

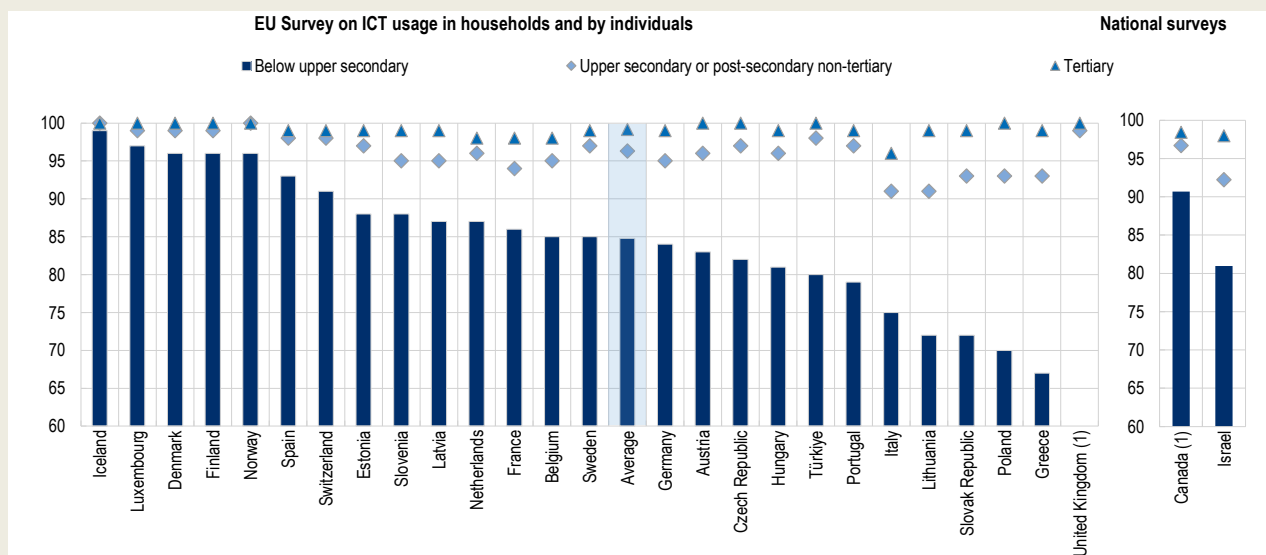
# Indicator A6. How are social outcomes related to education?

## Highlights

- Higher educational attainment is associated with more frequent use of the Internet. On average across OECD countries participating in the European Union Survey on Information and Communication Technologies usage in households and by individuals (EU-ICT), nearly all tertiary-educated 25-54 year-olds used the Internet at least once a week in 2021, compared to 85% for those with below upper secondary attainment. Educational attainment is more important in explaining Internet usage among 55-74 year-olds than among 25-54 year-olds.
- Internet use plays a role in keeping older people socially connected and preventing loneliness. However, the potential benefits remain concentrated among the highly educated. On average across OECD countries participating in EU-ICT, 71% of tertiary-educated 55-74 year-olds reported making telephone or video calls over the Internet in 2021, compared to 34% for those with below upper secondary attainment during that year.
- Parents can help their children to develop the skills and attitudes they need to thrive in the interconnected world. Evidence from the Programme of International Student Assessment (PISA) suggests that students with tertiary-educated mothers show greater interest in learning about other cultures, more positive attitudes towards immigrants and a stronger sense of global mindedness.

**Figure A6.1. Share of 25-54 year-olds using the Internet at least once a week, by educational attainment (2021)**

In per cent




**Note:** The reference period for Internet usage is the last three months prior to the survey. In general, data refer to the first quarter of the reference year.

1. Reference year differs from 2021. Refer to the source table for more details.

Countries are ranked in descending order of the share of 25-54 year-olds with below upper secondary attainment using the Internet at least once a week.

**Source:** OECD (2022), Table A6.1. See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

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## Context

Across OECD countries, there has been a significant shift in recognition of the importance of social benefits and measures of social well-being over the past decade. A number of countries have developed and continue to develop data sources across a number of social areas, providing opportunities to explore relationships between previously separate policy areas. There is, in parallel, a growing body of new research on the importance of non-economic aspects of well-being and the role played by education. Building on this insight, Indicator A6 of Education at a Glance (EAG) looks at a range of potential social outcomes of education, following the topics defined by the OECD well-being framework. In this edition, it has a special focus on social connections among adults and social tolerance among young people in the interconnected world.

Human beings are inherently social creatures. Digital technologies can reduce the barriers involved in traditional social interactions and facilitate social activities. With the rapid expansion of Internet services and use, online social networks have been growing in our societies and an increasing share of our personal interactions now take place on line. Some studies have found a strong inverse cross-country relationship between Internet use and loneliness, with people living in countries with higher levels of Internet access experiencing lower levels of loneliness (OECD, 2019<sup>[1]</sup>). One area of significance is the potential of digital technology to reduce loneliness among older adults. However, as this indicator highlights, Internet access alone is not enough to properly capitalise on the positive opportunities offered by digital technologies, as less-educated older adults are often excluded from online social connections.

Fuelled by rapid digital transformation and the increasing mobility of goods, services, capital and labour, globalisation has made our world more interconnected over the past decades. In addition to learning academic subjects, such as mathematics and science, students need to acquire the capacity to see the world from different perspectives, be open to different cultures and take a more active role in promoting collective well-being and sustainable development. Higher educational attainment is associated with more tolerant attitudes and greater awareness of global issues (Brennan et al., 2015<sup>[2]</sup>). As parents can transmit knowledge and act as role models in defining children's behaviour, highly educated parents might also be expected to transmit these positive attitudes to their children. The second main section of this indicator therefore investigates how mothers' educational attainment is related to their children's social tolerance and global mindedness.

## Other findings

- More than nine out of ten households had access to the Internet in 2021 or the most recent year data were available. Among OECD countries taking part in EU-ICT, this share ranges from 85% in Greece to 99% in Luxembourg, the Netherlands, Norway and Switzerland. Countries not covered by the EU-ICT survey show comparable level of Internet access within households: 84% in Israel, 89% in the United States and 95% in Canada.
- Online platforms and mobile health solutions offer new sources of health-related information. On average across OECD countries participating in EU-ICT, the share of tertiary-educated 55-74 year-olds accessing health-related information on line is more than twice the share of those with below upper secondary attainment in 2021.
- COVID-19 has increased acceptance of remote working and therefore accelerated the digitalisation of work. Workers with tertiary attainment were more likely to telework than their lower-educated peers before the pandemic, and this gap has widened in many countries since. However, the relationship between educational attainment and the likelihood of teleworking is probably explained by job requirements across sectors and industries, as tertiary-educated workers are more likely to work in knowledge-intensive sectors with high share of jobs that are amenable to remote work.

## Note

The differences by educational attainment displayed in this indicator do not account for socio-economic status and other moderating or mediating factors. The educational attainment gradient should therefore not be interpreted as the effect of education on the social outcomes measured.

## Analysis

### ***Internet access and use, by educational attainment and age group***

More and more everyday activities are moving on line, and access to the Internet has become essential in the digital age. On average across OECD countries participating in the EU Survey on ICT usage in households and by individuals (EU-ICT), 93% of households reported having access to the Internet in 2021 or the most recent year data were available. This share does not vary much across countries: ranging from 85% in Greece to 99% in Luxembourg, the Netherlands, Norway and Switzerland. Countries not covered by the EU-ICT survey also show comparable level of Internet access within households: 84% in Israel, 89% in the United States and 95% in Canada (Table A6.1).

The share of 25-54 year-olds using the Internet at least once a week tends to increase with educational attainment. In 2021, among OECD countries taking part in EU-ICT, this share averaged 85% among those with below upper secondary attainment, 96% among those with upper secondary or post-secondary non-tertiary attainment and 99% among tertiary-educated adults. National data collected in Canada and Israel follow the same pattern. The Internet usage gap between tertiary attainment and upper secondary or post-secondary non-tertiary attainment was less than 10 percentage points in all OECD countries with available data. The difference between below upper secondary attainment and upper secondary or post-secondary non-tertiary attainment is clearer, exceeding 20 percentage points in Greece, Poland and the Slovak Republic, although it is below 5 percentage points in Denmark, Finland, Iceland, Luxembourg and Norway (Figure A6.1).

The difference in Internet use by educational attainment is more significant among 55-74 year-olds than among 25-54 year-olds. On average across OECD countries taking part in EU-ICT, 57% of 55-74 year-olds with only below upper secondary attainment used the Internet at least once a week in 2021. The share increases to 80% among those with upper secondary or post-secondary non-tertiary attainment, and reaches 95% among those with tertiary attainment (Table A6.1).

For the younger population the situation is very different and there is almost no variation by educational attainment. Almost all 16-24 year-olds use the Internet at least once week in all countries participating in EU-ICT, regardless of educational attainment. Israel is the only country where the difference between 16-24 year-olds with below upper secondary attainment (79%) and those with upper secondary or post-secondary non-tertiary attainment (97%) exceeds 10 percentage points (Table A6.1).

### ***Online social connection among older people, by educational attainment***

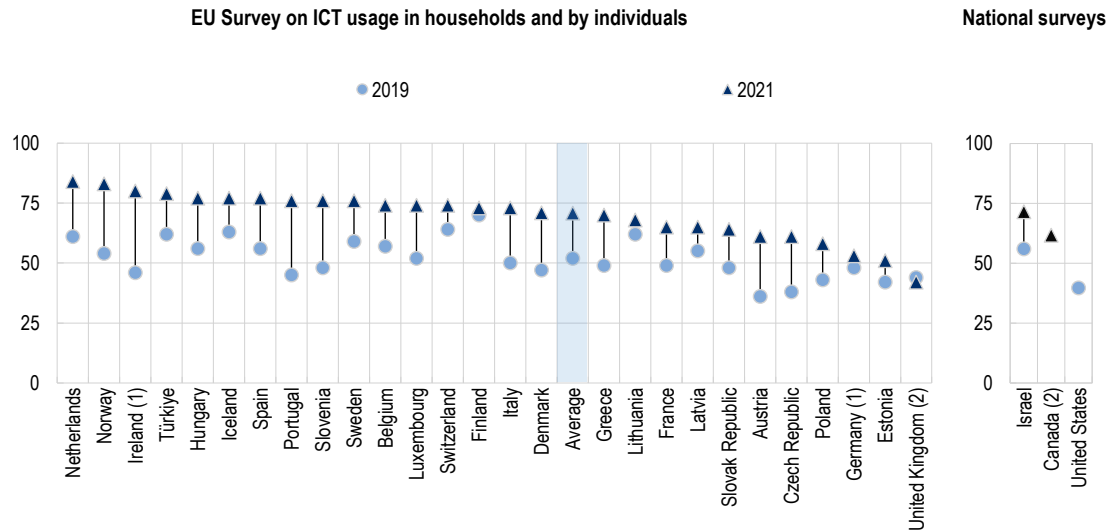
The Internet's potential for social connections could be particularly important for the elderly. Increasing life expectancy and changes in living patterns are leading to widespread social isolation and loneliness among older people, which is an issue of growing concern. Isolation and loneliness can have serious consequences for physical and mental health (WHO, 2021<sup>[3]</sup>). For older adults, one option for keeping socially connected in the digital age is to make online telephone or video calls. Older adults with high levels of educational attainment make greater use of the Internet to connect to others than their lower-educated peers. On average across OECD countries participating in EU-ICT, 20% of 55-74 year-olds with below upper secondary attainment made telephone or video calls over the Internet in 2019, compared to 35% among those with upper secondary or post-secondary non-tertiary attainment and 52% among those with tertiary attainment. The same pattern is observed in Canada, Israel and the United States (Figure A6.2 and Table A6.2).

The COVID-19 pandemic has increased the use of the Internet for telephone or video calls among all 55-74 year-olds. Many countries imposed social distancing measures and lockdowns since the outbreak of the pandemic. The barriers to face-to-face contacts compounded the feeling of loneliness and lack of connectedness. But the extent to which older adults have made use of these opportunities offered by the Internet to stay connected has also varied with educational attainment. On average across OECD countries taking part in EU-ICT, by 2021, the share of 55-74 year-olds making online telephone or video calls had increased to 34% among those with below upper secondary attainment, 51% among those with upper secondary or post-secondary non-tertiary attainment and 71% among those with tertiary attainment. Portugal, which had below-average share of older tertiary-educated adults making such calls in 2019, recorded the greatest increases among this group between 2019 and 2021, of over 30 percentage points (Figure A6.2 and Table A6.2).

In most OECD countries with available trend data, except in Finland, Latvia and Spain, the share of 55-74 year-olds making telephone or video calls over the Internet increased steadily between 2019 and 2021. For 55-74 year-olds at all levels of educational attainment, the share peaked in 2020 and fell back slightly in 2021 in Finland and Spain. While in Latvia, the share decreased between 2019 and 2020, but increased in 2021 (Table A6.2).

**Figure A6.2. Share of tertiary-educated 55-74 year-olds making telephone or video calls over the Internet (2019 and 2021)**

In per cent



**Note:** The reference period is the last three months prior to the survey. In general, data refer to the first quarter of the reference year. Refer to Annex 3 for more country-specific information.

1. There is a break in the series. Refer to the source table and Annex 3 for more details.

2. Reference year differs from 2021. Refer to the source table for more details.

Countries are ranked in descending order of the share of tertiary-educated 55-74 year-olds making telephone or video calls over the Internet in 2021.

**Source:** OECD (2022), Table A6.2. See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

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The ongoing digital transformation is affecting people's lives across many dimensions, and older people with higher educational attainment seem to enjoy greater benefits from digitalisation.

Box A6.1 looks at older adults' use of the Internet to seek health-related information.

### Box A6.1. The Internet as a source of health-related information for older people

Digital innovations can contribute to better health outcomes, improve patients' experience and achieve cost efficiencies in healthcare delivery. For most people, the increasing availability of health-related information on line remains the most direct way in which digitalisation affects their health experience (OECD, 2019<sup>[1]</sup>).

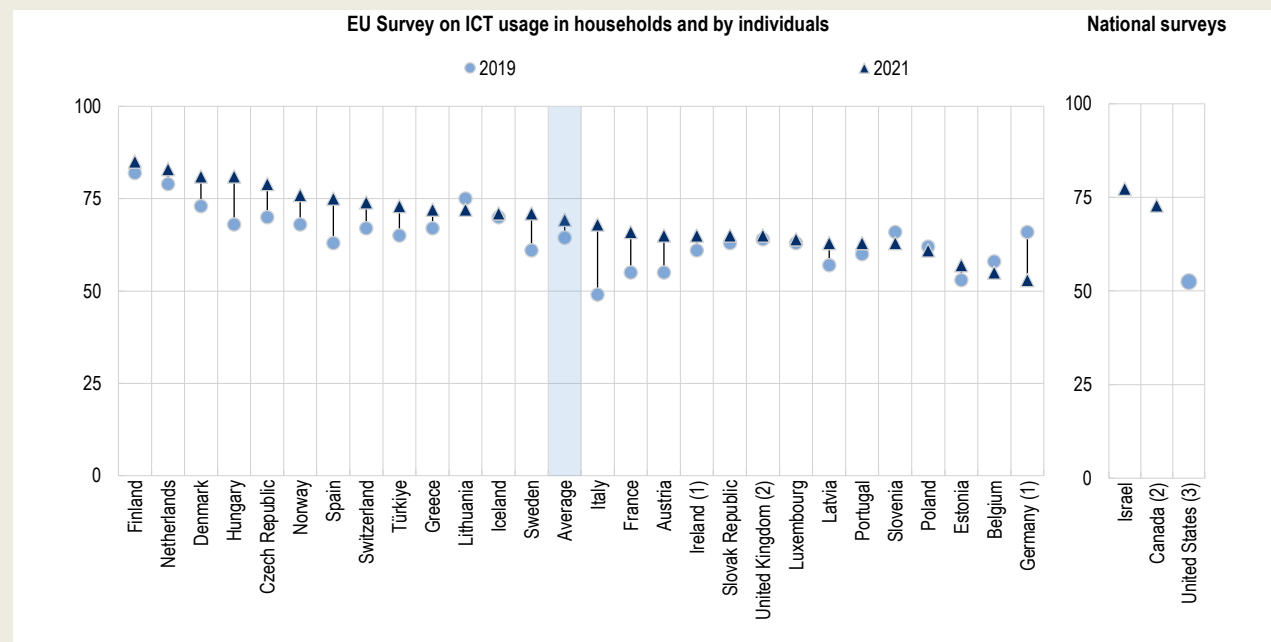
As people age, they are more likely to experience health challenges. The Internet offers unprecedented potential for people to learn about self-care treatments and improve their healthcare decision making but, as with other aspects of online behaviour, there are differences among older adults, depending on their educational attainment. It should be noted that not all of the content available over the Internet is verified, and there have been growing levels of disinformation on line related to COVID-19 (OECD, 2020<sup>[4]</sup>). To benefit from the Internet's potential as a source of health-related information, individuals need to be able to distinguish between high- and low-quality information. The ability to critically assess information probably has a positive relationship with educational attainment. In 2019, across OECD countries participating in the EU-ICT survey, tertiary-educated 55-74 year-olds were more than twice as likely on average to employ the Internet as a source of health-related information than their peers with below upper secondary attainment. The pattern is similar in Canada and Israel (Table A6.2, available on line).

The share of 55-74 year-olds seeking health-related information over the Internet increased between 2019 and 2021 (Table A6.2, available on line). This is probably related to the fact that in-person consultations and non-urgent care were limited and even suspended during the pandemic, especially early on (OECD, 2021<sup>[5]</sup>). On average across OECD

countries taking part in the EU-ICT survey, use of the Internet to seek health-related information rose from 64% of tertiary-educated 55-74 year-olds in 2019 to 69% in 2021. The increase was over 10 percentage points in France, Hungary, Italy and Spain. In contrast, in Belgium, Lithuania, Poland and Slovenia, the share of tertiary-educated 55-74 year-olds seeking health-related information on line fell over the same period (Figure A6.3).

**Figure A6.3. Share of tertiary-educated 55-74 year-olds seeking health-related information over the Internet (2019 and 2021)**

In per cent



**Note:** The reference period is the last three months prior to the survey. In general, data refer to the first quarter of the reference year. Refer to Annex 3 for more country-specific information.


1. There is a break in the series. Refer to the source table and Annex 3 for more details.

2. Reference year differs from 2021. Refer to the source table for more details.

3. The share of those seeking health-related information over the Internet represent the share of 55-74 year-olds who accessed the Internet and live in households where someone researched health information on line.

Countries are ranked in descending order of the share of tertiary-educated 55-74 year-olds seeking health-related information over the Internet in 2021.

**Source:** OECD (2022), Table A6.2. See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

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While containment measures have restricted economic activities, the rapid expansion of teleworking has helped maintain some jobs during the COVID-19 pandemic.

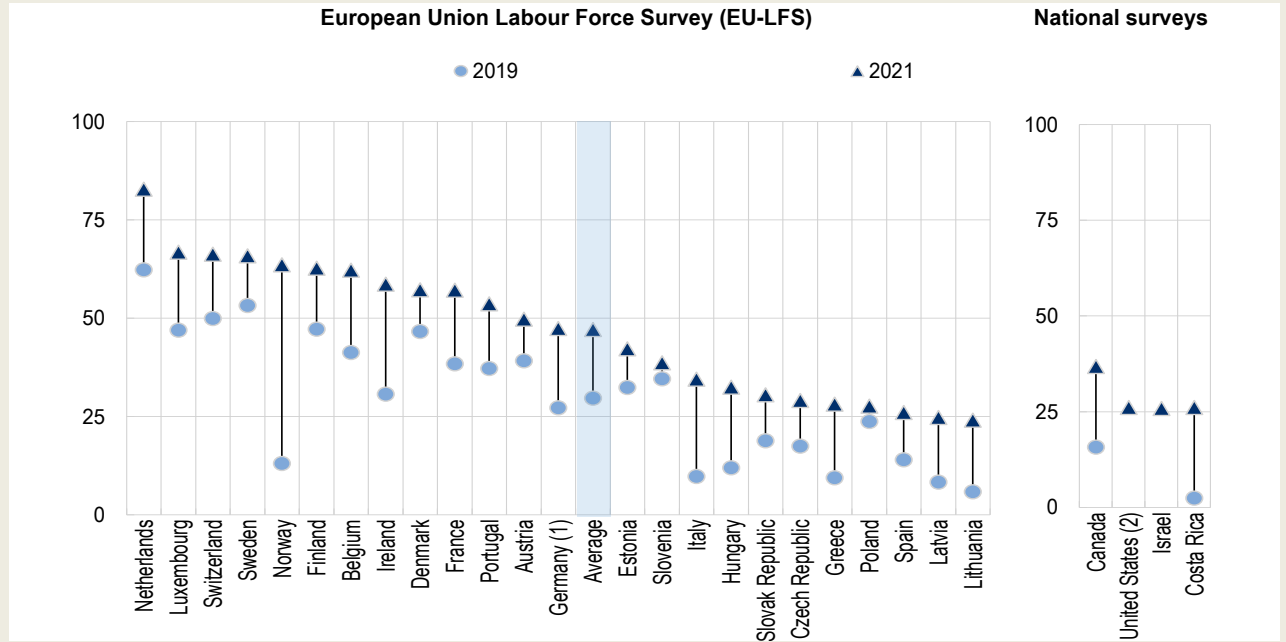
Box A6.2 details how remote working evolved during the pandemic across countries and attainment levels.

### Box A6.2. Increase in teleworking during the COVID-19 pandemic

The global health crisis has affected the way many people work. On average across OECD countries participating in the EU Labour Force Survey (EU-LFS), the share of employed 25-64 year-olds who reported usually or sometimes working from home (i.e. working from home for at least one hour during the four weeks prior the survey) rose from 19% in 2019 to 24% in 2020 and 30% in 2021. Because the data all refer to the same reference period, the frequency of teleworking might be underestimated in some countries, if the pandemic did not reach its peak during that period. Surveys in other countries, such as Canada and Costa Rica, also recorded an increase in the share of workers who reported usually or sometimes teleworking during the pandemic (Table A6.7, available on line).

**Figure A6.4. Share of tertiary-educated adults who reported usually or sometimes working from home (2019 and 2021)**

In per cent; 25-64 year-old employed adults



**Note:** Usually or sometimes working from home means working at home at least one hour in the reference period of four weeks preceding the end of the reference week. Refer to Annex 3 for more country-specific information.

1. There is a break in the series. Refer to the source table and Annex 3 for more details.

2. Data represent the percentage of employed adults working from home at any time in the last 4 weeks because of the Coronavirus pandemic. Individuals that worked entirely from home before the pandemic are excluded from these estimates.

Countries are ranked in descending order of the share of tertiary-educated 25-64 year-olds who reported usually or sometimes working from home in 2021.

**Source:** OECD (2022), Table A6.7, available on line. See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

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Although all OECD countries experienced overall increases in the share of employed adults teleworking during the pandemic, the extent of the increase varies widely by level of educational attainment. Tertiary-educated workers are much more likely to work remotely than their lower-educated peers, and the pandemic further widened this gap. On average across OECD countries taking part in EU-LFS, the share of workers with below upper secondary attainment usually or sometimes working from home increased by 1 percentage point (from 9% to 10%) between 2019 and 2021. The increase was 6 percentage points among those with upper secondary or post-secondary non-tertiary attainment (from 12% to 19%) and 17 percentage points for those with tertiary attainment (from 30% to 47%) (Figure A6.4 and Table A6.7, available on line).

These averages conceal some significant variations across countries. Among tertiary-educated workers, the likelihood of usually or sometimes working from home more than doubled in Greece, Hungary, Italy, Latvia, Lithuania and Norway between 2019 and 2021, while the increase was less than 20% in Poland and Slovenia. At the other end of the spectrum, in Austria, Greece, Luxembourg, Poland and Sweden, workers with below upper secondary attainment were less likely to report usually or sometimes working from home in 2021 than in 2019 (Figure A6.4 and Table A6.7, available on line).

The relationship between educational attainment and the likelihood of teleworking is probably explained by differing work requirements across sectors and industries. Many high-skilled jobs in knowledge-intensive industries can be done remotely using laptops, whereas manufacturing, which is in general dominated by lower-educated workers, would seem less suitable for telework (OECD, 2020<sup>[6]</sup>).

### Social tolerance among 15-year-old students, by mother's educational attainment

Parents can help their children develop the skills and attitudes needed to thrive in the interconnected world. Using data from the PISA 2018 Global Competence questionnaire, this section analyses how their mothers' educational attainment influences students' interest in learning about other cultures and attitudes towards immigrants. This is the first time that the breakdown by mother's educational attainment has been published.

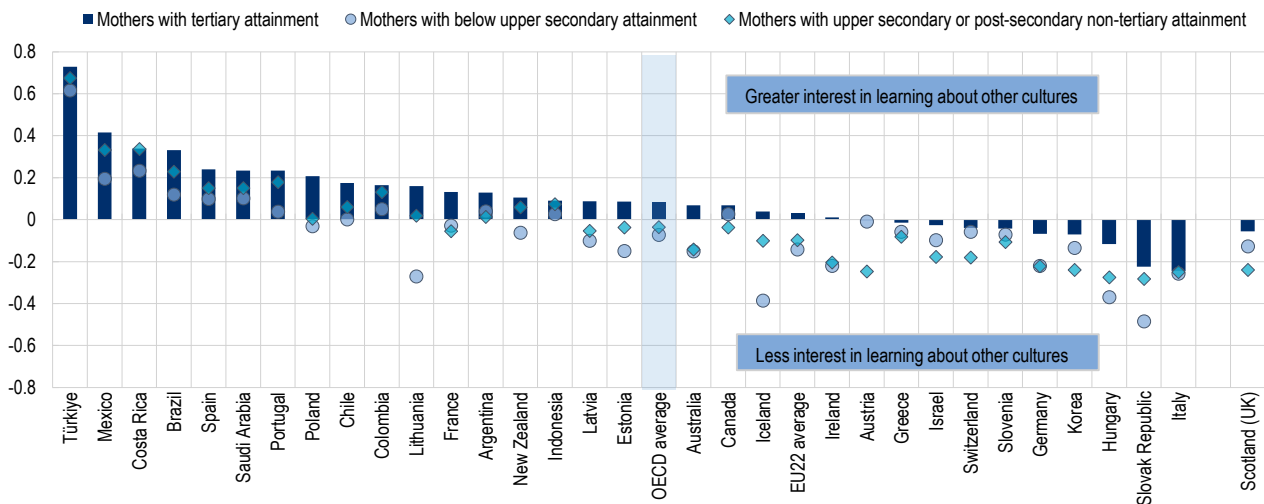
#### Student's interest in learning about other cultures

The PISA 2018 Global Competence questionnaire module asked 15-year-old students to respond to the following four statements: "I want to learn how people live in different countries"; "I want to learn more about the religions of the world"; "I am interested in how people from various cultures see the world"; and "I am interested in finding out about the traditions of other cultures". The five response categories were "not at all like me", "not much like me", "somewhat like me", "mostly like me" and "very much like me". These statements were combined to create the index of students' interest in learning about other cultures, with positive values indicate that students exhibited a greater interest in learning about other cultures than the average student across the OECD.

The greatest levels of interest in learning about different cultures were reported by 15-year-old students in the Republic of Türkiye, while those in Italy and the Slovak Republic reported the lowest (Table A6.3). In nearly all OECD and partner countries and other participants, students' interest in learning about other cultures is positively related to their mothers' educational attainment. In some countries, such as Australia, Estonia, France, Iceland, Ireland and Latvia, it was only the students with tertiary-educated mothers who expressed more curiosity about other cultures than the average of all students from OECD countries and economies. Italy was the only country with below-average interest among students in learning about other cultures where mother's educational attainment made almost no difference (Figure A6.5).

**Figure A6.5. Students' interest in learning about other cultures, by mother's educational attainment (2018)**

Programme for International Student Assessment (PISA); mean index



**Note:** PISA 2018 asked 15-year-old students to respond to the following four statements: "I want to learn how people live in different countries"; "I want to learn more about the religions of the world"; "I am interested in how people from various cultures see the world"; and "I am interested in finding out about the traditions of other cultures". These statements were combined to create the index of students' interest in learning about other cultures whose average is 0 and standard deviation is 1 across OECD countries. Positive values in this index indicate that the students exhibited a greater interest in learning about other cultures than the average student in OECD countries. Negative values do not imply that students responded negatively, but rather that they exhibited less interest in learning about other cultures than the average student across OECD countries.

Countries are ranked in descending order of mean index of the interest in learning about other cultures among students with tertiary-educated mothers.

**Source:** OECD (2022), Table A6.3. See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

Among the four statements used to assess students' interest in learning about other cultures, there seems to be a distinction between students' response to the concepts of culture and of religion, as religion might be a more sensitive notion than culture (OECD, 2020<sup>[7]</sup>). On average across OECD countries and economies, more than 50% of students reported that they would like to learn how people live in different countries, about the perspectives of people from various cultures and to find out about the traditions of other cultures. In contrast, only 40% expressed an interest in learning about the religions of the world. Unlike with the three culture-related questions, students with tertiary-educated mothers were not always the ones who reported greatest interest in learning about other religions. In Austria, Canada, Greece, Israel, Italy, Scotland (United Kingdom), Slovenia and Switzerland, students whose mother attained below upper secondary education reported the greatest interest in learning about other religions (Table A6.4, available on line).

### *Attitudes towards immigrants*

Many countries have seen the size of their immigrant population increase in recent years, with the war in Ukraine contributing to this trend. On average across OECD countries, in 2020, almost one-fifth of 25-64 year-olds were not born in the country where they currently live. Students' attitudes towards immigrants are therefore becoming crucial to creating cohesive and harmonious societies.

The PISA 2018 Global Competence questionnaire assessed students' attitude towards immigrants through their responses to the following statements: "Immigrant children should have the same opportunities for education that other children in the country have", "Immigrants who live in a country for several years should have the opportunity to vote in elections", "Immigrants should have the opportunity to continue their own customs and lifestyle", and "Immigrants should have all the same rights that everyone else in the country has". Responses were provided on a four-point scale: "strongly disagree", "disagree", "agree" and "strongly agree". An index measuring overall attitudes towards immigrants is derived from these four statements, with a positive value indicating that students have more positive attitudes towards immigrants than the average student across OECD countries and other participants.

Students in Canada, Korea and Portugal reported the most positive attitudes towards immigrants, while those in Hungary had the least positive attitudes. Notably, there is no clear association between the share of foreign-born adults and students' attitudes towards immigrants. For instance, in Switzerland, 37% of 25-64 year-olds are foreign-born, but students do not report more positive attitudes than the average student across the OECD. In contrast, Portugal has relatively low share of foreign-born adults (11%), but students reported the most positive attitudes towards immigrants (Table A6.3).

While mother's educational attainment plays a positive role in their children's overall attitudes towards immigrants, the relationship becomes less conclusive when looking at the answers to individual statements. In 17 out of 30 OECD and partner countries and other participants with available data, students with tertiary-educated mothers were the most likely to be positive about the right to education for immigrants' children. Where the questions touched on issues related to identity or political rights, maternal educational attainment did not have a clear effect. However, in general there was a wider range of responses to these statements than to other statements (Table A6.5, available on line).

### ***Global mindedness of 15-year-old students, by mother's educational attainment***

As well as social tolerance towards different cultures and people with different backgrounds, students in this interconnected world are expected to take more active role in promoting collective well-being and sustainable development. "Global mindedness" is used here to explore students' interest in and sense of agency over global issues, and is related to individuals' ability to fit into the world and their sense of responsibility about engaging with global challenges.

The PISA 2018 Global Competence questionnaire asked students the extent to which they agree ("strongly disagree", "disagree", "agree" or "strongly agree") with the following statements: "I think of myself as a citizen of the world", "When I see the poor conditions that some people live under, I feel a responsibility to do something about it", "I think my behaviour can impact people in other countries", "It is right to boycott companies that are known to provide poor workplace conditions for their employees", "I can do something about the problems of the world" and "Looking after the global environment is important to me". Positive values in this index indicate that students have a greater sense of global mindedness than the average students across OECD countries and economies.

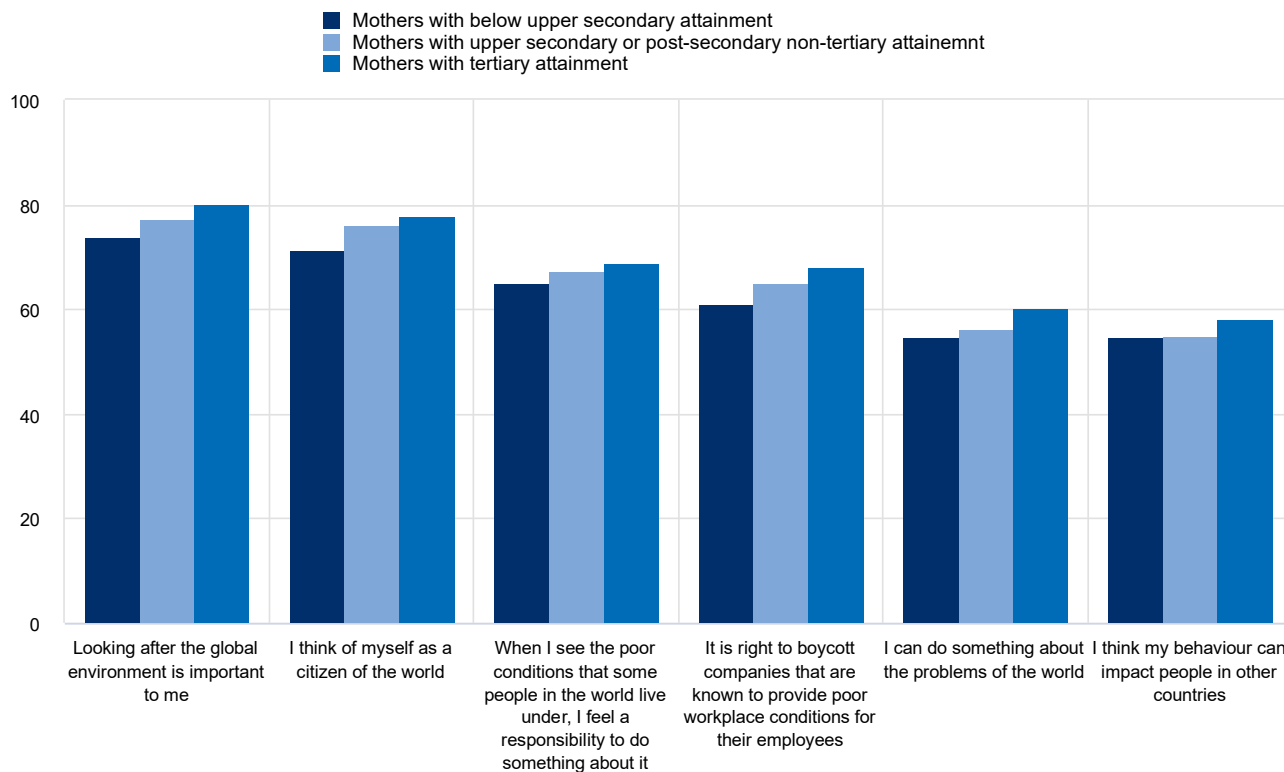
According to the index created out of their self-reported answers, students in Costa Rica, Korea, Portugal, Spain and Türkiye have the highest sense of global mindedness, while those in Austria, Germany, Hungary, Latvia and the Slovak Republic have the lowest (Table A6.3). Students seemed to be more uncertain about whether they could make a difference to general



challenges than to specific issues. On average across OECD countries, students were less likely to give positive answers to the two broad statements – “I think my behaviour can impact people in other countries” and “I can do something about the problems of the world” – than to the other statements. This holds true for all countries and other participants except Colombia and Costa Rica, where students are the least likely to give positive answers to the statement “It is right to boycott companies that are known to provide poor workplace conditions for their employees” (Figure A6.6 and Table A6.6, available on line).

**Figure A6.6. Students’ global mindedness, by mother’s educational attainment (2018)**

Programme for International Student Assessment (PISA); OECD average; in per cent



**Note:** The percentage refers to the share of 15 year-old students agreeing or strongly agreeing with the following statements.

**Source:** OECD (2022), Table A6.6, available on line. See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

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In all OECD and partner countries and other economies except Italy, students with tertiary-educated mothers had the strongest sense of global mindedness (Table A6.3). However, the extent to which maternal educational attainment positively influenced students’ attitudes to global issues differs for different statements. For instance, in all the countries and other PISA participants covered by EAG except the Slovak Republic, students with tertiary-educated mothers were the most likely to agree or strongly agree that they can do something about the problems of the world. In contrast, in 12 countries and other participants, it was not the students with tertiary-educated mothers who were most likely to agree or strongly agree that they feel a responsibility to do something about the poor conditions that some people in the world live under (Table A6.6, available on line).

## Definitions

**Age groups: Adults** refer to 25-64 year-olds.

**Educational attainment** refers to the highest level of education successfully completed by an individual.

**Levels of education:** See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

The previous classification, ISCED-97, is used for the analyses based on the Programme for International Student Assessment (PISA): **Below upper secondary** corresponds to ISCED-97 levels 0, 1, 2 and 3C short programs; **upper secondary or post-secondary non-tertiary** corresponds to ISCED-97 levels 3A, 3B, 3C long programmes and level 4; and **tertiary** corresponds to ISCED-97 levels 5A, 5B and 6.

## Methodology

Tables A6.1, A6.2 and Table A6.7, available on line, combine data from different sources which could compromise cross-country comparability in certain cases. Refer to table footnotes and Annex 3 for more country-specific information.

More information on the construction of indices in PISA are available at: [https://www.oecd.org/pisa/data/pisa2018technicalreport/PISA2018\\_Technical-Report-Chapter-16-Background-Questionnaires.pdf](https://www.oecd.org/pisa/data/pisa2018technicalreport/PISA2018_Technical-Report-Chapter-16-Background-Questionnaires.pdf).

For more information, please see the OECD *Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018<sup>[8]</sup>) and Annex 3 for country-specific notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

## Source

- For Table A6.1 (Internet use, by educational attainment and age group): the EU Survey on ICT usage in households and by individuals (EU-ICT) for European OECD member countries; the Canadian Internet Use Survey (CIUS) for Canada; the Social Survey for Israel; and the American Community Survey (ACS) for the United States.
- For Table A6.2 (Trends in the use of the Internet for different activities among 55-74 year-olds, by educational attainment): EU-ICT survey for European OECD member countries; the CIUS for Canada; the Social Survey for Israel; and the Current Population Survey (CPS), Computer and Internet Use supplement for the United States.
- For Table A6.3 (Students' social tolerance, by mother's educational attainment), A6.4 (Students' interest in learning about other cultures, by mother's educational attainment), A6.5 (Students' attitudes towards immigrants, by mother's educational attainment) and A6.6 (Students' global mindedness, by mother's educational attainment): the PISA Global Competence questionnaire.
- For Table A6.7 (Percentage of adults working from home, by age group and educational attainment): the European Union Labour Force Survey (EU-LFS) or national LFS for European OECD member countries, Canada and Israel; the Continuous Employment Survey for Costa Rica; and the CPS for the United States.

## References

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## Indicator A6 tables

### Tables Indicator A6. How are social outcomes related to education?

<b>Table A6.1</b>	Internet use, by educational attainment and age group (2021)
<b>Table A6.2</b>	Trends in the use of the Internet for different activities among 55-74 year-olds, by educational attainment (2019 to 2021)
<b>Table A6.3</b>	Students' social tolerance, by educational attainment of the mother (2018)
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<b>WEB Table A6.7</b>	Percentage of adults working from home, by age group and educational attainment (2019 to 2021)

StatLink  <https://stat.link/wc5d70>

Cut-off date for the data: 17 June 2022. Any updates on data can be found on line at: <http://dx.doi.org/10.1787/eaq-data-en>. More breakdowns can also be found at <http://stats.oecd.org>, *Education at a Glance Database*.

Table A6.1. Internet use, by age group and educational attainment (2021)

EU Survey on ICT usage in households and by individuals or national surveys; 16-74 year-olds

		EU Survey on ICT usage in households and by individuals									
		Share of the population using the Internet at least once a week									
		16-24 year-olds			25-54 year-olds			55-74 year-olds			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	<b>Countries</b>										
	Austria	95	99	99	100	83	96	100	43	72	95
	Belgium	92	96	99	100	85	95	98	71	84	94
	Czech Republic	89	99	100	c	82	97	100	32	66	93
	Denmark	96	99	100	c	96	99	100	88	95	99
	Estonia	92	100	100	100	88	97	99	43	68	87
	Finland	97	100	99	c	96	99	100	71	89	99
	France	93	96	98	99	86	94	98	62	80	94
	Germany	92	96	98	100	84	95	99	59	78	93
	Greece	85	95	99	99	67	93	99	24	63	87
	Hungary	91	97	100	99	81	96	99	33	68	93
	Iceland	98	100	99	c	99	100	100	94	96	100
	Ireland	97	c	c	c	c	99	99	95	94	98
	Italy	90	95	95	94	75	91	96	47	79	89
	Latvia	91	98	100	100	87	95	99	38	72	94
	Lithuania	87	100	100	100	72	91	99	16	58	89
	Luxembourg	99	100	100	100	97	99	100	85	93	98
	Netherlands	99	94	95	100	87	96	98	84	95	96
	Norway	99	98	100	100	96	100	100	90	94	99
	Poland	92	97	99	100	70	93	100	22	56	93
Portugal	87	100	99	100	79	97	99	39	88	94	
Slovak Republic	90	92	99	93	72	93	99	44	70	94	
Slovenia	93	100	99	c	88	95	99	51	74	96	
Spain	96	98	100	100	93	98	99	66	91	96	
Sweden	93	99	99	93	85	97	99	74	90	96	
Switzerland	99	99	98	100	91	98	99	86	91	98	
Türkiye	88	90	98	100	80	98	100	37	80	93	
United Kingdom <sup>1</sup>	97	c	100	100	c	99	100	c	89	97	
	<b>Average</b>	93	97	99	99	85	96	99	57	80	95
		National surveys									
		Share of the population using the Internet at least once a week									
		16-24 year-olds			25-54 year-olds			55-74 year-olds			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	<b>Countries</b>										
	Australia	m	m	m	m	m	m	m	m	m	m
	Canada <sup>1,2</sup>	95	99	98	99	91	97	98	67	86	96
	Chile	m	m	m	m	m	m	m	m	m	m
	Colombia	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m
	Israel <sup>3</sup>	84	79	97	90	81	92	98	62	85	96
	Japan	m	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m
	New Zealand	m	m	m	m	m	m	m	m	m	m
	United States <sup>1</sup>	89	m	m	m	m	m	m	m	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m
	<b>G20 average</b>	m	m	m	m	m	m	m	m	m	m

Note: The reference period for Internet usage is the last three months prior to the survey, unless otherwise specified. See *Definitions* and *Methodology* sections for more information. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.


1. Reference year differs from 2021: 2020 for Canada and the United Kingdom; and 2019 for the United States.

2. Data refer to respondents who used the Internet over the last three months, but not necessarily at least once a week.

3. The age group 16-24 year-olds refers to 20-24 year-olds.

Source: OECD (2022). See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink  <https://stat.link/ye5sdm>

**Table A6.2. Trends in the use of the Internet for different activities among 55-74 year-olds, by educational attainment (2019 to 2021)**

EU Survey on ICT usage in households and by individuals or national surveys; percentage of individuals reporting using the Internet for a given activity for private purposes


		EU Survey on ICT usage in households and by individuals								
		Making telephone or video calls over the Internet								
		2019			2020			2021		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	<b>Countries</b>									
	Austria	14	20	36	22	31	59	22	37	61
	Belgium	28	40	57	35	53	69	39	54	74
	Czech Republic	8	21	38	11	26	47	17	33	61
	Denmark	26	36	47	36	48	61	38	52	71
	Estonia	12	31	42	19	28	52	19	33	51
	Finland	31	43	70	39	59	79	36	48	73
	France	19	27	49	m	m	m	33	43	65
	Germany	31	38	48	36	46	56	30 <sup>b</sup>	37 <sup>b</sup>	53 <sup>b</sup>
	Greece	10	32	49	13	34	54	17	45	70
	Hungary	11	34	56	17	41	71	23	50	77
	Iceland	35	47	63	55	62	69	52	60	77
	Ireland	15	30	46	44	56	60	59 <sup>b</sup>	63 <sup>b</sup>	80 <sup>b</sup>
	Italy	19	38	50	30	57	69	34	58	73
	Latvia	10	29	55	13	37	54	23	45	65
	Lithuania	9	29	62	3	31	61	12	41	68
	Luxembourg	32	39	52	58	54	72	46	57	74
	Netherlands	34	49	61	59	74	86	58	78	84
	Norway	46	37	54	43	54	69	62	62	83
	Poland	6	21	43	5	25	51	9	26	58
Portugal	10	34	45	18	45	62	27	65	76	
Slovak Republic	9	28	48	9	41	53	27	42	64	
Slovenia	11	21	48	13	27	59	30	39	76	
Spain	24	47	56	46	67	79	45	66	77	
Sweden	29	45	59	43	54	74	38	57	76	
Switzerland	37	47	64	m	m	m	62	55	74	
Türkiye	16	48	62	25	63	77	31	68	79	
United Kingdom	15	27	44	c	30	42	m	m	m	
	<b>Average</b>	20	35	52	29	46	63	34	51	71
		National surveys								
		Making telephone or video calls over the Internet								
		2019			2020			2021		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	<b>Countries</b>									
	Australia	m	m	m	m	m	m	m	m	m
	Canada	m	m	m	28	38	62	m	m	m
	Chile	m	m	m	m	m	m	m	m	m
	Colombia	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m
	Israel	c	33	56	23	41	67	28	56	72
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m
	New Zealand	m	m	m	m	m	m	m	m	m
	United States <sup>1</sup>	11	22	40	m	m	m	m	m	m
	Partners	Argentina	m	m	m	m	m	m	m	m
Brazil		m	m	m	m	m	m	m	m	m
China		m	m	m	m	m	m	m	m	m
India		m	m	m	m	m	m	m	m	m
Indonesia		m	m	m	m	m	m	m	m	m
Saudi Arabia		m	m	m	m	m	m	m	m	m
South Africa		m	m	m	m	m	m	m	m	m
	<b>G20 average</b>	m	m	m	m	m	m	m	m	m

**Note:** The reference period for activities is the last three months prior to the survey. Additional columns showing data on the share of 55-74 year-olds seeking health-related information over the Internet are available for consultation on line (see StatLink below). See *Definitions* and *Methodology* sections for more information. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.

1. The share of those seeking health-related information over the Internet represent the share of 55-74 year-olds who accessed the Internet and live in households where someone researched health information on line.

**Source:** OECD (2022). See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink  <https://stat.link/0bn5sh>

**Table A6.3. Students' social tolerance, by mother's educational attainment (2018)**  
 Programme for International Student Assessment (PISA); based on responses by 15-year-old students

	Share of foreign-born adults	Interest in learning about other cultures				Attitudes towards immigrants				Global mindedness			
		Mother's educational attainment				Mother's educational attainment				Mother's educational attainment			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education
		Mean index	Mean index	Mean index	Mean index	Mean index	Mean index	Mean index	Mean index	Mean index	Mean index	Mean index	Mean index
(1)	(2)	(4)	(6)	(8)	(10)	(12)	(14)	(16)	(18)	(20)	(22)	(24)	
<b>OECD</b>													
<b>Countries</b>													
Australia	34	-0.15	-0.14	0.07	-0.03	0.20	0.22	0.39	0.31	-0.05	0.00	0.18	0.09
Austria	25	-0.01	-0.25	0.00	-0.14	0.04	-0.20	-0.01	-0.11	-0.38	-0.25	-0.08	-0.20
Belgium	m	m	m	m	m	m	m	m	m	m	m	m	m
Canada	30	0.03	-0.04	0.07	0.04	0.35	0.37	0.50	0.46	-0.02	0.05	0.21	0.16
Chile	3	0.00	0.06	0.17	0.08	0.13	0.25	0.27	0.22	-0.11	-0.01	0.03	-0.02
Colombia	m	0.05	0.13	0.16	0.11	0.00	0.04	0.09	0.04	0.13	0.19	0.20	0.17
Costa Rica	12	0.23	0.34	0.34	0.30	0.13	0.13	0.22	0.17	0.21	0.29	0.35	0.29
Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m
Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	13	-0.15	-0.04	0.09	0.02	-0.29	-0.29	-0.27	-0.28	-0.39	-0.22	-0.14	-0.19
Finland	m	m	m	m	m	m	m	m	m	m	m	m	m
France	15	-0.03	-0.06	0.13	0.06	m	m	m	m	m	m	m	m
Germany	21	-0.22	-0.22	-0.07	-0.18	0.09	0.05	0.21	0.12	-0.35	-0.32	-0.10	-0.27
Greece	8	-0.06	-0.08	-0.01	-0.04	-0.10	-0.09	-0.03	-0.06	-0.11	0.03	0.12	0.06
Hungary	3	-0.37	-0.28	-0.12	-0.21	-0.87	-1.00	-0.81	-0.90	-0.42	-0.28	-0.18	-0.25
Iceland	m	-0.39	-0.10	0.04	-0.05	0.06	0.23	0.33	0.27	-0.21	-0.07	0.03	-0.02
Ireland	22	-0.22	-0.20	0.01	-0.10	0.29	0.26	0.38	0.33	-0.05	-0.10	0.08	0.00
Israel	23	-0.10	-0.18	-0.03	-0.09	m	m	m	m	m	m	m	m
Italy	15	-0.26	-0.25	-0.25	-0.25	-0.20	-0.22	-0.23	-0.22	-0.13	-0.09	-0.11	-0.10
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	m	-0.14	-0.24	-0.07	-0.14	0.42	0.41	0.48	0.45	0.39	0.42	0.58	0.51
Latvia	10	-0.10	-0.05	0.09	0.02	-0.48	-0.47	-0.41	-0.44	-0.46	-0.29	-0.18	-0.24
Lithuania	5	-0.27	0.02	0.16	0.09	-0.29	0.03	0.07	0.04	-0.18	0.03	0.14	0.09
Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m
Mexico	1	0.19	0.33	0.42	0.29	0.18	0.28	0.28	0.23	0.01	0.15	0.24	0.11
Netherlands	m	m	m	m	m	m	m	m	m	m	m	m	m
New Zealand	35	-0.06	0.06	0.11	0.03	0.24	0.30	0.40	0.32	-0.03	0.08	0.16	0.08
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	1	-0.03	0.00	0.21	0.05	-0.45	-0.49	-0.44	-0.47	-0.20	-0.20	-0.09	-0.17
Portugal	11	0.04	0.18	0.23	0.14	0.43	0.49	0.49	0.47	0.24	0.36	0.38	0.32
Slovak Republic	1	-0.49	-0.28	-0.22	-0.27	-0.58	-0.51	-0.45	-0.49	-0.34	-0.33	-0.26	-0.30
Slovenia	12	-0.07	-0.11	-0.04	-0.07	-0.09	-0.07	-0.03	-0.05	-0.20	-0.15	-0.05	-0.10
Spain	19	0.10	0.15	0.24	0.18	0.37	0.44	0.40	0.39	0.15	0.20	0.29	0.24
Sweden	m	m	m	m	m	m	m	m	m	m	m	m	m
Switzerland	37	-0.06	-0.18	-0.04	-0.10	0.09	-0.08	0.03	0.00	-0.28	-0.30	-0.04	-0.18
Türkiye	m	0.61	0.67	0.73	0.65	-0.34	-0.33	-0.43	-0.36	0.28	0.25	0.32	0.28
United States	m	m	m	m	m	m	m	m	m	m	m	m	m
<b>Other participant</b>													
Scotland (UK)	m	-0.13	-0.24	-0.06	-0.16	0.18	0.27	0.42	0.34	-0.03	-0.08	0.01	-0.05
<b>OECD average</b>	17	-0.07	-0.04	0.08	0.01	-0.02	0.00	0.07	0.03	-0.10	-0.03	0.08	0.01
<b>EU22 average</b>	15	-0.14	-0.10	0.03	-0.05	-0.15	-0.15	-0.08	-0.12	-0.20	-0.12	-0.01	-0.08
<b>Partners</b>													
Argentina	m	0.04	0.01	0.13	0.08	0.02	0.09	0.10	0.07	-0.09	-0.07	-0.02	-0.05
Brazil	m	0.12	0.23	0.33	0.22	-0.02	0.12	0.12	0.07	-0.09	-0.01	0.00	-0.04
China	m	m	m	m	m	m	m	m	m	m	m	m	m
India	m	m	m	m	m	m	m	m	m	m	m	m	m
Indonesia	m	0.03	0.07	0.09	0.05	-0.32	-0.24	-0.30	-0.29	-0.05	0.00	0.04	-0.02
Saudi Arabia	m	0.10	0.15	0.23	0.15	-0.32	-0.29	-0.30	-0.31	-0.04	-0.03	0.02	-0.02
South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m
<b>G20 average</b>	m	m	m	m	m	m	m	m	m	m	m	m	m

**Note:** The reference year for the share of foreign-born adults (aged 25-64) is 2020 for most countries, please refer to Source section for more information. A negative value in the mean index does not imply that students responded negatively, merely that their answers were less positive than the average student across OECD countries. Likewise, positive values indicate more favourable or more positive responses than the OECD average. Mother's educational attainment refers to ISCED-97. See *Definitions* and *Methodology* sections for more information. Note that the OECD average differs from the one published by PISA as the country coverage is different. Additional columns showing standard errors (S.E.) are available for consultation on line (see StatLink below).

**Source:** OECD (2022). See *Source* section for more information and Annex 3 for notes ([https://www.oecd.org/education/education-at-a-glance/EAG2022\\_X3-A.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf)). Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink  <https://stat.link/9v5lhm>



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