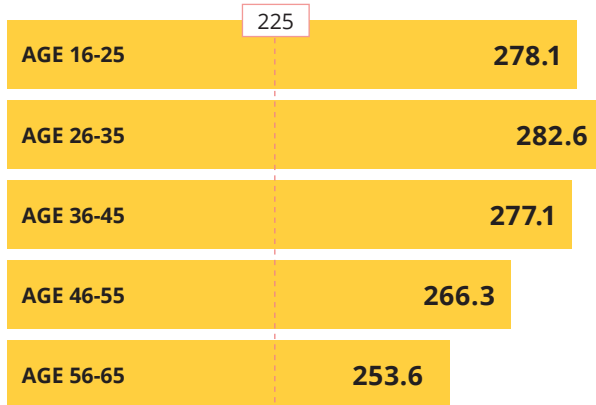


Literacy skills by demographic group



AGE

Europeans aged 26-35 have the highest literacy score.



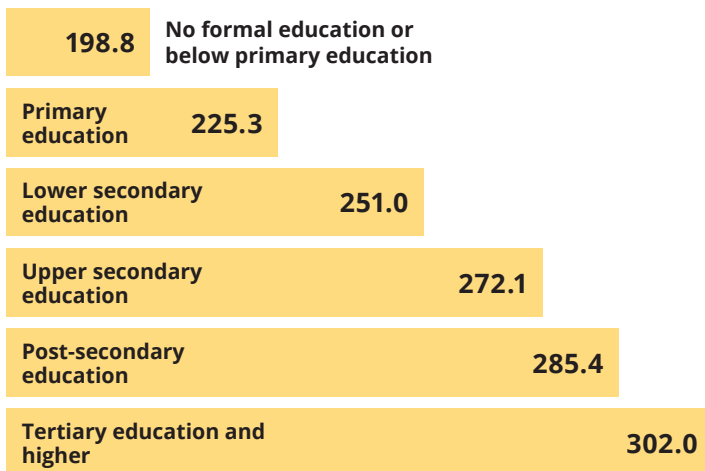
Age is also related to the literacy score. Europeans aged 26-35 have the highest literacy score (282.6, SE 1.7), followed by those aged 16-25 (278.1, SE 1.7) and those aged 36-45 (277.1, SE 1.7). Europeans aged 46 years and over have lower average scores: those aged 46-55 year score 266.3 (SE 1.6) and those aged 56-65 score 253.6 (SE 1.6). Significant differences (<.001) between groups aged 36-45, 46-55 and 56-65 compared to the lower age groups are found across all European countries studied.

Note: 225 is the threshold score for functional literacy.



EDUCATION

Literacy skills vary greatly between groups with different educational levels.



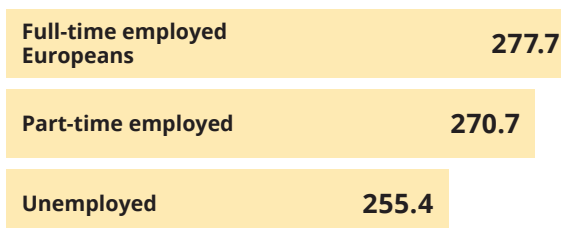
Education is related to the literacy level in Europe as well. Large differences between groups with different number of years in education are found: no formal education or below ISCED1⁸ score 198.8 (SE 5.3), ISCED1 score 225.3 (SE 4.4), ISCED2 score 251.0 (SE 2.2), ISCED3 score 272.1 (SE 3.5), ISCED4 score 285.4 (SE 3.0), ISCED5 and 6 score 302.0 (SE 19.9).

On average, adults tested in their native language have a much higher score (274, SE 0.8) compared to adults who learned the language tested as a second language (245.9, SE 2.9). Except for the difference is significant (<.001) for all countries, except the Czech Republic, Ireland, and the Slovak Republic. For Poland no data is available for this factor.



EMPLOYMENT

Unemployed Europeans have far lower literacy skills than those working full-time.



Looking at employment, a clear relationship with literacy can be found. Full-time employed Europeans score 277.7 (SE 2.1), part time employed 270.7 (SE 2.4), and unemployed 255.4 (SE 3.2). Unemployed Europeans differ significantly (<.001) from employed European in all countries studied, except in the Czech Republic. It is unclear in which direction the effect of literacy and employment goes: whether a low unemployment influences literacy negatively due to less practice in literacy skills during work; or whether the effect works both ways.

How literacy affects daily life

Literacy skills have an impact on all aspects of daily life, from school to employment and from health care to social life⁹. Literacy difficulties appear in all age groups (children, adolescents, adults) and cause problems across generations. Literacy difficulties make it hard to find and keep a job, which creates

inequalities in society by increasing the risk of poverty and social exclusion. The problem is found throughout society, but remains a taboo. However, given the right support, everyone who struggles with reading and writing is able to develop adequate literacy skills to participate in society.

SOCIAL INCLUSION



People with literacy difficulties feel ashamed about their shortcomings, hide it, believe they are too old to learn¹⁰, and either consider improvement impossible or are afraid of failing¹¹.

Highly skilled adults in England and Northern Ireland have a greater likelihood of trusting others and believing that an individual can have an impact on the political process; they participate more often in volunteer and associative activities, and are in better health than adults with poor literacy skills. By contrast, adults with poor literacy skills are only half as likely to trust others as highly skilled adults are and they believe they have little impact on the political process. They are less likely to participate in volunteer activities and they report poor health compared to adults with the highest levels of proficiency in literacy¹². A higher percentage of no-show and non-take up (not making use of governmental information) is observed among adults with literacy difficulties.

Moreover, literacy is related to family income and thus poverty. Hourly wages are strongly associated with reading proficiency in England and Northern Ireland. The median hourly wage of workers with high scores (level 4 or 5) in literacy is 94% higher than that of workers with a low score (at or below level 1). In addition, the best-paid workers (at the 75th percentile) with a high literacy score earn more than twice as much as the best-paid workers with low literacy skills²¹. By connecting information from the PIAAC database and information about income, a relationship between literacy difficulties and poverty is shown¹³. This even has an impact on the next generation, since poor parents are less likely to support their children with their schooling because of their lower educational background¹⁴. Improved literacy, on the other hand, reduces social inequality¹⁵ and improves the life and family situation: people with higher literacy skills report a higher level of independence and improved contact with family members, and are better equipped to fill out forms¹⁶. Higher literacy skills help improve self-reliance and social inclusion¹¹.

WORK AND DURATION OF EMPLOYMENT



Literacy difficulties limit individual capabilities, reduces productivity and hinders innovation^{17,18}. People with literacy difficulties are more likely to be in insecure, irregular employment¹⁹. Adults (ages 16-65) with literacy difficulties are more likely to be unemployed²⁰ and to be on social benefits⁴. For instance, in the Netherlands 43% of people with literacy difficulties are inactive or unemployed, which is a much higher note than among literate adults (14%). Adults who become unemployed tend to lose their basic skills gradually²¹. 25% of long-term unemployed people have low literacy skills⁴.

A study in the Netherlands showed there are high costs associated with literacy problems, due to reduced tax income, lowered productivity, extra social security expenditures, productivity and

extra social costs²². On top of that businesses face extra costs due to higher absenteeism and unnecessary mistakes²³, as well as problems with reading safety instructions²⁴.

The percentage of low skilled jobs is expected to decrease by 30% in 2020 compared to 2010²⁵. Only 15% of jobs will be available for those with basic schooling while 50% of net additional jobs will require tertiary level education². For example, the need to read and write incidents reports using the computer increases the need for reading and writing skills²⁶. By 2025, low skilled employees are expected to face a number of problems related to the wage gap, decreased job security and a higher risk of poverty (CPB/SCP, 2015)²⁷.

How literacy affects daily life

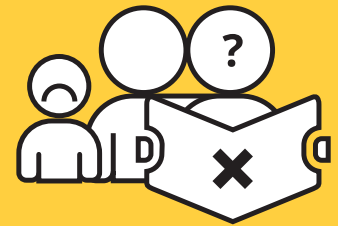
HEALTH



People with literacy difficulties are more likely to suffer from poor health⁴. 25% of struggling readers perceived their health as moderate or bad against 9-16% of people without literacy difficulties²⁸. Having low literacy skills is connected to a higher risk for numerous illnesses²⁹, being hospitalised and depression³⁰. People with literacy difficulties have a 1.5 to 2 times higher death risk than people without

literacy difficulties^{31,32}, for example because they are less able to understand medicine leaflets or to read prescriptions correctly³⁰. Improved literacy improves (perceived) physical health^{6,11,34} and improves perceived psychological health³⁵. A Dutch study links these health effects to significant financial costs.³³

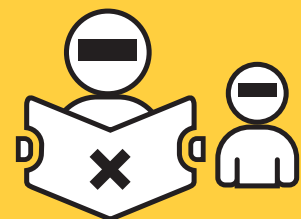
PARENTHOOD AND LANGUAGE DEVELOPMENT OF CHILDREN



Having adequate literacy skills helps adults to be better parents¹¹. Parents are important role models: a family situation where reading is valued as pleasurable and where conversations about books take place is a breeding ground for an interest in reading^{36,37,38}. Parents' involvement in reading has a positive effect on reading performance^{39,40,41} among children. Children living in houses with more books develop better reading skills⁴², while parents with poor

literacy skills have fewer books at home and parents with poor literacy skills are less likely to read to their children⁴³. Children with parents with poor literacy skills are more likely to struggle with literacy themselves and are less likely to do well in school^{9,10,44}. Family literacy interventions aimed at improving parents' support skills have a strong impact on children's literacy⁴⁴. Family literacy programs attract parents who would otherwise not take part in education⁴⁵.

CRIME



The link between literacy difficulties and crime is clear: in multiple countries around the world, studies show that 60-80% of prisoners have reading and writing skills below basic levels¹. Amongst juvenile delinquents, up to 85% are not able to read and write well⁴⁶.

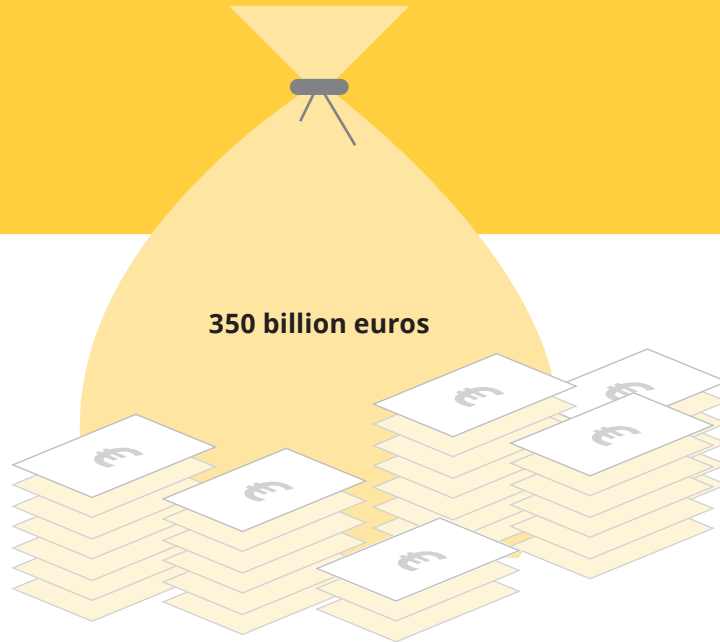
Those who still have reading and writing difficulties upon release have a higher probability of re-offending. This implies significant financial costs in terms of maintaining extra capacity in the legal and prison system¹.






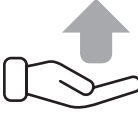


How literacy affects daily life

ECONOMY

Literacy difficulties cost the global economy 1.1 trillion euros each year and the EU economy over 350 billion euros each year.

A recent report from the World Literacy Foundation shows that literacy difficulties cost the global economy 1.1 trillion euros in 2015¹ due to:



 <p>Lost earnings and limited employability</p>	 <p>Higher spending related to health problems</p>
 <p>Lost business productivity</p>	 <p>Higher spending on the justice system due to more crime</p>
 <p>Lost wealth creation opportunities for individuals and business</p>	 <p>Higher spending on social services and benefits</p>
 <p>Lower technology skills capacity in future</p>	 <p>Higher spending on education due to students falling behind</p>

For this estimation a formula developed by UNESCO was used which takes into account the size and structures of different countries' economies⁴⁷. The formula estimates the cost of literacy difficulties in developing countries at 0.5% of their gross domestic product (GDP). In emerging economies, such as China and India, the cost is estimated at 1.2% of GDP, while in developed countries the cost is estimated at about 2% of GDP.

Based on this formula and the related report, rich countries collectively lose around 803 billion euros every year due to literacy problems, while emerging economies lose around 263 billion euros, according to the report. The estimated costs of low literacy for the 24 European countries included in the WLF report amount to 308 billion euros. Following this calculation, the costs for all 28 EU countries can be estimated at more than 350 billion euros.

Adult education helps improve literacy skills

Literacy skills vary greatly between groups with different educational levels.

According to the OECD low-skilled adults risk getting trapped in a situation in which they rarely benefit from 'normal' adult learning, resulting in weak or even deteriorating skills over time. This makes it even harder to enrol in such programs⁴⁸. For example, in England and Northern Ireland 75.3% of adults with high scores in literacy participated in adult education during the 12 months prior to the survey, compared with 40.0% of adults with poor literacy skills (level 1), and only 29.6% of those with the lowest literacy scores (below level 1)²³. This presents a formidable policy challenge for countries with significant shares of adults with low literacy skills. Helping adults with low literacy skills to break this vicious cycle is very important. A solution can be found in subsidised adult literacy programs specifically designed for target group. In addition, policies may aim specifically to increase participation of the target group in regular adult learning. Results from PIAAC show that several countries, such as Denmark, Finland, Sweden, Norway and the Netherlands have been successful in extending opportunities for adult learning to those adults with low literacy scores⁴¹.

Return on investment

Investing in literacy makes economic sense.

Investing in literacy improves the stock of human capital⁴⁹ and makes economic sense. A study in the Netherlands found that every euro invested in literacy interventions returns 1.79 euros. With the costs of courses at 1,690 euros on average and benefits at 3,025 euros (from increased labour productivity and decreased healthcare costs), the profit per person is 1,335 euros on average⁵⁰. In Ireland similar results were found: the annual income gain per person per level increase on the National Qualifications Framework being 3,810 euros and the gain to the Exchequer (in terms of reduced social welfare transfers and increased tax payments) being 1,531 euros per year. The Irish study concludes that the economic benefits outweigh the costs within two years, and solely from the Exchequer's perspective, costs are repaid within five years⁵¹.

What needs to happen

In order to achieve a fully literate Europe, action is required:



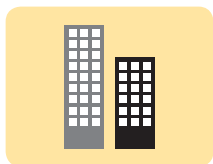
Across society

Create partnerships for literacy development between education and societal players such as municipalities, businesses, trade unions and NGOs.



Across age groups

Literacy policies should have a lifelong time-span, stretching from early childhood to adulthood.



Across government

Ministries of Education should develop a joint literacy approach, actively involving other ministries such as Culture, Health, Employment and Finance. The same joint policy approach is needed at the EU level.



Across election cycles

Literacy development and politics move at different speeds. Sustained political commitment to keep the issue alive in society is crucial to maintain momentum for initiatives on the ground.



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Endnotes

- 1 WLF (2015). The economic and social costs of illiteracy; asnapshot of illiteracy in a global context. Final report from the World Literacy Foundation. 24 August 2015.
- 2 In PISA's 23 selected European countries on average 17% of the 15 year olds have literacy difficulties (a score at level 1a, 1b and 2). If we assume a similar percentage in children at younger ages we can expect that 17% of the total number of 0-15 years olds in Europe -79 million in 2012- have literacy difficulties, which makes a total of around 13 million.
- 3 In PIAAC 17 selected European countries have been studied out of the 28 European countries in total. The percentage of adults between 16 and 65 years of age whom are considered as having literacy difficulties (below a literacy score of 225 points; thus both on level 1 and or below level 1) is 16,4% on average (SE 0.17), which is slightly higher compared to the OECD average of 15,7% (SE 0.14). The total number of adults in the age of 16-65 within the 17 selected countries is 279,6 million (source: technical report PIAAC). Moreover, the absolute number of adults at or below level 1 between 16 and 65 years of age in the selected countries is 45,8 million. The number of adults of the 17 selected European countries is around 83% of the total in terms of number of citizens between 16 and 65 years of age in Europe (around 336,8 million in 2012). Thus, the total of adults of 16-65 years of age at or below level 1, for all European countries is estimated around $100/83 \times 45,8$ million = around 55 million. Note that some of the countries not involved in PIAAC are expected to have a relatively high number of adults with literacy difficulties, such as Romania, Bulgaria, Greece and Portugal. In case these countries can be included, the numbers are expected to increase somewhat with respect to both percentage and absolute number. Secondly, adults of 66 years of age and older are not included in the PIAAC study, but can be expected to have a relatively higher chance of literacy difficulties. Therefore, we estimate that on average 1 in 5 adults have literacy difficulties.
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- 8 International Standard Classification of Education (ISCED) levels:
 - 0 = Pre-primary education
 - 1 = Primary education and first stage of basic education
 - 2 = Lower secondary education and second stage of basic education
 - 3 = (Upper) secondary education
 - 4 = Post-secondary non tertiary education
 - 5 = First stage of tertiary education (not leading directly to an advanced research qualification)
- 9 See also EU high level group of experts on literacy - Final report (2012) from the European Commission for an extensive overview. http://ec.europa.eu/education/policy/school/doc/literacy-report_en.pdf
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