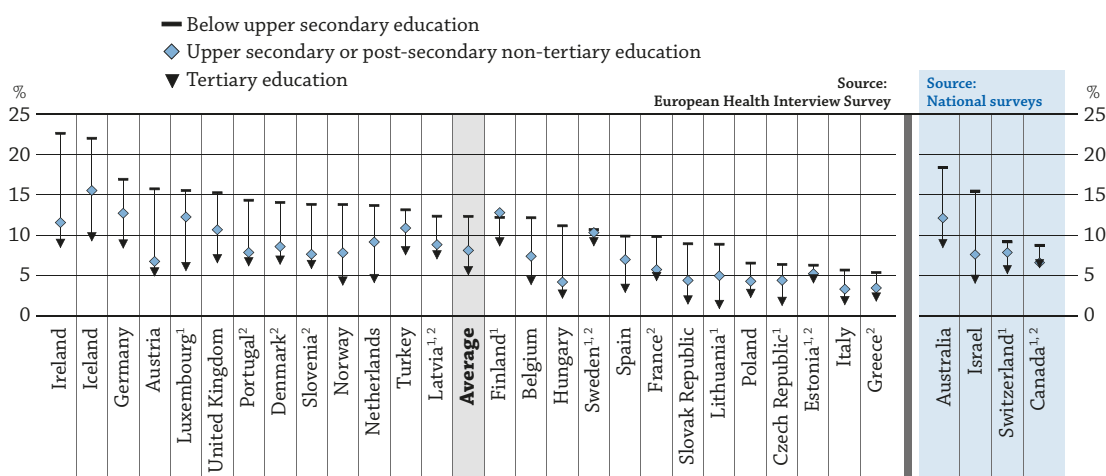


## HOW ARE SOCIAL OUTCOMES RELATED TO EDUCATION?

- People with higher levels of education report less incidence of depression in all countries responding to the 2014 European Health Interview Survey (EHIS) (Eurostat, 2017; see *Methodology* section).
- A higher share of women than men report suffering from depression, but the share decreases more steeply for women than for men as educational attainment increases.
- Education may play a role in preventing depression, along with employment; the variation in depression prevalence across educational attainment levels is much smaller among the employed population than among the unemployed or the inactive population.

**Figure A8.1. Percentage of adults who report having depression, by educational attainment (2014)**

*European Health Interview Survey and national surveys, 25-64 year-olds*



**Note:** As the questions asked in the different surveys vary, survey results are not directly compared in the analysis.

1. Differences between below upper secondary education and upper secondary or post-secondary non-tertiary education are not statistically significant at 5%.

2. Differences between tertiary education and upper secondary or post-secondary non-tertiary education are not statistically significant at 5%.

Countries are ranked in descending order of the percentage of adults with below upper secondary education who report having depression.

**Source:** OECD (2017), Table A8.2. See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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### Context

Education and health are key aspects of the well-being of societies and individuals. These two areas make up a significant share of public spending, demonstrating government recognition of their fundamental role. Improving health is a key policy objective for all OECD countries; the high gains linked to good health make it a key issue not only for health policies, but also for labour market and social policies. Education is linked in multiple ways to health – a relationship that has been well documented in many countries over many years. One important connection is that better-educated people have lower morbidity rates and greater life expectancy (Cutler and Lleras-Muney, 2012). Education systems can also help reduce depression, as higher educational attainment usually leads to better labour market outcomes, such as lower unemployment rates and higher earnings, in turn linked with lower prevalence of anxiety and depression (Bjelland et al., 2008; Ross and Mirowsky, 2006).

**Other findings**

- Estonia and Sweden have the smallest difference in self-reported depression between levels of educational attainment.
- Among European countries, in Denmark, Finland, Iceland and Sweden, 25-44 year-olds tend to have a higher prevalence of self-reported depression than the 45-64 year-olds, regardless of their educational attainment.
- Earning levels partly explain the links between self-reported depression and educational attainment. The difference in self-reported depression between educational attainment levels decreases when analysing the EHIS data within the same level of earnings.

**Note**

This indicator presents data drawn from a variety of sources. For European Union (EU) countries, the 2014 European Health Interview Survey (EHIS) is used, which included all the OECD/EU countries plus Iceland, Norway and Turkey. For non-EU countries, the data sources are national surveys (see *Source*). More information about the different questions in the surveys is included in the *Methodology* section at the end of this indicator. As the questions asked in the different surveys vary, the results are not directly compared in the analysis. Differences by level of educational attainment within countries, however, can still provide good insights into the links between education and the prevalence of depression.

## Analysis

### Self-reported depression among 25-64 year-olds, by educational attainment

On average across the OECD countries that participated in the 2014 EHIS, 8% of 25-64 year-olds reported suffering from depression in the 12 months prior to the survey. Across OECD countries, self-reported depression varies significantly by educational attainment. On average, the rate is twice as high among adults with below upper secondary education (12%) than among tertiary-educated adults (6%). In all countries with data, it is higher for adults with below upper secondary education than for those with tertiary education (Table A8.2).

Figure A8.1 shows that self-reported depression is particularly high among adults with below upper secondary education: 4 percentage points higher on average than among adults with upper secondary or post-secondary non-tertiary education. The gap is 3 percentage points between upper secondary or post-secondary non-tertiary education and tertiary education. There is a decrease in self-reported depression with each additional level of education, and attaining upper secondary or post-secondary non-tertiary education provides significant tools to assure better emotional well-being. This is particularly true in Austria, Hungary, Portugal and Slovenia, where there is at least a 6 percentage-point difference in self-reported depression between adults with below upper secondary education and those with upper secondary or post-secondary non-tertiary education. In these countries, the level of self-reported depression among adults with upper secondary or post-secondary non-tertiary education is very close to that reported by tertiary-educated adults, differing by 2 percentage points at most (Figure A8.1).

Education generally contributes to developing a variety of skills, but not all these skills interact in the same way with depression. The OECD report *Skills for Social Progress* found that expanding social and emotional skills (such as self-esteem) is more effective in reducing depression than other sets of skills (such as literacy or numeracy). For example, in Switzerland, increasing cognitive skills (such as reading, maths and science) has only half the effect on reducing self-reported depression as raising self-esteem from the lowest to the highest decile (OECD, 2015a).

### Self-reported depression by gender and educational attainment

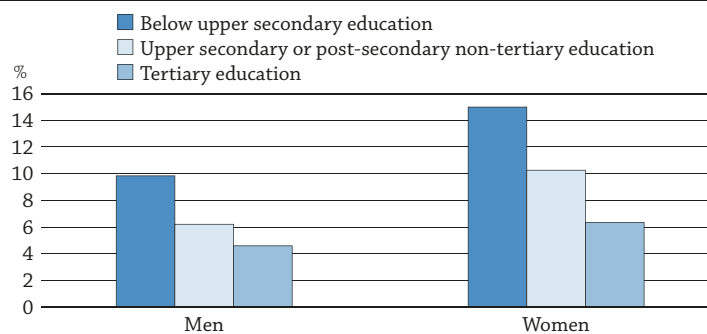
Similar to self-reported health, on average women report higher levels of depression than men, but self-reported depression decreases more steeply for women than men as they acquire further qualifications (OECD, 2016a).

Figure A8.2 shows that, on average across the OECD countries participating in the EHIS, 15% of women with below upper secondary education reported having suffered from depression. This fell to 6% among tertiary-educated women, a gap of 9 percentage points. For men, the prevalence is 10% among those who have below upper secondary education and 5% among those with tertiary education, a gap of 5 percentage points (Figure A8.2).

Iceland not only has one of the highest share of low-educated women who report having depression (above 25%); it also has the biggest difference in the prevalence of depression between women with low and high educational attainment (above 15 percentage points). The gap is much lower for men: the difference between low-educated and tertiary-educated men is 8 percentage points. Similar patterns are also found in most countries where the difference for women is larger than that of men (Table A8.1).

**Figure A8.2. Percentage of adults who report having depression, by gender and educational attainment (2014)**

*European Health Interview Survey, average, 25-64 year-olds*



Source: OECD (2017), Table A8.1. See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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These larger differences in women's self-reported depression may be explained by the labour market outcomes across educational attainment levels (see Indicator A5). Being employed tends to be associated with a lower prevalence of depression (Tables A8.1 and A8.2). In OECD countries, with a few exceptions, the gender gap in employment rates decreases as educational attainment increases, meaning that gender inequalities in the labour market are lowest among highly educated adults.

Ross and Mirowsky (2006) also underline that even if highly educated women have lower earnings and fewer management responsibilities than their male peers, they tend to be more able to draw on their skills to maintain their emotional well-being than less-educated women who have not had the chance to develop these skills through formal education. Less-educated women suffer more from depression than their male peers, however, partly because they face greater economic dependency and are more likely to occupy routine and poorly paid work (Ross and Mirowsky, 2006).

### **Depression by age and educational attainment**

On average, across the OECD countries participating in the EHIS, self-reported depression is slightly lower among 25-44 year-olds than among 45-64 year-olds. Similar patterns linked to educational attainment are observed between the two age groups. Among 25-44 year-olds with below upper secondary education, 12% report having had depression in the 12 months prior to the survey. This declines to 7% among those with upper secondary or post-secondary non-tertiary education and to 5% among those with tertiary education. Among 45-64 year-olds, there is also a difference of 7 percentage points between those with below upper secondary education and those with tertiary education. The only difference is that self-reported depression among the older age group is slightly higher for all educational attainment levels than among the 25-44 year-olds (Table A8.1).

In almost all countries, the difference in self-reported depression between the two age groups is higher among those with below upper secondary education than among those with tertiary education. However, the age group with the highest prevalence varies across countries. In Denmark, Finland, Iceland and Sweden, the younger age group tends to have higher shares of self-reported depression than the older age group, regardless of their educational attainment. In contrast, in 16 other countries, across all educational attainment levels, the older age group tends to have higher shares of self-reported depression than the younger one (Table A8.1).

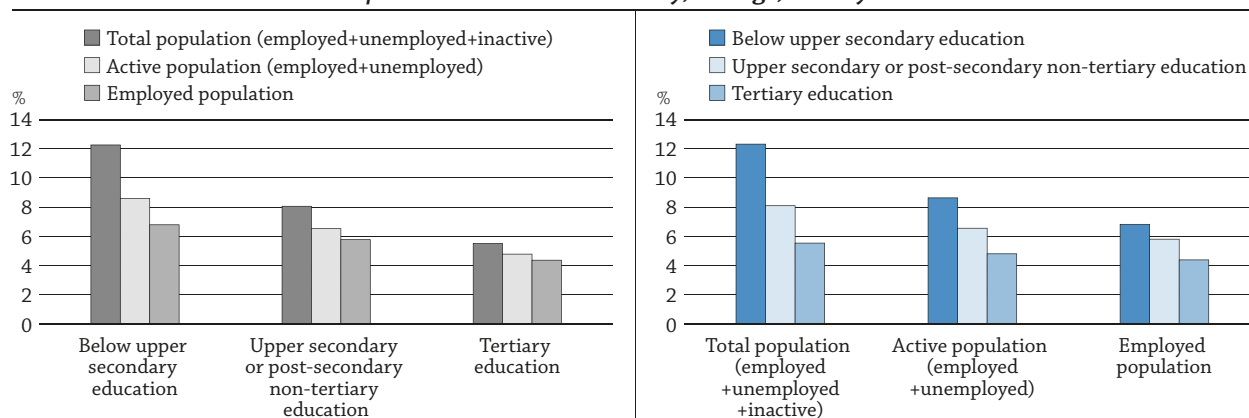
The OECD report *Fit Mind, Fit Job* states that most mental illness sets in early on, often before the age of 14. This suggests that education systems have an important role to play in identifying individuals who are susceptible to developing a mental illness and giving them appropriate support. This would help to avoid consequences, such as leaving school early, which could have negative repercussions later in life (OECD, 2015b).

### **Depression by labour market status and educational attainment**

Although the prevalence of mental illness is not increasing, greater awareness leads to an increase in the number of diagnosed cases and to greater labour market exclusion of mentally ill people (OECD, 2012). Those who have a mental illness have more difficulty finding a job, and when they do, they struggle more to deliver what is expected of them and often show comparatively low productivity (OECD, 2012). However, individuals with mental illness who find work often show improvement in their condition, as their labour force status increases their self-esteem and sense of worth in society. It is therefore crucial that education systems ensure a smooth school-to-work transition, even for those who perform poorly at school, as they are the ones who are most likely to suffer from mental illness (OECD, 2015b).

The two panels in Figure A8.3 use the same data to tell a different story. The left-hand panel shows how self-reported depression varies by labour force status at each educational attainment level, while the right-hand panel shows how self-reported depression varies by educational attainment level within the different labour force categories (Figure A8.3).

On average across the OECD countries participating in the EHIS, the largest variations are observed among adults with below upper secondary education. Among this group, 7% of those who are employed report having had depression in the 12 months prior to the survey. When adding the unemployed to this group (i.e. the active population), depression prevalence rises to 9%, and when including the inactive (i.e. the total population), it rises to 12%, meaning that inactive adults with low education are the most likely to report depression. In contrast, only 6% of the total population of tertiary-educated adults reported having had depression; the rate only falls by 2 percentage points when restricting the observation to employed tertiary-educated adults. This means that, regardless of labour force status, completing tertiary education is associated with a lower prevalence of depression (Figure A8.3).

**Figure A8.3. Percentage of adults who report having depression, by labour-force status and educational attainment (2014)***European Health Interview Survey, average, 25-64 year-olds*

Source: OECD (2017), Table A8.2. See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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The right-hand panel in Figure A8.3 shows that self-reported depression not only decreases with higher levels of education, it also decreases when adults are employed as opposed to unemployed or inactive. Among the total population – including the employed, unemployed and inactive – self-reported depression shows the largest variations by educational attainment, going from 12% among those with below upper secondary education to 6% among the tertiary-educated. But among those who are employed, the level of education has a weaker effect on depression, as it ranges from 7% among those with below upper secondary education to 4% among those with tertiary education (Figure A8.3).

These two panels in Figure A8.3 show that the greatest gap in self-reported depression exists between employed tertiary-educated adults (4%) and adults with below upper secondary who are either employed, unemployed or inactive (12%), a difference of 8 percentage points (Figure A8.3 and Table A8.2).

### Relationship between depression and educational attainment accounting for age, gender, labour market status and income

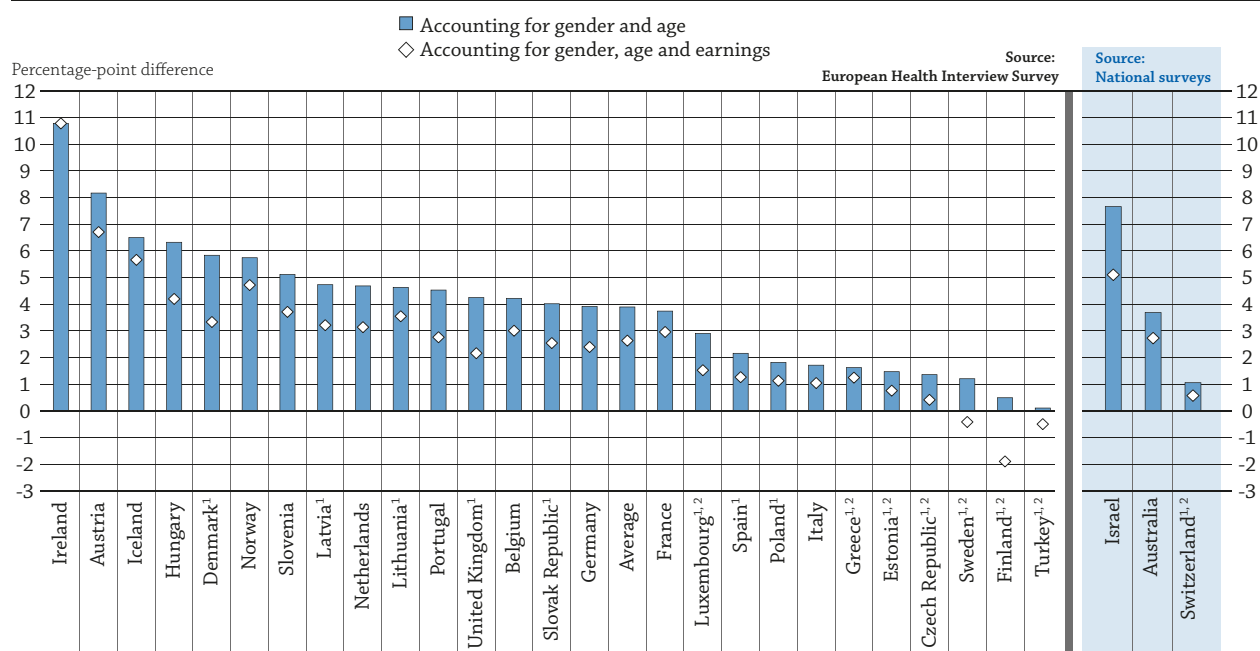
The previous sections have shown that regardless of age, gender or labour market status, self-reported depression declines as educational attainment increases. They have also shown that the education-depression gradient is much weaker among the employed, meaning that labour force status is moderating or mediating the effect of education on depression. Being unemployed or inactive increases the risk of depression since adults in this situation may be more likely to experience loneliness and may tend to worry more about money. Having a higher educational level provides people with better tools to deal with this risk factor.

Figure A8.4 shows the difference in self-reported depression between below upper secondary and upper secondary or post-secondary non-tertiary education when accounting for gender and age, and how earning levels affect this difference. On average, the difference in depression prevalence between these two levels is 4 percentage points, and this remains unchanged when age and gender are held constant. This means that gender and age do not explain the difference in self-reported depression across these two educational attainment levels. However, when analysing the difference in depression prevalence across these two educational attainment levels within the same level of earnings, the difference decreases between these two groups, meaning that earnings have a moderating effect. Thus earning levels and educational attainment play a role in depression prevalence (Table A8.2 and Figure A8.4).

This exercise is particularly interesting to conduct in Denmark, Latvia, Lithuania, Poland, the Slovak Republic, Spain and the United Kingdom. In these countries, when earnings are added to gender and age in the analysis, the difference in self-reported depression between people with below upper secondary and upper secondary or post-secondary non-tertiary education becomes not statistically significant. However, in 14 other countries, while this same exercise slightly reduces the difference in self-reported depression between below upper secondary and upper secondary or post-secondary non-tertiary, the difference remains large enough to be statistically significant.

**Figure A8.4. Likelihood of reporting depression when accounting for gender, age and earnings (2014)**

*European Health Interview Survey and national surveys, 25-64 year-olds, difference in the depression prevalence between below upper secondary and upper secondary or post-secondary non-tertiary education*



**Note:** As the questions asked in the different surveys vary, survey results are not directly compared in the analysis.

1. Differences are not statistically significant at 5% when gender, age and earnings are accounted for.

2. Differences are not statistically significant at 5% when gender and age are accounted for.

Countries are ranked in descending order of the percentage-point difference in the share of adults who report having depression between below upper secondary and upper secondary or post-secondary non-tertiary education, when gender and age are accounted for.

**Source:** OECD (2017), Table A8.3. See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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Finally, in the Czech Republic, Estonia, Finland, Greece, Luxembourg, Sweden and Turkey, the differences in self-reported depression between these two educational attainment levels is not statistically significant, even without accounting for earnings (Figure A8.4).

### Box A8.1. Thematic framework for the indicator on education and social outcomes in *Education at a Glance*

In the last 10 to 15 years there has been a significant shift in recognition of the importance of social benefits and measures of social well-being. Data collection and monitoring activity have increased significantly, with many countries collecting social data using topics and questions that have been developed with international frameworks and standards in mind. National data are now collected for many OECD countries via social surveys, health or disability surveys, or surveys on income or living conditions. A number of countries have developed, or are developing, data sources that link administrative or survey data across a number of outcome areas, providing opportunities to explore relationships between previously separate policy areas. Accompanying this shift has been a growing body of new research on the importance of non-economic aspects of well-being and the role that education plays. Building on this insight, the OECD initiated work on developing indicators on the potential social outcomes of learning for publication in *Education at a Glance* (EAG).

The first indicators on the social outcomes of learning were published in 2009. These indicators were based on developmental work jointly conducted by the LSO Network and the OECD Centre for Educational Research

and Innovation (CERI). This work used a conceptual framework developed by CERI's Social Outcomes of Learning project (OECD, 2007; 2010). This framework focused on two broad themes: (1) education and health; and (2) education and civic and social engagement; both set in the context of measures of well-being and social cohesion.

The framework guided the initial choice of social outcome indicators in *Education at a Glance*, with topics on self-reported health, civic engagement and interpersonal trust. It also influenced later editions, with topics such as life expectancy, voting, volunteering, students' views on civics and citizenship, obesity and smoking.

In 2011, the OECD introduced a framework for well-being as part of its development of *How's Life?* and the *Better Life Index* (OECD, 2015c). This built on the growing research and evidence base on well-being, one of the key influences being the *Report by the Commission on the Measurement of Economic Performance and Social Progress* (Stiglitz et al., 2009). This report brought about a key shift in government and research thinking, broadening out the measurement of societies' well-being from using only economic measures such as GDP to including a range of other indicators. This laid the foundations for much of the subsequent development of the role of governments and organisations in measuring, shaping and monitoring the well-being of societies.

### Implementing the new thematic framework in *Education at a Glance*

The indicator on education and social outcomes in *Education at a Glance* will follow the eight dimensions of quality of life from the OECD well-being framework (OECD, 2015c).

With education already one of these eight dimensions of quality of life, the remaining seven dimensions form the thematic framework against which the benefits of education can be assessed and compared across countries (Table A8.a). The seven dimensions span many possible social topics, some of which have well-established links to education, such as health status. The connection to education is less established for other topics, however.

**Table A8.a. Thematic framework for the indicator on education and social outcomes in *Education at a Glance***

Dimension	Topic
1. Health status	Self-reported health, disability, depression
2. Work-life balance	Balance between work and family
3. Social connections	Trust in others, volunteering, cultural participation
4. Civic engagement and governance	Trust in authorities, voting
5. Environment	Air and water quality, attitude and behaviour towards environmental matters
6. Personal safety	Safe walking alone, victim of crime
7. Subjective well-being	Life satisfaction, happiness

The framework foresees that the seven dimensions will be covered over a four-year publication cycle, starting with *Education at a Glance 2018*, with one or two dimensions covered each year (Table A8.b).

**Table A8.b. Summary of the dimensions foreseen in future editions of *Education at a Glance***

Dimension	2018	2019	2020	2021	2022	2023	2024	2025
Environment	✓				✓			
Work-life balance		✓				✓		
Social connections		✓				✓		
Civic engagement and governance			✓				✓	
Personal safety			✓				✓	
Health status				✓				✓
Subjective well-being				✓				✓

Adopting this framework and reporting cycle will depend on the availability, quality and comparability of data that also have an education component. While such data have grown significantly in recent years in many social outcome areas, they are scarcer in other areas. This may affect how this proposed cycle of reporting is eventually adopted.

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**Table A8.c. Previous indicators on education and social outcomes in Education at a Glance since 2009**

Dimension	Topic
Health	Self-reported health, life expectancy, obesity, smoking, activity limitation/ disability, depression
Civic engagement and governance	Voting, political interest, belief in having a say in government, students' civic engagement, their expected electoral participation as adults, their attitudes towards gender equality, and equal rights for ethnic minorities, and their trust in civic institutions
Social connections	Volunteering, interpersonal trust, engagement in social activities
Subjective well-being	Life satisfaction

### **Box A8.2 Personal safety and educational attainment**

Personal safety is a core element in individuals' well-being (OECD, 2011). Feelings of insecurity have a variety of negative effects on society and tend to limit people's daily activities. For example, when students feel safe at school, they tend to have better educational outcomes. This justifies measures and policies to guarantee a safe learning environment, such as the National Safe Schools Framework in Australia (Cornell and Mayer, 2010; OECD, 2015a). Personal safety is a broad concept that can be measured in different ways, but levels of crime is one of the most common influencing factors (OECD, 2011).

Crime and violence have a strong impact on people's physical and mental health; they also affect levels of trust and other forms of interpersonal relationships within the population, bearing a close relationship with social cohesion. It is also worth noting that the World Health Organization manifested through its Global Burden Disease (GBD) framework that violence is a significant component of "injuries", one group in the three-pronged classification of GBD: "Communicable diseases", "Non-communicable diseases" and "Injuries".

In general, economies with better education and labour market opportunities are associated with lower rates of violent crime. Figure A8.a shows that the share of the population reporting being assaulted or mugged in the 12 months prior to the survey (self-reported victimisation) was highest in countries with a large share of less-educated people, such as Brazil, Chile, Colombia, Costa Rica, Mexico and South Africa. In contrast, countries such as Canada, Korea, Norway and Switzerland have the lowest rates of self-reported victimisation and a highly educated population. While there appears to be an association between educational attainment and personal safety, the relationship is less evident when limiting the analysis to OECD member countries, which in general have higher GDP, employment rates, and fewer people educated only to primary level. Nevertheless, results show that crime rates are higher in countries with high income inequalities, which may also be a factor in the perpetuation of violent crime. For example, Chile and Mexico are the two OECD countries with the highest rates of self-reported victimisation, and they also have the highest Gini coefficient, meaning they have the highest income and wealth inequalities (OECD, 2016b).

Indonesia is an outlier: the share of less-educated adults is the highest of all OECD and partner countries with available data, but it has one of the lowest shares of the population reported having been assaulted or mugged in the 12 months prior to the survey. These findings are consistent with other data collections. For instance, the United Nations Office on Drugs and Crime also puts Indonesia among the countries with a low assault rate (UNDOC, 2017).

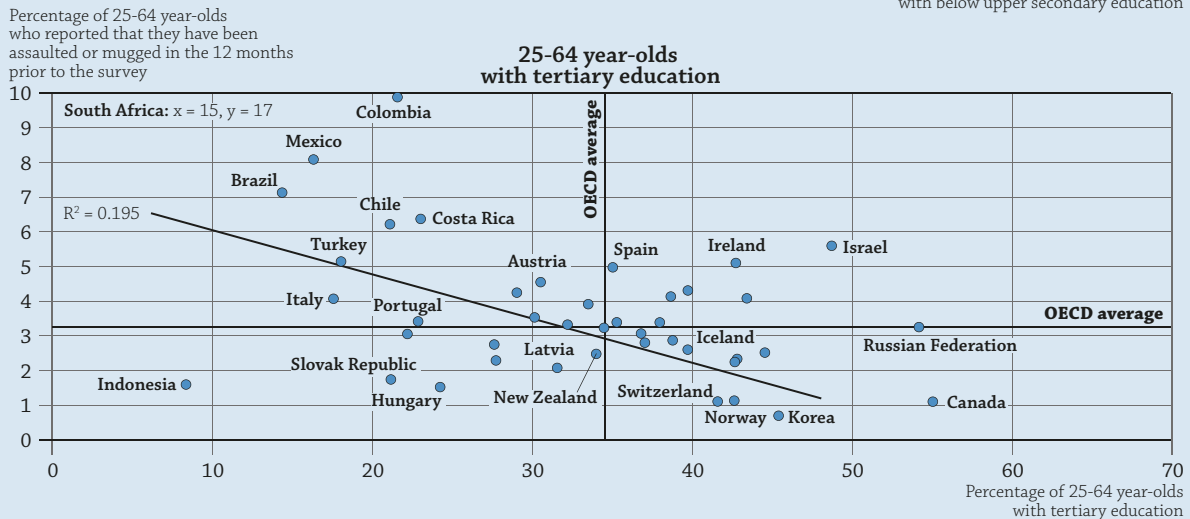
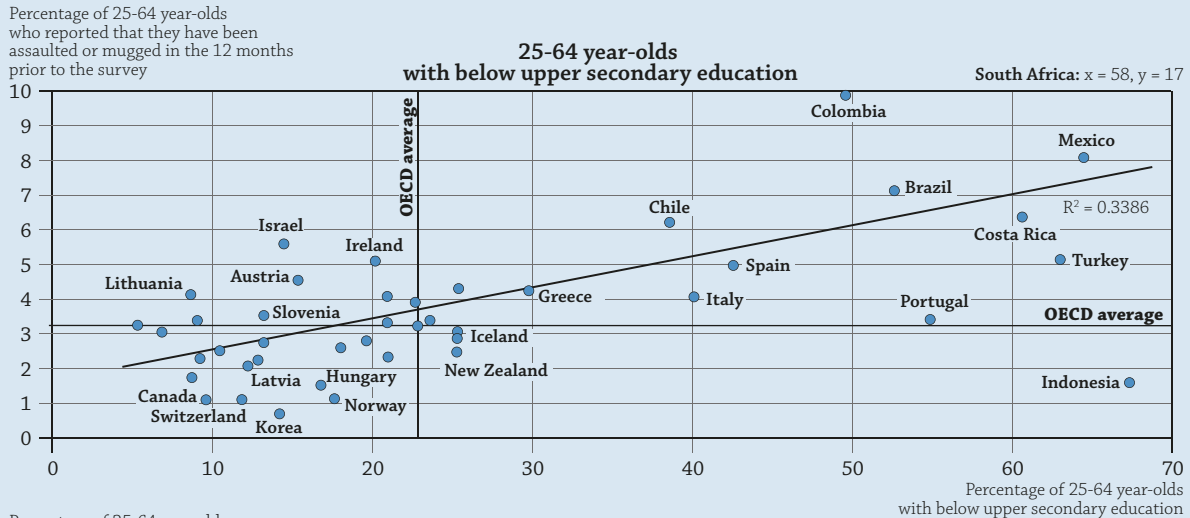
The correlation between education and crime could be explained by considering the various linkages that exist between the two elements. Evidence shows that individuals committing violent crimes are more likely to be low-educated. This could be explained from a human capital perspective: the opportunity costs of committing a crime increase with additional years of education, as individuals have better labour market prospects and wages (Lochner, 2004). Alternately, engaging in criminal activities has negative effects on participation and completion of schooling; those who do get involved in criminal activities are more likely to drop out of school (Hjalmarsson, 2008). Reducing crime inevitably increases the feeling of personal safety; investing in inclusive quality education can contribute to achieving this goal.

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**Figure A8.a. Percentage of adults who report having been assaulted or mugged and educational attainment (2015)**

*Gallup World Poll data and Education at a Glance 2016, 25-64 year-olds*



**Note:** Data on self-reported victimisation should be interpreted with care as this subjective measure may be affected by social and cultural factors which can vary both within and across countries. The results represent a national average of individual reporting, taken through a nationally representative survey. It does not reflect differences within countries where criminality may not be that high overall at the national level but may be very high in some localities. To ease readability some country names have been removed in the figure, but all information is included in the source table available for consultation on line (see StatLink below).

**Source:** Share of the population that reported having been assaulted or mugged: Gallup World Poll, [www.gallup.com/services/170945/world-poll.aspx](http://www.gallup.com/services/170945/world-poll.aspx). Educational attainment: *Education at a Glance 2016*, Table A1.3. See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

StatLink <http://dx.doi.org/10.1787/888933557660>

**Definitions**

**Adults** refer to 25-64 year-olds.

**Educational attainment** refers to the highest level of education achieved by a person.

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

## Methodology

For EU countries, the source for the data is the second wave of the European Health Interview Survey, conducted between 2013 and 2015, which measured health status, health determinants and use, and limitations in access to health care services. Data on depression are drawn from a sub-module on chronic diseases or conditions and refer to those who responded “yes” to the following question: “During the past 12 months, have you had any of the following diseases or conditions? Yes/No” (where one of the items is depression).

Data on depression for **Australia** refer to the financial year 2014-15 and include those who reported in the Australian National Health Survey “having depression” or “feeling depressed”; who reported being told by a doctor or nurse that they had depression/depressed feelings, and that these feelings are still current and long-term; or who have not been told by a doctor or nurse that they had depression/depressed feelings, but the condition is current and long-term which captures the chronic “(six months or longer)” concept.

Data on depression for **Canada** refer to 2012 and represent those who were identified positively for the depression item in the following questions in the Canadian Community Health Survey:

“Remember, we’re interested in conditions diagnosed by a health professional and are expected to last or have already lasted 6 months or more. Do you have a mood disorder such as depression, bipolar disorder, mania or dysthymia? Yes/No

What kind of mood disorder do you have?

- 1. Depression / 2. Bipolar disorder (manic depression) / 3. Mania / 4. Dysthymia / 5. Other”

Data on depression for **Israel** refer to 2016 and represent those who answered “always, often” to the following question: “During the past 12 months, did you feel depressed?” in the Israeli Social Survey.

Data on depression for **Switzerland** refer to 2012 and are based on the following questions in the Swiss Health Survey, where one of the items is depression:

“Have you been or are you currently in medical treatment for one or several of the following illnesses?

- Yes, I am still in treatment / Yes, I received treatment in the past 12 months / Yes, I received treatment more than 12 months ago / No

If you have not been in medical treatment in the past 12 months for one or several of these illnesses, have you had any of the following diseases during the past 12 months?

- Yes / No”

Please see the *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications* (OECD, 2017) for more information and Annex 3 for country-specific notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

## Source

Data on depression are taken from the European Health Interview Survey for the 22 OECD/EU countries plus Iceland, Norway and Turkey. National surveys are used for Australia (National Health Survey), Canada (Canadian Community Health Survey), Israel (Social Survey) and Switzerland (Swiss Health Survey).

Data on personal safety (i.e. whether the person has been assaulted or mugged in the previous 12 months) in Box A8.2 are taken from the Gallup World Poll.

### Note regarding data from Israel

The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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## Indicator A8 Tables

StatLink  <http://dx.doi.org/10.1787/888933559959>

**Table A8.1** Percentage of adults who report having depression, by gender, age group and educational attainment (2014)

**Table A8.2** Percentage of adults who report having depression, by labour-force status and educational attainment (2014)

**Table A8.3** Changes in the likelihood of reporting having depression, by educational attainment and labour force status (2014)

Cut-off date for the data: 19 July 2017. Any updates on data can be found on line at <http://dx.doi.org/10.1787/eag-data-en>.

Table A8.1. Percentage of adults who report having depression, by gender, age group and educational attainment (2014)


European Health Interview Survey and national surveys, 25-64 year-olds

		European Health Interview Survey															
		Men				Women				25-44 year-olds				45-64 year-olds			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	Austria	15	5	4	6	16	8	7	10	13	5	5	6	17	8	6	9
	Belgium	10	6	3	6	15	9	5	8	9	5	4	5	14	10	4	9
	Czech Republic	6	4	3	3	7	5	1	4	6	3	1	3	7	6	3	6
	Denmark	11	8	6	7	19	9	8	9	18	10	7	9	12	7	6	7
	Estonia	6	4	3	4	7	6	5	6	6	3	4	4	7	7	5	6
	Finland	12	11	8	9	13	16	10	12	21	15	9	12	10	11	9	10
	France	6	4	4	4	13	8	5	8	8	5	4	5	11	7	6	8
	Germany	16	11	8	10	18	14	10	13	18	12	7	10	16	14	11	13
	Greece	3	3	2	3	8	4	3	5	6	3	2	3	5	4	3	4
	Hungary	7	3	2	3	15	5	3	6	6	2	2	2	15	6	4	7
	Iceland	18	13	9	12	27	19	10	16	26	18	11	16	19	13	7	12
	Ireland	21	9	8	11	26	14	10	13	22	11	9	10	23	12	10	14
	Italy	4	2	2	3	7	4	2	5	3	2	2	2	7	5	2	6
	Latvia	9	5	5	6	17	13	9	11	11	6	6	7	15	11	9	11
	Luxembourg	15	11	4	9	16	14	8	12	14	11	6	9	16	13	6	12
	Netherlands	14	8	4	8	14	11	5	10	15	8	5	8	13	10	4	9
	Norway	12	5	3	6	16	11	5	9	17	8	4	8	11	8	4	7
	Poland	4	3	2	3	9	6	3	5	4	3	2	3	8	6	4	6
	Portugal	7	2	4	5	22	13	9	16	9	6	6	7	17	12	9	15
	Slovak Republic	9	3	2	3	9	6	2	5	6	3	1	3	11	6	3	6
Slovenia	8	7	6	7	18	9	6	10	11	6	5	6	15	9	8	11	
Spain	6	5	2	5	14	9	4	9	7	4	3	5	12	10	5	10	
Sweden	7	7	9	8	16	14	9	12	12	13	9	11	10	8	9	9	
Turkey	8	8	6	7	19	16	11	17	12	10	7	10	15	14	11	14	
United Kingdom	14	9	6	8	16	13	8	11	14	10	6	8	16	11	9	11	
Average	10	6	5	6	15	10	6	10	12	7	5	7	13	9	6	9	
EU22 average	10	6	4	6	14	10	6	9	11	7	5	6	13	9	6	9	
Partner	Lithuania	4	3	1	2	17	7	2	5	8	3	1	2	10	6	3	5
	National surveys																
		Men				Women				25-44 year-olds				45-64 year-olds			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	Australia	17	10	7	9	20	15	11	14	19	11	8	10	18	14	10	13
	Canada	5 <sup>r</sup>	5	5	5	13 <sup>r</sup>	9	8	9	10 <sup>r</sup>	7	5	6	8	6	8	7
	Israel	14	7	3	6	17	8	6	8	12	8	4	6	19	8	5	8
	Switzerland	6	7	4	6	12	9	8	9	6	7	6	7	11	8	6	8

Note: As the questions asked in the different surveys vary, survey results are not directly compared in the analysis. See *Definitions* and *Methodology* sections for more information.

Source: OECD (2017). See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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

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**Table A8.2. Percentage of adults who report having depression, by labour-force status and educational attainment (2014)**
*European Health Interview Survey and national surveys, 25-64 year-olds*

		European Health Interview Survey											
		Total population (employed, unemployed and inactive)				Active population (employed and unemployed)				Employed population			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Austria	16	7	5	8	16	5	4	6	10	4	3	5
	Belgium	12	7	4	7	7	5	4	5	5	5	3	4
	Czech Republic	6	4	2	4	1	3	2	3	1	3	2	3
	Denmark	14	9	7	8	9	7	6	7	6	7	5	6
	Estonia	6	5	5	5	4	4	4	4	4	4	4	4
	Finland	12	13	9	11	6	10	8	9	2	9	7	7
	France	10	6	5	6	8	5	4	5	7	4	4	5
	Germany	17	13	9	12	14	11	8	10	12	11	8	10
	Greece	5	3	2	4	4	3	2	3	2	2	2	2
	Hungary	11	4	3	5	6	2	2	3	5	2	2	2
	Iceland	22	16	10	14	14	12	9	11	13	11	9	11
	Ireland	23	12	9	12	20	11	8	11	16	9	8	9
	Italy	6	3	2	4	4	2	2	3	3	2	1	2
	Latvia	12	9	7	9	6	7	7	7	5	6	6	6
	Luxembourg	16	12	6	10	13	12	5	9	12	11	5	8
	Netherlands	14	9	5	9	8	7	4	6	6	6	3	5
	Norway	14	8	4	8	10	5	3	5	8	4	3	4
	Poland	7	4	3	4	3	3	2	3	2	2	2	2
	Portugal	14	8	7	11	12	8	6	9	9	7	5	8
	Slovak Republic	9	4	2	4	5	2	2	2	3	2	2	2
	Slovenia	14	8	6	8	13	7	6	7	10	5	5	6
	Spain	10	7	3	7	7	5	3	5	5	5	3	4
Sweden	11	10	9	10	8	9	8	8	7	8	8	8	
Turkey	13	11	8	12	9	9	7	8	8	8	6	8	
United Kingdom	15	11	7	10	11	8	6	7	8	7	5	6	
Average	12	8	6	8	9	7	5	6	7	6	4	5	
EU22 average	12	8	5	8	8	6	5	6	6	5	4	5	
Partner	Lithuania	9	5	1	4	3	3	1	2	3	2	1	2
	National surveys												
		Total population (employed, unemployed and inactive)				Active population (employed and unemployed)				Employed population			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Australia	18	12	9	11	12	10	8	9	11	9	8	9
	Canada	9	7	6	7	5 <sup>r</sup>	5	6	5	4 <sup>r</sup>	4	5	5
	Israel	15	8	5	7	12	7	4	5	11	6	3	5
	Switzerland	9	8	6	7	8	7	5	6	7	7	5	6

Note: As the questions asked in the different surveys vary, survey results are not directly compared in the analysis. See *Definitions* and *Methodology* sections for more information.

Source: OECD (2017). See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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


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Table A8.3. [1/2] **Changes in the likelihood of reporting having depression, by educational attainment and labour force status (2014)**

European Health Interview Survey and national surveys, 25-64 year-olds, percentage-point differences between educational attainment levels


**How to read this table:** In Norway, among the total population of 25-64 year-olds, there is a difference of 6 percentage points in the proportion of adults reporting having depression between those with below upper secondary education and those with upper secondary or post-secondary non-tertiary education, and when gender and age are accounted for. This means that those with below upper secondary education are 6 percentage points more likely to suffer from depression than those with upper secondary or post-secondary non-tertiary education. When including earnings in the linear regression model, the difference decreases to 5 percentage points, meaning that earnings capture a part of the explanation and that educational attainment is moderated when earnings are held constant.

		European Health Interview Survey							
		Total population (employed, unemployed and inactive)							
		Difference between below upper secondary and upper secondary or post-secondary non-tertiary				Difference between tertiary and upper secondary or post-secondary non-tertiary			
		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings	
		pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Austria	8	(1.9)	7	(1.9)	-1	(0.6)	0	(0.7)
	Belgium	4	(1.5)	3	(1.5)	-3	(0.9)	-2	(1.0)
	Czech Republic	1	(1.8)	0	(1.8)	-2	(0.7)	-1	(0.7)
	Denmark	6	(2.1)	3	(2.1)	-2	(1.1)	-1	(1.1)
	Estonia	1	(1.4)	1	(1.4)	-1	(0.8)	0	(0.8)
	Finland	0	(2.2)	-2	(2.1)	-4	(1.2)	-2	(1.2)
	France	4	(0.9)	3	(0.9)	-1	(0.6)	0	(0.6)
	Germany	4	(1.1)	2	(1.1)	-3	(0.6)	-2	(0.6)
	Greece	2	(0.9)	1	(0.9)	-1	(0.7)	-1	(0.7)
	Hungary	6	(1.3)	4	(1.4)	-1	(0.7)	0	(0.7)
	Iceland	7	(2.2)	6	(2.2)	-7	(1.6)	-5	(1.6)
	Ireland	11	(1.5)	11	(1.5)	-3	(1.0)	-3	(1.0)
	Italy	2	(0.4)	1	(0.4)	-1	(0.3)	-1	(0.4)
	Latvia	5	(1.8)	3	(1.8)	-2	(1.0)	0	(1.0)
	Luxembourg	3	(2.0)	2	(2.0)	-6	(1.3)	-5	(1.3)
	Netherlands	5	(1.4)	3	(1.3)	-5	(0.9)	-3	(0.9)
	Norway	6	(1.5)	5	(1.5)	-4	(0.8)	-3	(0.8)
	Poland	2	(0.8)	1	(0.8)	-1	(0.4)	0	(0.4)
	Portugal	5	(1.1)	3	(1.1)	-2	(1.2)	0	(1.2)
	Slovak Republic	4	(1.7)	3	(1.7)	-2	(0.7)	-1	(0.7)
	Slovenia	5	(1.8)	4	(1.8)	-1	(0.9)	0	(1.0)
	Spain	2	(0.7)	1	(0.7)	-3	(0.6)	-3	(0.6)
	Sweden	1	(1.7)	0	(1.7)	-2	(1.2)	-1	(1.2)
	Turkey	0	(0.9)	-1	(0.9)	-3	(1.0)	-2	(1.1)
United Kingdom	4	(1.1)	2	(1.1)	-4	(0.7)	-1	(0.7)	
	Average	4	(0.3)	3	(0.3)	-3	(0.2)	-1	(0.2)
	EU22 average	4	(0.3)	3	(0.3)	-2	(0.2)	-1	(0.2)
Partner	Lithuania	5	(2.1)	4	(2.1)	-3	(0.7)	-3	(0.7)
		National surveys							
		Total population (employed, unemployed and inactive)							
		Difference between below upper secondary and upper secondary or post-secondary non-tertiary				Difference between tertiary and upper secondary or post-secondary non-tertiary			
		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings	
		pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Australia	4	(0.8)	3	(0.8)	-3	(0.6)	-2	(0.6)
	Canada	m	m	m	m	m	m	m	m
	Israel	8	(1.7)	5	(1.6)	-3	(0.8)	-2	(0.8)
	Switzerland	1	(1.4)	1	(1.5)	-2	(0.6)	-1	(0.7)

Note: Data presented in this table are based on an ordinary least square regression where the reference category for educational attainment is upper secondary or post-secondary non-tertiary education. Six different regression models are used in this table: model 1 refers to Columns 1, 2, 5 and 6; model 2 refers to Columns 3, 4, 7 and 8; model 3 refers to Columns 9, 10, 13 and 14; model 4 refers to Columns 11, 12, 15 and 16; model 5 refers to Columns 17, 18, 21 and 22; and model 6 refers to Columns 19, 20, 23 and 24. As the questions asked in the different surveys vary, survey results are not directly compared in the analysis. See *Definitions* and *Methodology* sections for more information.

Source: OECD (2017). See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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

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**Table A8.3. [2/2] Changes in the likelihood of reporting having depression, by educational attainment and labour force status (2014)**  
 European Health Interview Survey and national surveys, 25-64 year-olds,  
 percentage-point differences between educational attainment levels


**How to read this table:** In Norway, among the total population of 25-64 year-olds, there is a difference of 6 percentage points in the proportion of adults reporting having depression between those with below upper secondary education and those with upper secondary or post-secondary non-tertiary education, and when gender and age are accounted for. This means that those with below upper secondary education are 6 percentage points more likely to suffer from depression than those with upper secondary or post-secondary non-tertiary education. When including earnings in the linear regression model, the difference decreases to 5 percentage points, meaning that earnings capture a part of the explanation and that educational attainment is moderated when earnings are held constant.

		European Health Interview Survey															
		Active population (employed and unemployed)								Employed population							
		Difference between below upper secondary and upper secondary or post-secondary non-tertiary				Difference between tertiary and upper secondary or post-secondary non-tertiary				Difference between below upper secondary and upper secondary or post-secondary non-tertiary				Difference between tertiary and upper secondary or post-secondary non-tertiary			
		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings	
		pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)		
OECD	Austria	10	(2.6)	8	(2.5)	-1	(0.6)	0	(0.6)	5	(2.2)	5	(2.0)	-1	(0.5)	0	(0.6)
	Belgium	1	(1.3)	0	(1.3)	-2	(0.9)	-1	(1.0)	0	(1.2)	-1	(1.3)	-2	(0.9)	-1	(1.0)
	Czech Republic	-2	(0.7)	-3	(0.8)	-1	(0.8)	-1	(0.8)	-2	(0.8)	-2	(0.8)	-1	(0.8)	-1	(0.8)
	Denmark	3	(2.2)	1	(2.2)	-2	(1.1)	-1	(1.1)	0	(2.0)	-1	(1.9)	-2	(1.0)	-1	(1.1)
	Estonia	1	(1.5)	0	(1.5)	0	(0.8)	0	(0.8)	1	(1.5)	0	(1.5)	0	(0.8)	0	(0.8)
	Finland	-3	(2.1)	-4	(2.0)	-3	(1.3)	-2	(1.3)	-5	(1.7)	-5	(1.6)	-2	(1.2)	-2	(1.3)
	France	3	(0.9)	2	(0.9)	-1	(0.6)	0	(0.6)	3	(1.0)	3	(1.0)	0	(0.6)	0	(0.7)
	Germany	2	(1.2)	1	(1.2)	-3	(0.6)	-2	(0.6)	1	(1.2)	1	(1.2)	-3	(0.6)	-2	(0.6)
	Greece	1	(1.1)	1	(1.1)	-1	(0.7)	0	(0.7)	0	(0.9)	0	(0.8)	-1	(0.7)	-1	(0.7)
	Hungary	4	(1.4)	2	(1.4)	-1	(0.6)	0	(0.7)	3	(1.5)	2	(1.4)	-1	(0.6)	0	(0.6)
	Iceland	2	(2.1)	2	(2.1)	-4	(1.6)	-3	(1.6)	2	(2.1)	1	(2.1)	-3	(1.6)	-2	(1.6)
	Ireland	9	(2.2)	9	(2.2)	-3	(1.7)	-3	(1.7)	6	(2.3)	6	(2.3)	-1	(1.7)	-1	(1.7)
	Italy	1	(0.4)	1	(0.4)	-1	(0.4)	0	(0.4)	1	(0.4)	0	(0.4)	-1	(0.3)	0	(0.4)
	Latvia	0	(1.6)	-1	(1.6)	-1	(1.0)	0	(1.0)	0	(1.7)	-1	(1.7)	-1	(0.9)	0	(0.9)
	Luxembourg	1	(2.4)	0	(2.4)	-7	(1.4)	-6	(1.4)	1	(2.3)	0	(2.4)	-6	(1.4)	-5	(1.4)
	Netherlands	1	(1.3)	0	(1.3)	-3	(0.9)	-2	(0.9)	0	(1.2)	0	(1.2)	-3	(0.8)	-2	(0.8)
	Norway	5	(1.5)	5	(1.5)	-2	(0.7)	-2	(0.7)	3	(1.4)	3	(1.4)	-2	(0.7)	-2	(0.7)
	Poland	0	(0.7)	0	(0.7)	-1	(0.4)	0	(0.4)	0	(0.7)	0	(0.7)	0	(0.4)	0	(0.4)
	Portugal	3	(1.1)	2	(1.1)	-3	(1.2)	-1	(1.3)	2	(1.2)	1	(1.2)	-3	(1.2)	-1	(1.3)
	Slovak Republic	3	(1.6)	2	(1.6)	-1	(0.6)	0	(0.7)	1	(1.9)	1	(1.9)	-1	(0.6)	0	(0.7)
Slovenia	5	(2.2)	4	(2.3)	-1	(1.0)	0	(1.0)	4	(2.4)	3	(2.4)	0	(1.0)	1	(1.0)	
Spain	2	(0.7)	1	(0.7)	-2	(0.6)	-2	(0.6)	0	(0.7)	0	(0.8)	-2	(0.7)	-2	(0.7)	
Sweden	0	(1.7)	-2	(1.7)	-2	(1.2)	-1	(1.2)	0	(1.7)	-1	(1.7)	-1	(1.2)	0	(1.2)	
Turkey	-1	(1.0)	-2	(1.1)	-4	(1.1)	-3	(1.2)	-1	(1.0)	-1	(1.0)	-3	(1.1)	-3	(1.2)	
United Kingdom	3	(1.2)	2	(1.2)	-3	(0.7)	-1	(0.7)	1	(1.2)	1	(1.2)	-2	(0.7)	-1	(0.7)	
Average	2	(0.3)	1	(0.3)	-2	(0.2)	-1	(0.2)	1	(0.3)	1	(0.3)	-2	(0.2)	-1	(0.2)	
EU22 average	2	(0.3)	1	(0.3)	-2	(0.2)	-1	(0.2)	1	(0.3)	1	(0.3)	-2	(0.2)	-1	(0.2)	
Partner	Lithuania	1	(1.4)	0	(1.5)	-2	(0.6)	-1	(0.6)	1	(1.7)	1	(1.8)	-2	(0.6)	-2	(0.6)
		National surveys															
		Active population (employed and unemployed)								Employed population							
		Difference between below upper secondary and upper secondary or post-secondary non-tertiary				Difference between tertiary and upper secondary or post-secondary non-tertiary				Difference between below upper secondary and upper secondary or post-secondary non-tertiary				Difference between tertiary and upper secondary or post-secondary non-tertiary			
		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings		Accounting for gender and age		Accounting for gender, age and earnings	
		pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.	pp	S.E.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)		
OECD	Australia	1	(0.9)	0	(0.9)	-3	(0.6)	-2	(0.6)	1	(0.9)	0	(0.9)	-2	(0.6)	-1	(0.6)
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	5	(1.9)	4	(1.9)	-3	(0.8)	-2	(0.8)	5	(1.9)	4	(1.9)	-3	(0.8)	-2	(0.8)
	Switzerland	0	(1.6)	0	(1.7)	-1	(0.7)	-1	(0.7)	1	(1.7)	0	(1.7)	-1	(0.7)	-1	(0.7)

Note: Data presented in this table are based on an ordinary least square regression where the reference category for educational attainment is upper secondary or post-secondary non-tertiary education. Six different regression models are used in this table: model 1 refers to Columns 1, 2, 5 and 6; model 2 refers to Columns 3, 4, 7 and 8; model 3 refers to Columns 9, 10, 13 and 14; model 4 refers to Columns 11, 12, 15 and 16; model 5 refers to Columns 17, 18, 21 and 22; and model 6 refers to Columns 19, 20, 23 and 24. As the questions asked in the different surveys vary, survey results are not directly compared in the analysis. See *Definitions* and *Methodology* sections for more information.

Source: OECD (2017). See *Source* section for more information and Annex 3 for notes ([www.oecd.org/education/education-at-a-glance-19991487.htm](http://www.oecd.org/education/education-at-a-glance-19991487.htm)).

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

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