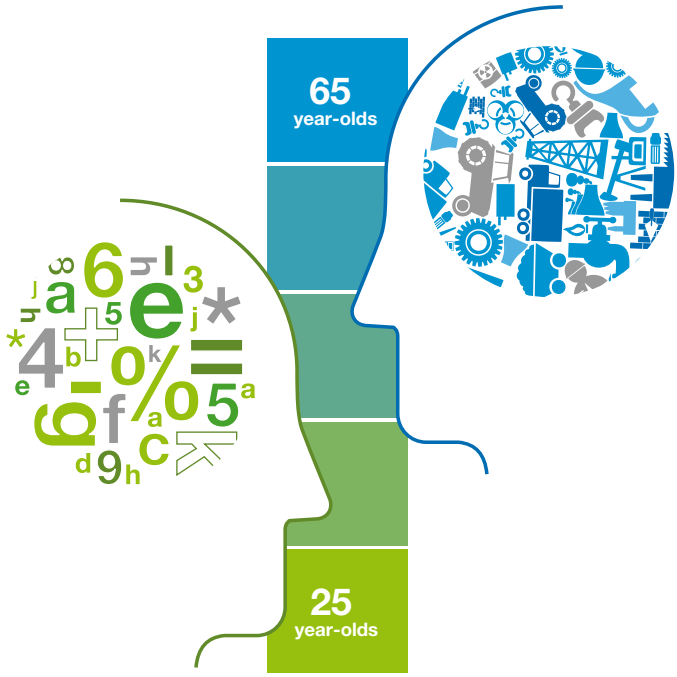
ADULT SKILLS IN FOCUS #3 APRIL 2016

SURVEY OF ADULT SKILLS (PIAAC)

What does age have to do with skills proficiency?

- Adults aged 55 to 65 are less proficient in literacy and numeracy than adults aged 25 to 34.
- Differences in skills proficiency that are related to age vary widely across countries, implying that skills policies can affect the evolution of proficiency over a lifetime.
- While older adults are generally less proficient than younger adults, they do no worse – and often better – than younger adults in terms of labour market outcomes.



The greying of the population is already creating challenges for governments in the long-term financing of healthcare, ageing care and pension systems, and because of the potentially negative effects on economic growth. Governments have to find ways to keep older adults in the labour market and encourage investment in the development of the skills of older workers.

Older people are more likely to stay active in the labour market, and be more productive, if they have managed to develop and maintain their skills as they aged. Not only that, but greater proficiency in literacy and numeracy is associated with a greater likelihood of adults reporting that they are in good or excellent health – which obviously has an impact on the quality of life during one's later years. Understanding how skills proficiency evolves over time is thus the first step in designing policies to respond to the economic and social challenges that arise as populations age.

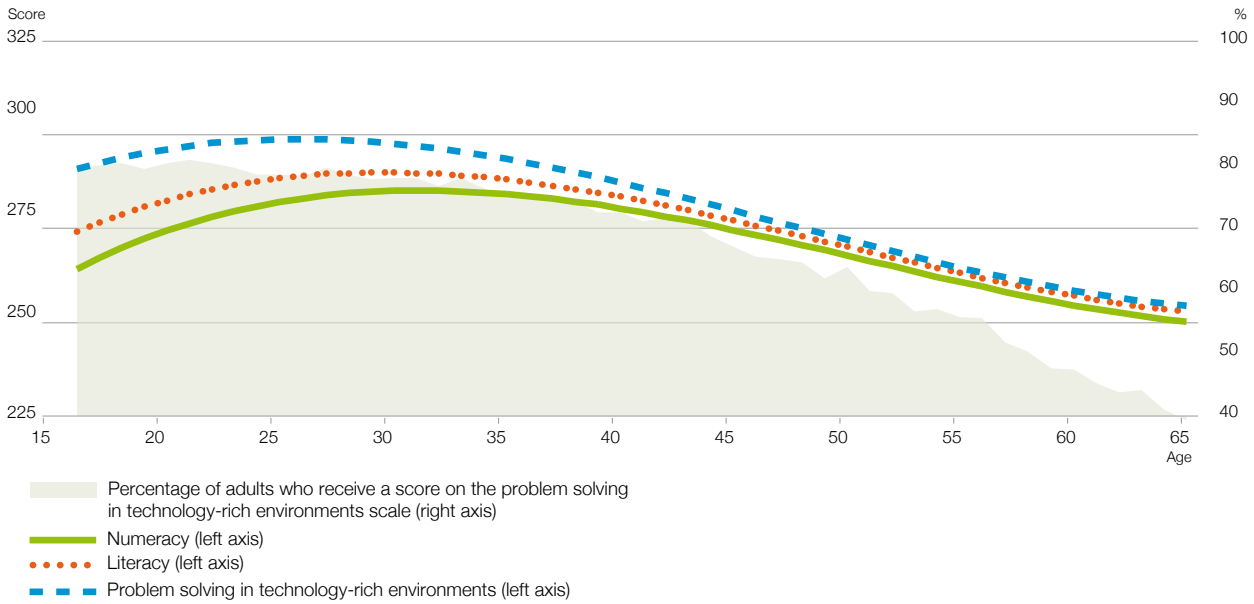
Proficiency often declines with age...

The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC), shows that there are substantial differences in proficiency in information-processing skills across age groups. Proficiency is highest among adults in their late 20s and early 30s. From that point, proficiency declines with age. Depending on whether and how one tries to account for differences in individuals' socio-demographic characteristics, 55-65 year-olds can be estimated to score between 18 and 32 points below 25-34 year-olds in literacy. The score-point difference between the two age groups ranges from between 0 and 13 points in the Slovak Republic, to between 39 and 53 points in Finland.

As the survey measures the proficiency of adults of different ages at a single point in time, the differences in proficiency related to age may reflect the impact of other factors in addition to biological ageing (the so-called "age effects"). For example, the quantity and quality of education received by individuals born in different years may vary considerably – thus generating so-called "cohort effects". Yet, the results from the Survey of Adult Skills are broadly similar to those of other studies that are better able to separate age and cohort effects: ageing does have an impact on skills proficiency.

However, the fact that countries vary widely in the extent to which age and proficiency are related, even after controlling for changes in educational attainment that would have occurred at different speeds across countries, suggests that education and skills policies can affect the evolution and maintenance of skills over a lifetime. Thus, education and skills policies should be key ingredients of a comprehensive strategy to respond to the challenges of population ageing. A smaller labour force will be able to accommodate a larger population of retirees, while at the same time preserving living standards, only if labour productivity increases. The existence of a highly skilled workforce that can innovate and adapt to technological change will be essential for sustaining productivity growth. Similarly, the necessary increase in the length of the working life requires policies that can help to maintain and even improve skills proficiency among older adults.

Figure 1 / **The age profile of literacy proficiency**



Source: OECD (2012), Survey of Adult Skills (PIAAC), *www.oecd.org/site/piaac/publicdataandanalysis.htm.*

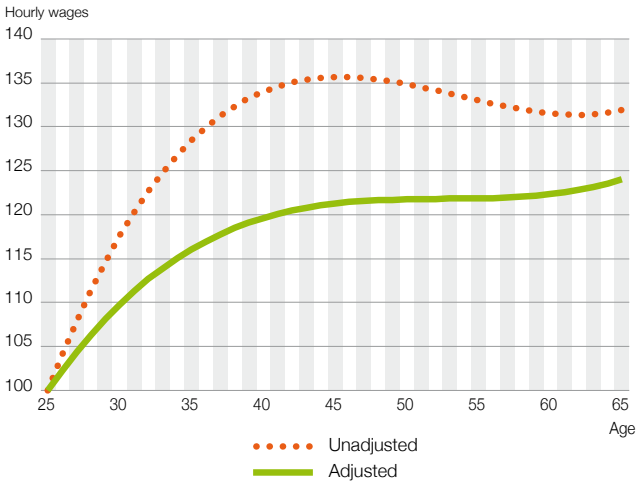
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...yet proficiency is even more strongly associated with wages and employment among older adults.

While older adults are, on average, less proficient than their younger counterparts, they generally do not suffer in terms of labour market outcomes. In particular, older workers earn higher wages than their younger peers, on average. While this may reflect the fact that pay structures are defined so that wages rise in sync with experience, much of the available empirical evidence suggests that older workers are not less productive than younger workers. Older workers seem to develop other productivity-enhancing skills and attributes to compensate for age-related declines in proficiency in information-processing skills.

As people age, the likelihood of being employed and of earning higher wages becomes even more strongly linked with proficiency in information-processing skills. Thus, investments in improving the proficiency of older adults may have potentially large returns.

Figure 2 / **Age-wage profile in OECD countries**



Note: Hourly wages including bonuses as a function of age. Wages of 25-year-olds are set equal to 100. The unadjusted line shows the prediction from a regression of wages on a cubic polynomial in age. The adjusted line also controls for gender, a quadratic polynomial in labour market experience, literacy proficiency, years of education, a dummy for part-time and a dummy for indefinite contract.

Source: OECD (2012), Survey of Adult Skills (PIAAC), *www.oecd.org/site/piaac/publicdataandanalysis.htm*.

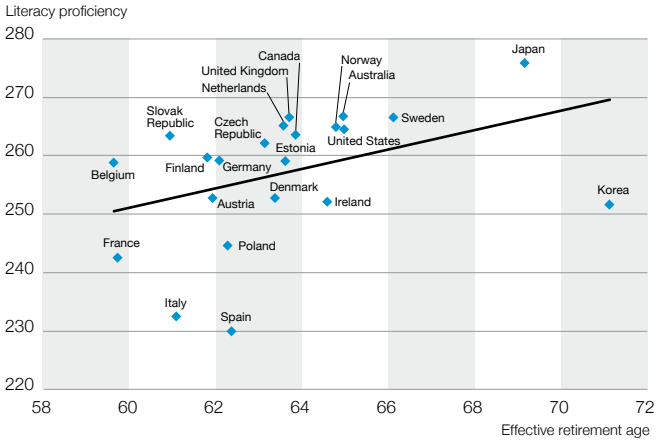
Older adults need to use their skills – or risk losing them.

Can age-related declines in skills proficiency be prevented or, at least, slowed? Having higher levels of education does not appear to "protect" adults from cognitive decline. Rather, it is high proficiency itself that seems to stem – somewhat – the decline in proficiency in information-processing skills that comes with age. It is highly proficient adults, not the most educated adults, who show smaller declines in proficiency as they age. This is probably because more proficient adults have more opportunities to develop and maintain their cognitive skills throughout their lifecycle. Consequently, it is important that all young people, including those from disadvantaged backgrounds, leave school with good literacy and numeracy skills so they can build on those skills as they grow older.

Participation in on-the-job training is positively associated with proficiency. This suggests that targeting on-the-job training to older workers could help reduce age-related differences in proficiency.

Engaging in activities that use information-processing skills is also likely to help maintain higher levels of proficiency, according to the so-called "use-it-or-lose-it" hypothesis. In all countries that participated in

Figure 3 / **Effective retirement age and literacy proficiency**
Men aged 55 and older

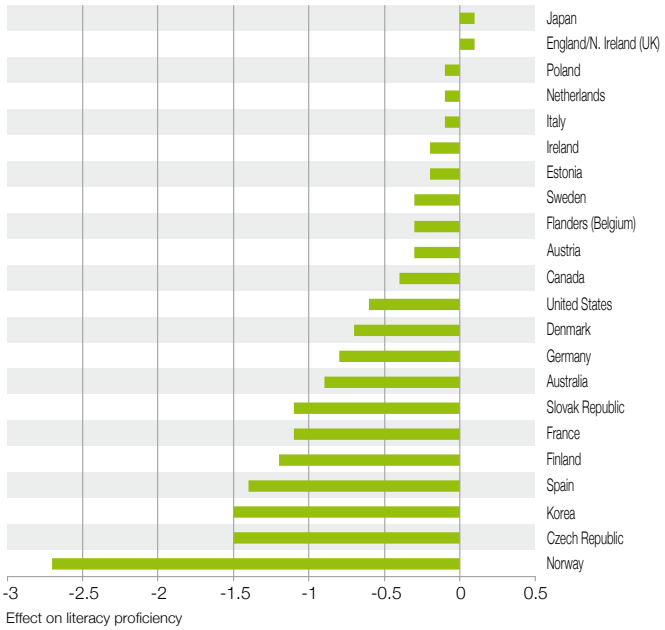


Source: OECD (2012), Survey of Adult Skills (PIAAC), *www.oecd.org/site/piaac/publicdataandanalysis.htm.*

the Survey of Adult Skills, the positive relationship between proficiency and skills use is stronger among older than among younger adults.

The "use-it-or-lose-it" hypothesis also predicts that retirement could have negative effects on proficiency as older adults who have left work may have fewer opportunities or incentives to practice their skills. By delimiting the expected length of adults' working lives, retirement policies may also affect incentives to invest in training. Many studies show that retirement negatively affects proficiency in information-processing skills. Not only are retirees less proficient than employed adults, but proficiency also appears to decline over the time spent in retirement. The Survey of Adult Skills shows a strong relationship between the effective retirement age and the literacy proficiency of men aged 55 and older. The countries where people remain in the labour market longer are also those countries where older men show greater skills proficiency. This is not true for women, however, whose retirement decisions are probably influenced by other factors that are less strictly related to skills.

Figure 4 / **How each year of retirement affects literacy proficiency**



Source: OECD (2012), Survey of Adult Skills (PIAAC), *www.oecd.org/site/piaac/public-dataandanalysis.htm.*

The bottom line

Adults tend to lose their information-processing skills as they age, especially if they do not use them. While older adults may compensate for this loss by developing other valuable skills, the importance of being proficient in information-processing skills in determining wages and employment does not diminish as workers age. Probably the most cost-effective way to ensure that economies do not suffer unduly as the working population ages is to ensure that students leave initial schooling with at least a basic set of information-processing skills on which they can build as they grow older. More opportunities for high-quality adult and on-the-job training should also be made available so that older adults can maintain the skills the already have and acquire new ones.

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> **FOR MORE INFORMATION:**	Paccagnella M. (2016), "Age, ageing and skills: Results from the Survey of Adult Skills", *OECD Education Working Papers*, No. 132, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5jm0q1n38lvc-en*.
> **VISIT:**	www.oecd.org/site/piaac Education Indicators in Focus - PISA in Focus - Teaching in Focus

The Survey of Adult Skills is a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC).

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