Survey on Social and Emotional Skills (SSES):
Ottawa (Canada)

OECD

BETTER POLICIES FOR BETTER LIVES

The OECD's Survey on Social and Emotional Skills

Research shows that both cognitive, and social and emotional skills improve life outcomes at a societal and an individual level. Considerable information exists on the development of cognitive skills but is lacking for social and emotional skills. The OECD's Survey on Social and Emotional Skills (SSES) was established to fill this important information gap.

The SSES aims to:

- Provide participating cities with information on their students' social and emotional skills.

- Identify factors in students' home, school and peer environments that promote or hinder the development of social and emotional skills.

- Explore how broader policy, cultural and socio-economic contexts influence these skills.

- Demonstrate that valid, reliable, comparable information on social and emotional skills can be produced across diverse populations and settings.

Note on this report

The OECD's International Report – Beyond Academic Learning (2021) – provides detailed analysis of the findings from SSES and is an essential resource in understanding the information in this report.

This Ottawa Report is intended to provide a condensed version of the International Report focusing on general trends and highlighting some of the key and sometimes unique results for Ottawa (Canada).

What are social and emotional skills?

Social and emotional skills are individual abilities, attributes and characteristics that are important for academic success, employability, active citizenship and well-being. They encompass behavioural dispositions, internal states, approaches to tasks, and management and control of behaviour and feelings. Beliefs about the self and the world that characterise an individual's relationships to others are also components of social and emotional skills.

Educators and policy makers are increasingly seeking to complement the focus on academic abilities such as mathematics, reading, or scientific literacy with attention to social and emotional capabilities in order to boost students' prospects as full participants in society and active citizens. Enhancing specific social and emotional skills boosts students' ability to develop their cognitive skills. But the benefits of developing children's social-emotional skills go beyond cognitive development and academic outcomes. They also improve mental health and other important life outcomes. Inconspicuous yet significantly impactful, social and emotional skills help shape individuals' behaviours and lifestyles, which, in turn, shape their socio-economic outcomes. Together, social, emotional and cognitive skills constitute a comprehensive toolbox, essential to students' success at school and beyond. Therefore, it is crucial that all learners be given equal opportunities to acquire not only academic but also social and emotional skills.

The OECD Survey on Social and Emotional Skills (SSES) focuses on 17 social and emotional skills ranging from curiosity and creativity through to emotional control (see Figure 1). These skills have been selected according to three main criteria. First, previous research shows that they are associated with individuals' educational attainment, labour market outcomes, health and well-being. Second, they can be improved through interventions and policy measures during the years a student spends in school. Third, they are suitable for comparability across countries and age cohorts.

Figure 1. Description of the skills included in the Survey on Social and Emotional Skills

| DOMAINS	SKILLS	DESCRIPTION
OPEN-MINDEDNESS (Openness to experience)	CURIOSITY	Interest in ideas and love of learning, understanding and intellectual exploration; an inquisitive mind-set.
	TOLERANCE	Is open to different points of view, values diversity, is appreciative of foreign people and cultures.
	CREATIVITY	Generating novel ways to do or think about things through exploring, learning from failure, insight and vision.
TASK PERFORMANCE (Conscientiousness)	RESPONSIBILITY	Able to honour commitments, and be punctual and reliable.
	SELF-CONTROL	Able to avoid distractions and sudden impulses and focus attention on the current task in order to achieve personal goals.
	PERSISTENCE	Persevering in tasks and activities until they get done.
ENGAGING WITH OTHERS (Extraversion)	SOCIABILITY	Able to approach others, both friends and strangers, initiating and maintaining social connections.
	ASSERTIVENESS	Able to confidently voice opinions, needs, and feelings, and exert social influence.
	ENERGY	Approaching daily life with energy, excitement and spontaneity.
EMOTION REGULATION (Emotional stability)	STRESS RESISTANCE	Effectiveness in modulating anxiety and able to calmly solve problems (is relaxed, handles stress well).
	OPTIMISM	Positive and optimistic expectations for self and life in general.
	EMOTIONAL CONTROL	Effective strategies for regulating temper, anger and irritation in the face of frustrations.
COLLABORATION (Agreeableness)	EMPATHY	Understanding and caring for others and their well-being that leads to valuing and investing in close relationships.
	TRUST	Assuming that others generally have good intentions and forgiving those who have done wrong.
	CO-OPERATION	Living in harmony with others and valuing interconnectedness among all people.
ADDITIONAL INDICES	ACHIEVEMENT MOTIVATION	Setting high standards for oneself and working hard to meet them.
	SELF-EFFICACY	The strength of individuals' beliefs in their ability to execute tasks and achieve goals.

Source: Assessment Framework of the Survey on Social and Emotional Skills (Kankaraš and Suarez-Alvarez, 2019[11])

HIGHLIGHTS FOR OTTAWA (CANADA)

CURIOSITY, ASSERTIVENESS, TOLERANCE AND TRUST
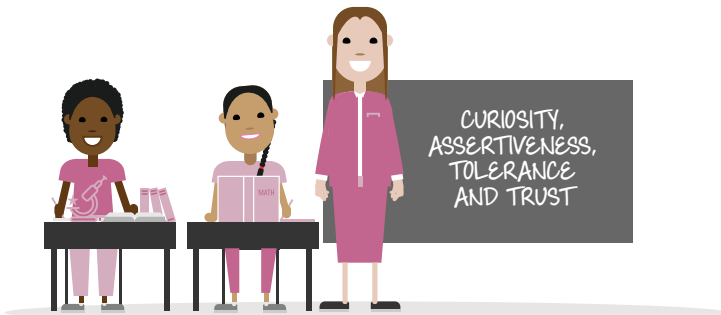
In Ottawa, students tend to have higher educational expectations when they report higher levels of curiosity, assertiveness, tolerance and trust.
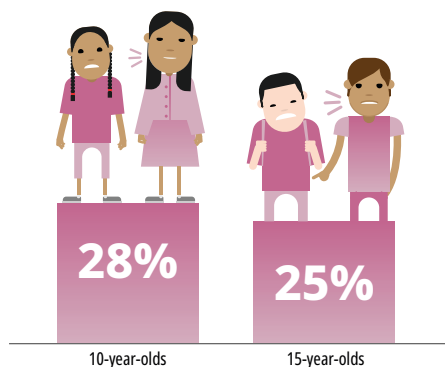
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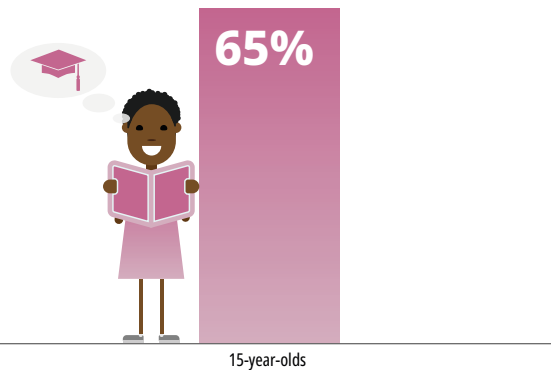
15-year-olds

In Ottawa 15-year-old students seem to be more realistic about their educational career than their counterparts in other participating cities. 65% of 15-year-olds reported that they expected to go on to and complete a tertiary degree – a share that is consistent with that of tertiary-educated people in the city of Ottawa.

In Ottawa, socio-economically advantaged students exhibit higher levels of every social and emotional skill measured by SSES than their less socio-economically advantaged peers, except in stress resistance among 15-year-olds.

Gender differences in students' social and emotional skills are slightly more pronounced in Ottawa than on average across the participating cities. 15-year-old boys exhibit higher skills in the domains of emotional regulation (stress resistance, optimism and emotional control) and engaging with others (sociability, assertiveness, energy). Likewise, 15-year-old girls exhibit higher levels of responsibility, empathy, co-operation, tolerance and achievement motivation.

28% 10-year-olds

25% 15-year-olds

Some 28% of 10-year-old students and 25% of 15-year-old students have experienced bullying at least a few times a month or more. Students' exposure to bullying is negatively related to almost all social and emotional skills.
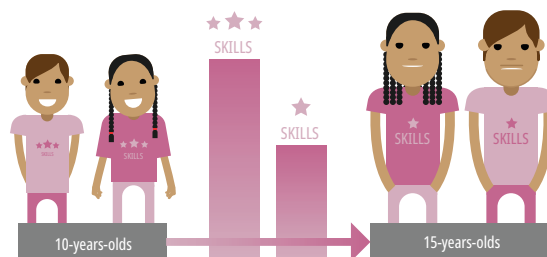
15-year-olds exhibit lower social and emotional skills than 10-year-olds in Ottawa and on average across participating cities. The levels of optimism and empathy among students in Ottawa drop more substantially between the ages of 10 and 15 than in most of the other participating cities.

Students who participate in after-school art activities report higher levels of creativity, particularly among 15-year-olds. Differences in creativity levels between students participating and not participating in art activities are particularly strong in Ottawa compared to other cities.

Find more about the findings of the *Survey on Social and Emotional Skills* in the international report: OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en

The context of social and emotional learning in Ottawa (Canada)

Ottawa (Canada) is one of the 10 cities that took part in the OECD Survey on Social and Emotional Skills (SSES) in 2019 (see Box 1 for demographic information about the city of Ottawa). Ottawa is the capital city of Canada and is in the Province of Ontario. Although Ottawa is among the five most populous cities in Canada, it is one of the smallest among the cities participating in SSES. Only Sintra (Portugal) and Manizales with around 400 000 inhabitants and Helsinki (Finland) with about 650 000 inhabitants are less populous. In comparison to the diverse pool of cities participating in SSES, Ottawa is distinguished by a high level of economic development and the education and wealth of its population (about 60% of the population is tertiary-educated[1] and Ottawa has one of the highest Gross Domestic Product [GDP] per capita among the SSES-participating countries). Ottawa also stands out for its high share of qualified immigrants. Education is obviously one of the Ontario government's key areas of investment, with an estimated 7% of the GDP spent on public and private schooling (as of 2011), which is above the OECD average (5%).

A wealth of data has been accumulated on the knowledge and cognitive skills that Canadian students and adults possess and how they compare around the world, thanks to OECD surveys such as the Programme for International Student Assessment (PISA) and the Survey of Adult Skills (PIAAC). PISA consistently shows that 15-year-old students in Canada have greater cognitive skills than the OECD average in reading, mathematics and science. PIAAC results show that Canada ranks alongside top countries in adults' literacy and numeracy skills (OECD, 2019[3]; OECD, 2013[4]).

Past OECD surveys also provide key information on equity in education in Canada in a cross-country comparative fashion. In Canada, socio-economically advantaged students outperform disadvantaged students but socio-economic differences in performance are smaller than across OECD countries. Girls significantly outperform boys in reading and boys outperform girls in mathematics, although to a lesser extent. The gender gaps in both subjects in Canada are also similar to the average gaps in the OECD.

Box 1. Key information about Ottawa (Canada)

City: Ottawa
Location: Capital city of Canada and Province of Ontario
Population (2016): 934 243 inhabitants
Average age (2016): 40
Percentage of first- and second-generation immigrants (2016): 46%
Share of tertiary-educated people (2016): 62%
Average unemployment level among adults aged 25-65 (2016): 4.2%

Source: Statistics Canada, 2016 Census, available at:
https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm.

However, little is known about students' social and emotional skills and how these relate to their key outcomes despite the attention paid to these skills in Canada as well as in the city of Ottawa (Canada). Ottawa's participation in SSES in 2019 helps fill this important information gap. Ottawa has a strong focus on social and emotional skills, and follows the Ontario Curriculum, which incorporates social and emotional learning from kindergarten through to the end of compulsory education. Ottawa's main reasons for pursuing this include the goals of decreasing bullying among students; improving school safety; increasing student engagement, academic outcomes, and capacity to cope with challenges; and improving overall health.

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[1] In Ottawa as well as in Canada in general, a much larger share of 25- to 34-year-olds (more than 60%) are tertiary-educated than the OECD average (45%) (OECD, 2020[2]).

Social and emotional learning in primary schools

The provincial government has incorporated social and emotional learning as a distinct section in primary education curriculum in order to improve students' overall health and well-being, resilience and the ability to learn effectively. Ottawa follows the Ontario elementary health and physical education curriculum from grades 1 to 8 (Ministry of Education, 2019[5]), which targets the social and emotional skills that are viewed as integral to students' holistic development. The curriculum seeks to enable students to identify obstacles and manage their emotional responses. Students are encouraged to express their feelings, and be understanding and compassionate about the feelings of others. The curriculum also focuses on developing effective stress management and coping strategies in order to build students' resilience in difficult situations. Additionally, it encourages students to maintain positive motivation and perseverance, which is key to fostering students' sense of optimism and hope. The aims of this curriculum are directly related to the SSES domain of emotional regulation, which measures social and emotional skills such as stress resilience, emotional control and optimism (for a description of the social and emotional skills measured in SSES, see Figure 1).

The curriculum also includes a module on maintaining healthy relationships. Students learn how to communicate effectively in order to respect and appreciate diversity. This, in turn, enhances their self-awareness, thereby helping them develop a sense of identity and belonging. Additionally, students become more accepting of other cultures and points of view. This is related to the social and emotional skill of tolerance measured by SSES. The final target area lies in honing students' critical and creative thinking skills in order to help them make informed decisions and sharpen their problem-solving skills.

Social and emotional learning in secondary schools

The social and emotional skills framework at the secondary level incorporates a multidimensional view of students' cognitive, social, emotional, and physical development, which can be influenced by their surrounding environment. Ottawa's secondary schools have adopted the social sciences and humanities, and health and physical education curricula, which promote social and emotional learning among teenage students.

The health and physical education curriculum (Ministry of Education, 2015[6]) focuses on developing students' social and emotional skills by encouraging healthy eating habits, and educating students about personal safety measures and the harmful effects of substance abuse and addiction. The curriculum also focuses on promoting human development and sexual health practices, and students learn about mental health and its importance in developing emotional skills.

The curriculum has a module on living skills, which focuses on three main areas of learning. First, students develop personal skills through self-awareness, self-monitoring, adaptive coping and monitoring skills. Second, interpersonal skills are honed through lessons on communication development and relationship management. The third pillar of this module emphasises critical and creative thinking, targeting students' ability to plan, process, draw conclusions and evaluate situations.

In the social sciences and humanities curriculum (Ministry of Education, 2013[7]), a module focuses on social and emotional skills, specifically on the dynamics of human relationships and human development throughout the lifespan. It covers three elements: social and emotional development; personality and identity (students learn about various factors that influence personality development and identity formation); and factors affecting social and emotional development with an emphasis on fostering social interactions. To track students' outcomes, students from grades 1 to 12 receive report cards multiple times a year, which update them on their skills and progress. This also allows tracking the outcomes of Ottawa's intent (see Box 2).

Finally, during the implementation of SSES in Ottawa, the labour unions representing education workers in Ontario were in a legal strike position and engaged in different forms of job action. This affected some elements of the administration of the study including timing, participation rates, and completion of certain survey instruments. This information is shared to provide context to the environment at the time of the study. This, in addition to privacy concerns, were contributing factors in the decision that Ottawa, unlike other participating cities, chose not to share data on students' school grades as part of the survey.

While this overview provides some context to findings from the SSES for the city of Ottawa (Canada), no conclusion can be drawn from SSES as to how elements of this context influence social and emotional learning in Ottawa.

Box 2. Teaching of learning skills and work habits in Ontario (Canada)

In Ontario (Canada), teachers work with students to help them develop learning skills and work habits. For each of these skills and habits, teachers are provided with examples of associated behaviours to guide them in the instruction, assessment and evaluation of these learning skills and habits, as follows:

- Responsibility: Students learn how to undertake and fulfil school responsibilities and commitments. These include accountability, timely completion and submission of classwork, homework and assignments in accordance with predetermined deadlines. This learning aim is directly related to the responsibility facet of SSES, which comes under the task performance domain.

- Organisation: Students plan and follow a schedule for completing work and tasks, learning how to prioritise and manage time. This is directly related to the social and emotional skills of responsibility and self-control since students often need to identify, gather and use information and technological resources to complete various school-related tasks.

- Independent Work: An important skill is independence; students learn to independently monitor, assess and review classwork, and use time efficiently to complete tasks and realise goals.

- Collaboration: Students must be able to take on various roles and contribute equally to group activities. Students' ability to respond positively to others' ideas, and cultivate healthy relationships with peers through in-person and online interactions are covered. Additionally, tolerance of other people's ideas and opinions is also tracked, along with effectively engaging in conflict resolution and working towards reaching a consensus within disagreements. Such skills relate to the social and emotional skills of collaboration and tolerance measured in SSES.

- Initiative: The curriculum also plans to develop students' ability to think innovatively by acting on new ideas and opportunities for learning while demonstrating curiosity and the ability to take risks. Additionally, it stresses the ability to adopt a positive attitude while approaching new tasks and advocate for the rights of others.

- Self-regulation: Lastly, an important skill is the ability of students to set their own goals and monitor progress regularly while seeking clarification when needed. Students also learn to assess and reflect on their own strengths, needs and interests while identifying learning avenues to achieve goals, hence persevering in challenging situations.

Source: Ministry of Education (2010), *Growing Success: Assessment, Evaluation and Reporting in Ontario Schools,*
First Edition: Covering Grades 1 to 12, available at http://www.edu.gov.on.ca/eng/policyfunding/growsuccess.pdf.

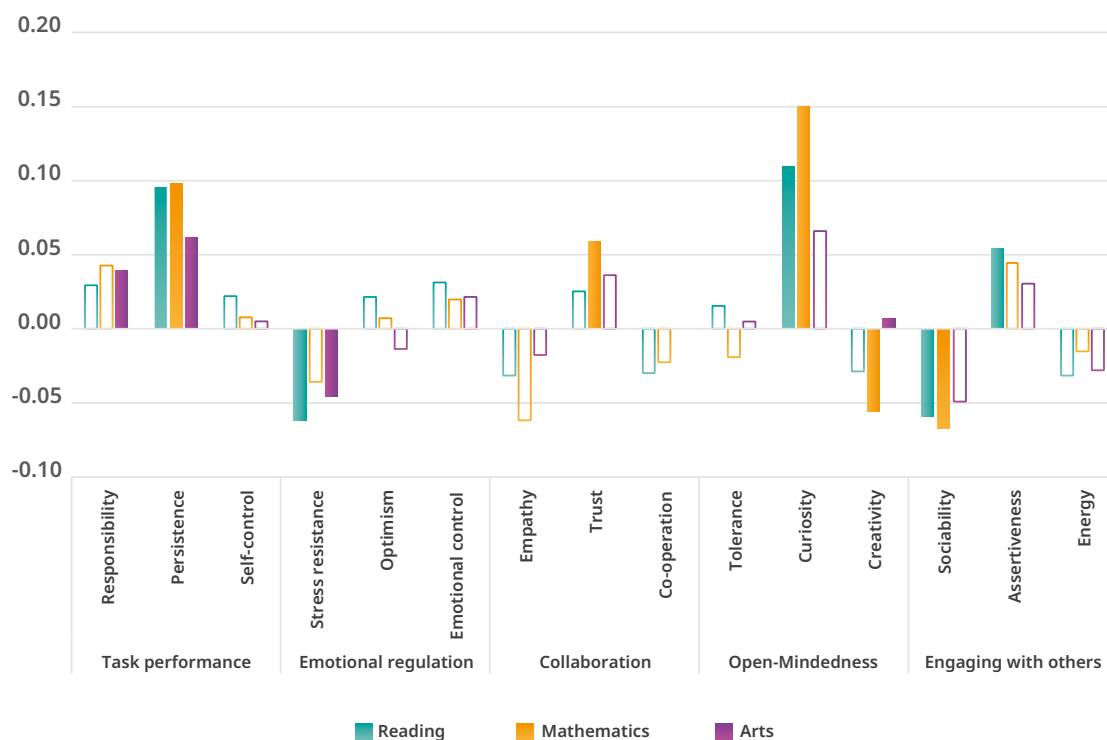## Social and emotional skills matter for academic success

Students' school achievement is one of the main drivers of success in life. It is linked to later educational attainment but also to important life outcomes like employment, earnings, health and well-being. However, having the same academic performance in school does not always lead to the same life outcomes. One potential reason why some students are more likely to succeed than others is that they have developed specific social and emotional skills, which intervene in the equation.

All participating cities except Ottawa (Canada) shared information on students' school grades for the purpose of the SSES. These data included grades in three subjects: reading, mathematics and the arts along with the results of a short cognitive ability test administered to participating students. SSES data show that students' social and emotional skills are significant predictors of school grades (Figure 2 and Figure 3). The strengths of the associations between certain social and emotional skills and school grades are relatively weak but consistent across age cohorts and subjects and they remain after accounting for gender and socio-economic differences across students. In particular, being intellectually curious and persistent are the social and emotional skills most strongly related to school grades for both 10- and 15-year-olds in all three subjects. To a lesser extent, students who are more assertive and responsible also tend to have better school grades. These findings stress the importance of not only pursuing objectives in the face of difficulties but also to have an intellectual curiosity about a diverse set of topics and to love learning new things.

Fifteen-year-olds who reported being more stress-resistant (relaxed) and sociable have lower school grades on average across the nine cities with available data (Figure 2). This does not mean that calmness in face of adversity (a benefit of being stress-resistant) and seeking support from peers are harmful to school achievement. Instead, this finding might be related to the fact that older students who typically have more autonomy than younger students may prioritise their social interactions at the expense of school work. Students who assess themselves as more stress-resistant might also be those who feel more remote from school and school demands. In fact, among the younger cohort, which is typically more supervised by parents and teachers, these relationships are not observed (Figure 3). In other words, younger students may have a less demanding school environment and are surrounded by adults who help them contain and channel their energy and desire to interact socially in ways that do not harm their school performance.

Figure 2. Average relationship between social and emotional skills, and school performance of 15-year-old students

Coefficients of (standardised) grades in reading, mathematics and the arts on (standardised) scores on social and emotional skills scales (international average)
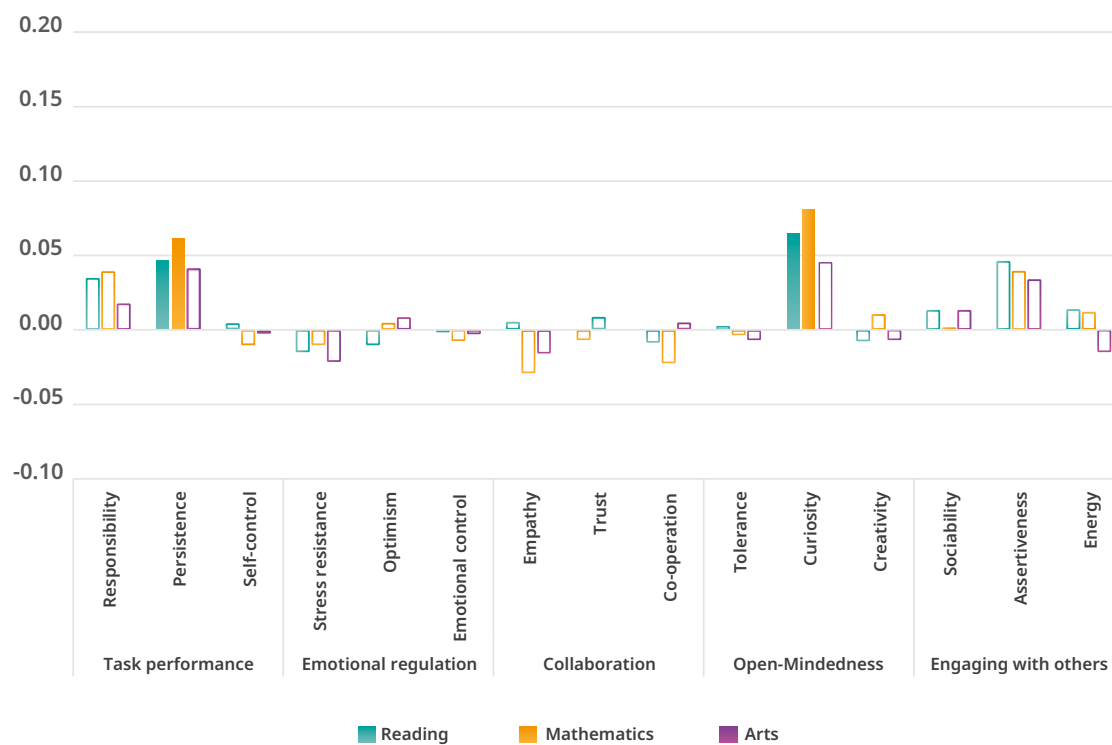

Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The regressions are city-specific and control for gender, socio-economic status, and scores in the cognitive ability test, with the exception of Houston (United States), where the cognitive ability test was not administered. Ottawa (Canada) is excluded from the analysis of school grades as students' grades were not available. Coloured bars represent significant differences in at least five cities, bars that are only outlined represent significant differences in fewer than five cities.

Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figure 2.1.

Figure 3. Average relationship between social and emotional skills, and school performance of 10-year-old students

Coefficients of (standardised) grades in reading, mathematics and the arts on (standardised) scores on social and emotional skills scales (international average)

Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The regressions are city-specific and control for gender, socio-economic status, and scores in the cognitive ability test, with the exception of Houston (United States), where the cognitive ability test was not administered. Ottawa (Canada) is excluded from the analysis of school grades as students' grades were not available. Coloured bars represent significant differences in at least five cities, bars that are only outlined represent significant differences in fewer than five cities.

Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figure 2.2.

Social and emotional skills matter for future educational and occupational outcomes

Adolescence is a period when young people start to prepare for adult life. Teenagers have to make important decisions relevant to their future lives such as what field of study or type of education they will pursue and what job they will have. But young people often have a distorted perception of their cognitive, social and emotional strengths, which is influenced by their immediate environment more than by objective information; and they may lack sufficient knowledge about the breadth of educational opportunities and careers open to them. Importantly, past research has argued and shown that social and emotional skills are an integral component of individuals' employability, i.e. individuals' capability of getting and keeping fulfilling work (Pool and Sewell, 2007[8]).

Education systems can play a crucial role in channelling these skills into the labour market, and helping young people develop a fair assessment of themselves and of their future educational opportunities. In doing so, they can ensure that students' skills, interests and aptitudes find a suitable match in the economy (Musset and Kurekova, 2018[9]).
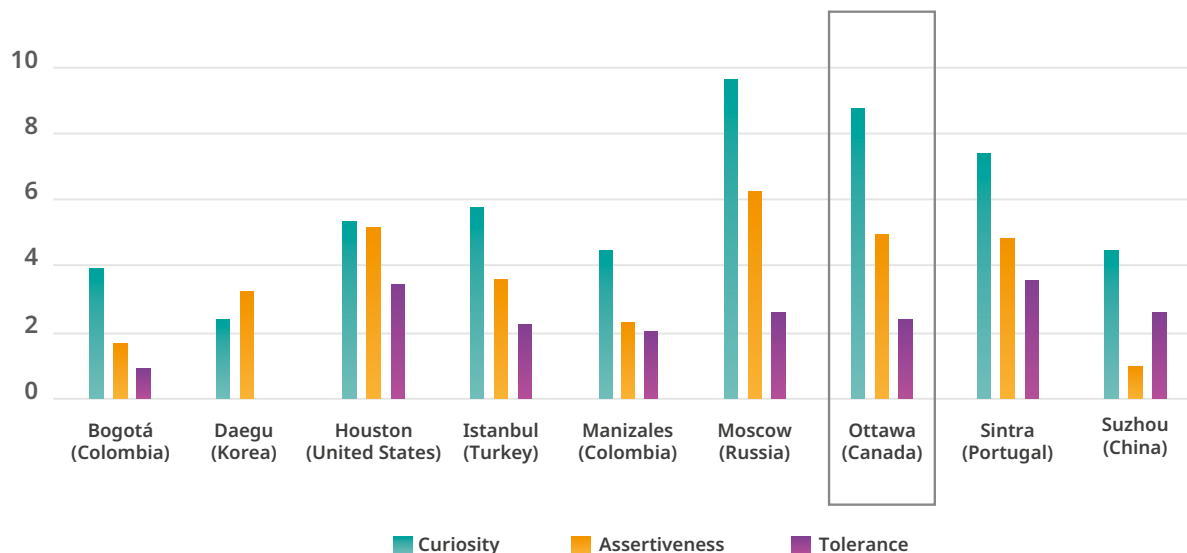
In Ottawa (Canada), 65% of 15-year-olds reported that they expected to go on and complete a tertiary degree – this was the smallest proportion observed across the participating cities, slightly below that of Houston (United States) at 68% but much lower than the maximum share observed for the city of Suzhou (China) at 91%. While this share is low in comparison to that of other cities participating in SSES, it is close to the current share of tertiary-educated individuals in Ottawa (62%, see Box 1) and among people aged 25 to 34 in Canada as a whole (63%) (OECD, 2020[2]). This suggests that 15-year-old students in Ottawa are particularly realistic and that, on average, they correctly anticipate the likelihood of completing a tertiary education degree. Their educational expectations might also be dependent on external factors, such as expected returns from completing tertiary education and expected costs associated with pursuing such studies.

Across all SSES-participating cities with available data, the proportion of students who hold high expectations for further education is related to how they portrayed their own social and emotional skills. Among students of similar socio-economic background, differences in education expectations are often related to differences in social and emotional skills. Similar to other participating cities, highly intellectually curious students in Ottawa (Canada) tended to have higher educational expectations and higher levels of assertiveness and tolerance (Figure 4). In Ottawa and a few cities – after accounting for students' curiosity and other skills – 15-year-olds who consider themselves very creative and stress resistant are less likely to expect to complete tertiary education. For these students a long, formal education career may appear too conventional. Unique to Ottawa, students who reported higher levels of trust were also less likely to expect completing a tertiary degree (Figure 7). All these findings hold while accounting for other skill differences and for differences in gender and socio-economic status.

Why is curiosity strongly and consistently related to expectations for completing tertiary education? This likely reflects the fact that students with a great deal of curiosity and love of learning tend to have positive dispositions not only towards learning, in general, but also towards formal tertiary-education institutions; these students see tertiary institutions such as universities as places where their desire for knowledge can be satisfied. This indicates the importance of cultivating the affective dimensions that support academic performance – and not only behavioural tendencies such as persistence and self-control – in order to prepare students for lifelong learning.

Figure 4. How curiosity, assertiveness and tolerance relate to expectations of completing tertiary education

Percentage-point change in the likelihood that a 15-year-old student expects to complete a tertiary degree
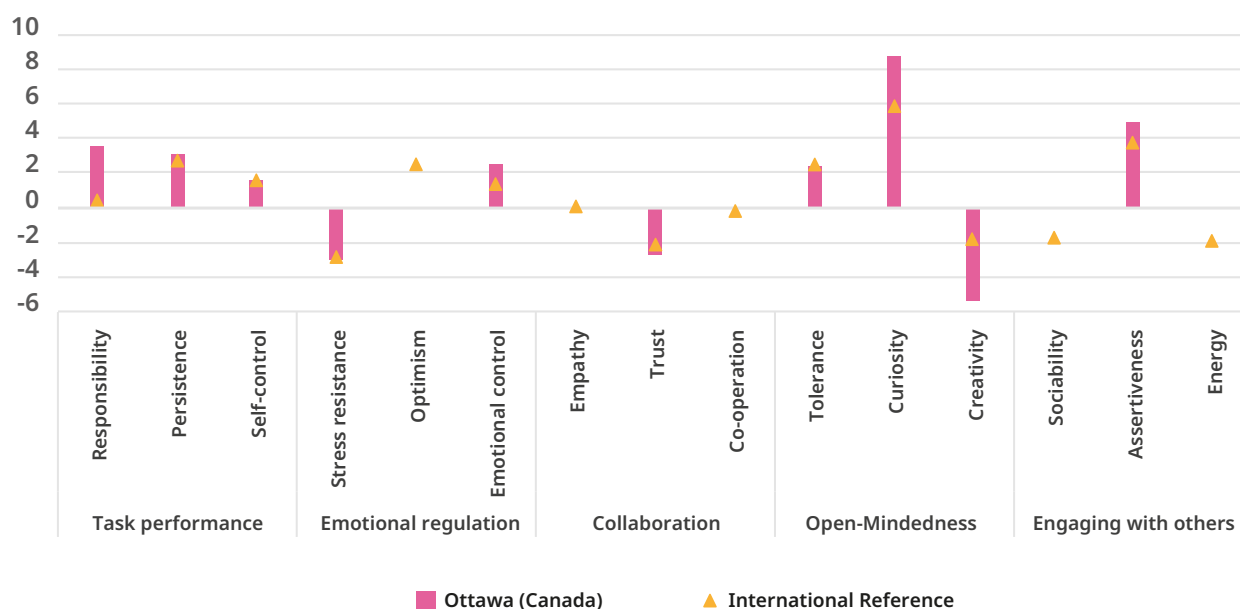

Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to complete a tertiary degree that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the combined dataset with equally weighted city data). Only significant and lasso-selected relationships are reported. All models include controls for socio-economic status and gender. Data for Helsinki (Finland) are not available.

Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A2.7.

Figure 5. Skills most strongly associated with expectations of completing tertiary education in Ottawa (Canada)

Percentage-point change in the likelihood that a 15-year-old student expects to complete a tertiary degree

■ Ottawa (Canada)　　▲ International Reference

Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to complete a tertiary degree that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the combined dataset with equally weighted city data). Only significant and lasso-selected relationships are reported. The international reference is the arithmetic average of the coefficients across the cities with significant and lasso-selected relationships only. All models include controls for socio-economic status and gender. Data for Helsinki (Finland) are not available.
**Source:** Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A2.7.

Similar to educational expectations, students' occupational expectations are related to specific patterns of social and emotional skills. First, the relations between social and emotional skills, and occupational expectations are much stronger among 15-year-olds than 10-year-olds. This might signal the interdependence of these two factors – students might develop job preferences adapted to their own cognitive, and social and emotional skills at the same time as they improve their skills to meet the requirements of their personal job aspirations.

Looking at 15-year-olds' job expectations, certain patterns of social and emotional skills emerge that are associated with aspirations to work in certain occupational groups. A few exemplar cases illustrate this. For example, in Ottawa (Canada), as well as in all other participating cities, 15-year-old students who reported aspiring to become health professionals (i.e. medical doctors, nursing and midwifery professionals) are also more curious than peers aspiring to other occupations (Figure 6). In Ottawa and nearly all other cities, these students also represent themselves as less creative than other students. More specific to Ottawa is the fact that students aspiring to become health professionals are more persistent, co-operative and, to some extent, assertive. This combination of social and emotional skills is not surprising given that health occupations require curiosity for sciences and interpersonal skills to cater to patients' needs.

Figure 6. Skills most strongly associated with expectations of working as health professionals in Ottawa (Canada)

Percentage-point change in the likelihood that a 15-year-old student expects to become a health professional
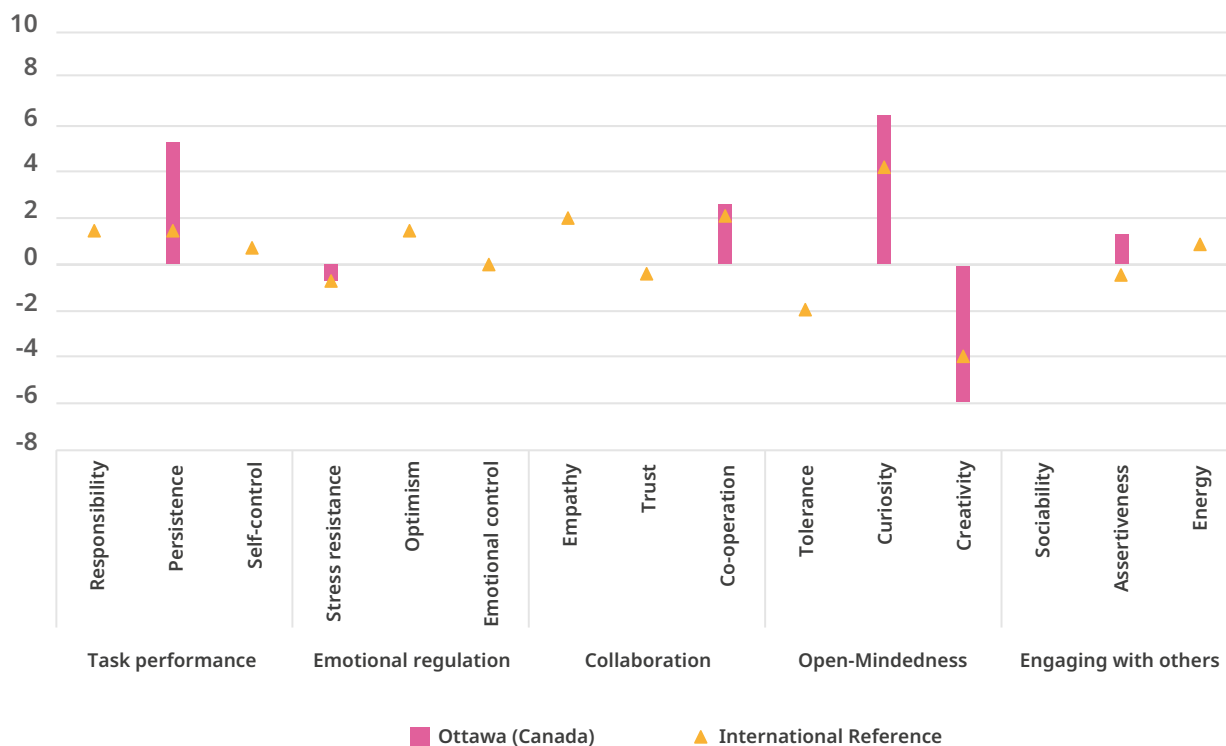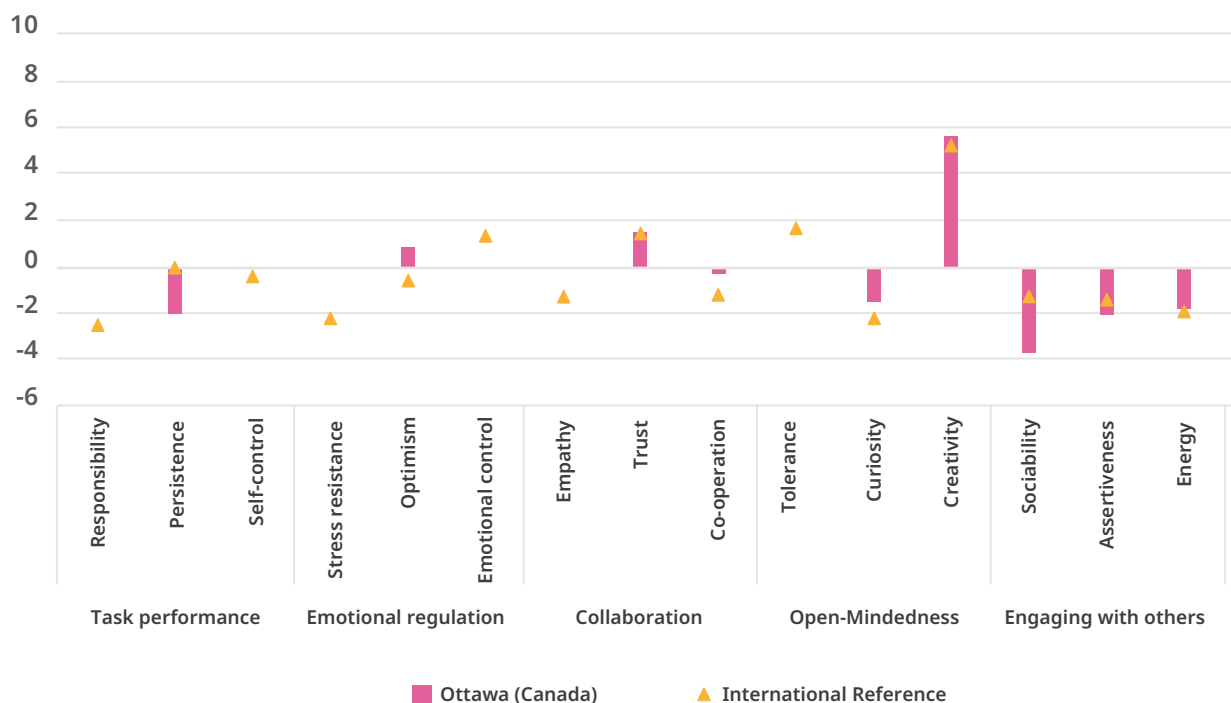

Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to become a health professional that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the combined dataset with equally weighted city data). Only significant and lasso-selected relationships are reported. The international reference is the arithmetic average of the coefficients across the cities with significant and lasso-selected relationships only. All models include controls for socio-economic status and gender.
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A2.8.

In all cities including Ottawa (Canada), students expecting to work in cultural and creative sectors also represent themselves as more creative (Figure 7). Such occupations include, for example, artists, musicians, and actors but also marketing directors, professionals and associate professionals, architects, journalists, public relations officers, and software professionals. In Ottawa, students expecting a creative occupation tend to be less inclined to engage with others – they are particularly less sociable but also less assertive and less energetic compared to other students.

Figure 7. Skills most strongly associated with expectations of working in a creative occupation In Ottawa (Canada)

Percentage-point change in the likelihood that a 15-year-old student expects to work in a creative occupation

Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to work in a creative occupation that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the combined dataset with equally weighted city data). Only significant and lasso-selected relationships are reported. The international reference is the arithmetic average of the coefficients across the cities with significant and lasso-selected relationships only. All models include controls for socio-economic status and gender.

Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A4.20.

Social and emotional skills matter for well-being

Well-being is an important measure of quality of life alongside other social and economic dimensions (OECD, 2013[10]). Adolescence is a period of rapid physical growth and brain development, increasing demands and expectations regarding school performance, changing relationships with parents and peers as well as increasing autonomy as students start to make their own decisions and develop behaviours that can influence their current and future well-being (Inchley et al., 2020[11]; Patton, 2016[12]). Education policies increasingly address student well-being as part of a whole-child perspective to education. This has led to increased emphasis on social and emotional skills alongside cognitive skills as drivers of future well-being.

The three aspects of students' psychological well-being measured in the SSES (life satisfaction, current psychological well-being and test anxiety) are strongly related to skills in the domain of emotional regulation: stress resistance, optimism and emotional control. All three aspects of students' psychological well-being are also only weakly related to skills in the domains of task performance and engaging with others.
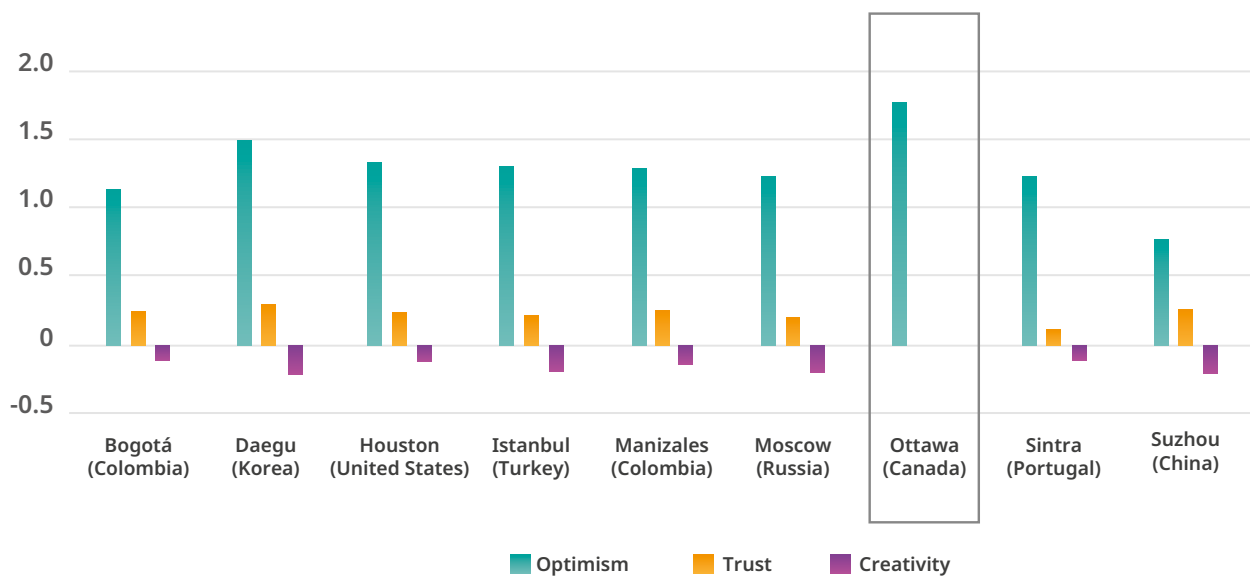
Life satisfaction

Students' life satisfaction is an evaluation that students make of their perceived quality of life according to their chosen criteria. This can be determined in part by the student's current mood and memory, and by the immediate context. In Ottawa (Canada) and in all other participating cities, 15-year-old students who are more optimistic also reported higher levels of life satisfaction (Figure 8). This also holds true for 10-year-old students. Students who are optimistic have a positive attitude and favourable outlook towards life. At the same time, students who have a more privileged life might be more optimistic. Most importantly, higher levels of optimism are inversely related to depressive disorders. Optimism confers resilience and coping skills in dealing with stressful events, and is related to factors such as socio-economic status and social integration, which generally have protective effects for both psychological and physical well-being (Carver, Scheier and Segerstrom, 2010[13]).

Ottawa (Canada) stands out in that optimism is the sole social and emotional skill that is strongly related to 15-year-old students' life satisfaction. In many other cities, other social and emotional skills such as high levels of stress resistance and trust, and low levels of creativity are related to 15-year-olds' life satisfaction. Another social and emotional skill that is related to the life satisfaction of younger students in Ottawa is the level of trust they have in other people.

Figure 8. Skills most strongly associated with students' life satisfaction

Change in 15-years-olds' life satisfaction associated with changes in social and emotional skills

Note: The figure shows coefficients from a regression of students' life satisfaction on (standardised) scores on social and emotional skill scales. Only significant and lasso-selected relationships are reported. The international reference is the arithmetic average of the coefficients across the cities with significant and lasso-selected relationships only. All models include controls for socio-economic status and gender.
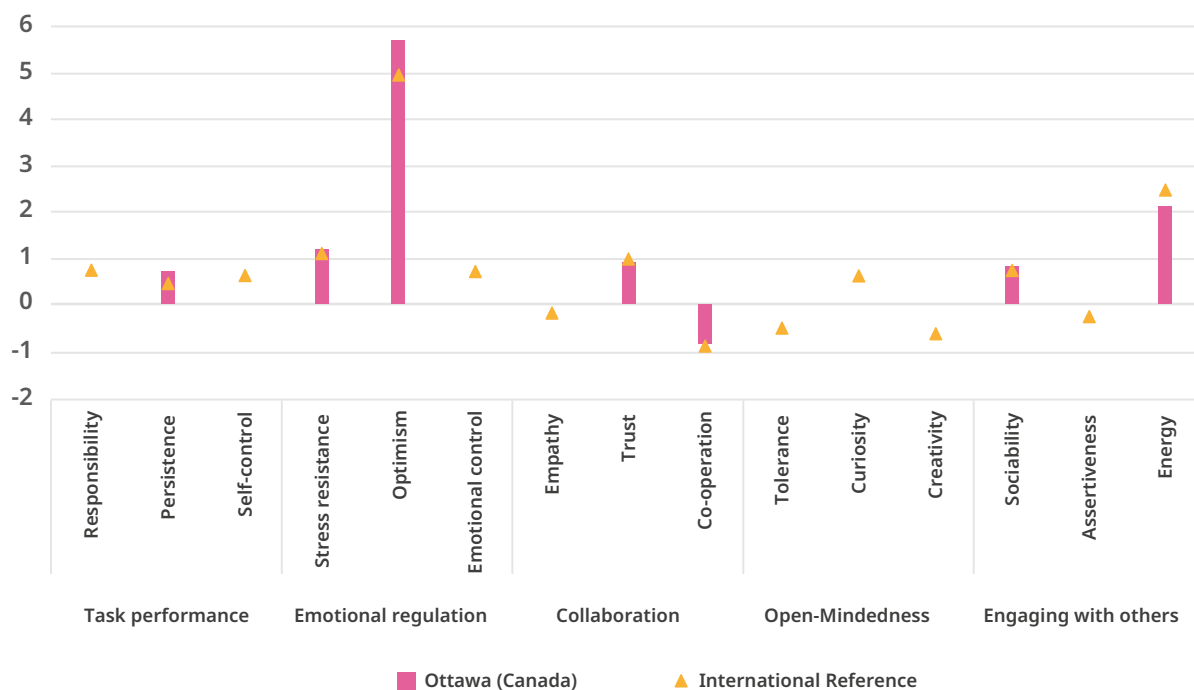**Source:** Adapted from OECD (2021)*, Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A3.18.

Current psychological well-being

SSES measures students' current psychological well-being by asking students to rate their feelings and experiences during the two weeks prior to the survey. In Ottawa (Canada) and in all other participating cities, being optimistic is strongly related to one's current psychological well-being (Figure 10). This holds true for both cohorts of students. Other social and emotional skills that matter for both 10- and 15-year-olds students' current psychological well-being in Ottawa are students' trust of others and their level of energy. Students who are more optimistic generally respond differently to challenging situations than students who are less optimistic. Optimists are more likely to experience less distress than pessimists when dealing with difficulties in their lives (Scheier, Carver and Bridges, 2004[14]). This is not necessarily because optimists have unrealistic expectations (though that may sometimes be the case) but because they have more coping strategies to deal with challenging situations. Thinking that things will only get worse – even if true – may disengage someone from confronting a situation, while thinking that things can improve – even if false – may motivate them to get the best out of a given situation.

Figure 9. Skills most strongly associated with students' current psychological well-being in Ottawa (Canada)

Change in 15-year-olds' current psychological well-being associated with changes in social and emotional skills

Note: The figure shows coefficients from regressions of students' current psychological well-being on (standardised) scores on social and emotional skill scales. Only significant and lasso-selected relationships are reported. The international reference is the arithmetic average of the coefficients across the cities with significant and lasso-selected relationships only. All models include controls for socio-economic status and gender.
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A3.19.

Students' social and emotional skills are related to students' background characteristics...

SSES data and past research show that students' social and emotional skills are important for students' academic success, employment outcomes and well-being as well as for the prosperity of societies in general. The United Nations Sustainable Development Goals (SDGs) Target 4.7 advocates:

> *"ensuring that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development".*

In this context, social and emotional skills such as co-operation, empathy and tolerance are key for citizens and societies to achieve these goals and secure the basis for functioning democracies. However, students with different background characteristics tend to possess different combinations of social and emotional skills.

In Ottawa (Canada) as in all participating cities, boys exhibit higher skills in the domains of emotional regulation (stress resistance, optimism and emotional control) and engaging with others (sociability, assertiveness, energy). Likewise, girls exhibit higher levels of responsibility, empathy and co-operation, tolerance and achievement motivation. Overall, gender differences in students' social and emotional skills seem slightly more pronounced in Ottawa than on average across the participating cities. In addition, both in Ottawa and on average across cities, gender differences in students' social and emotional skills seem to increase with age as they tend to be more pronounced among 15-year-olds than 10-year-olds (Figure 10).

Figure 10. Gender differences in social and emotional skills

Standardised gender differences in skill scores (15-year-old girls – 15-year-old boys)
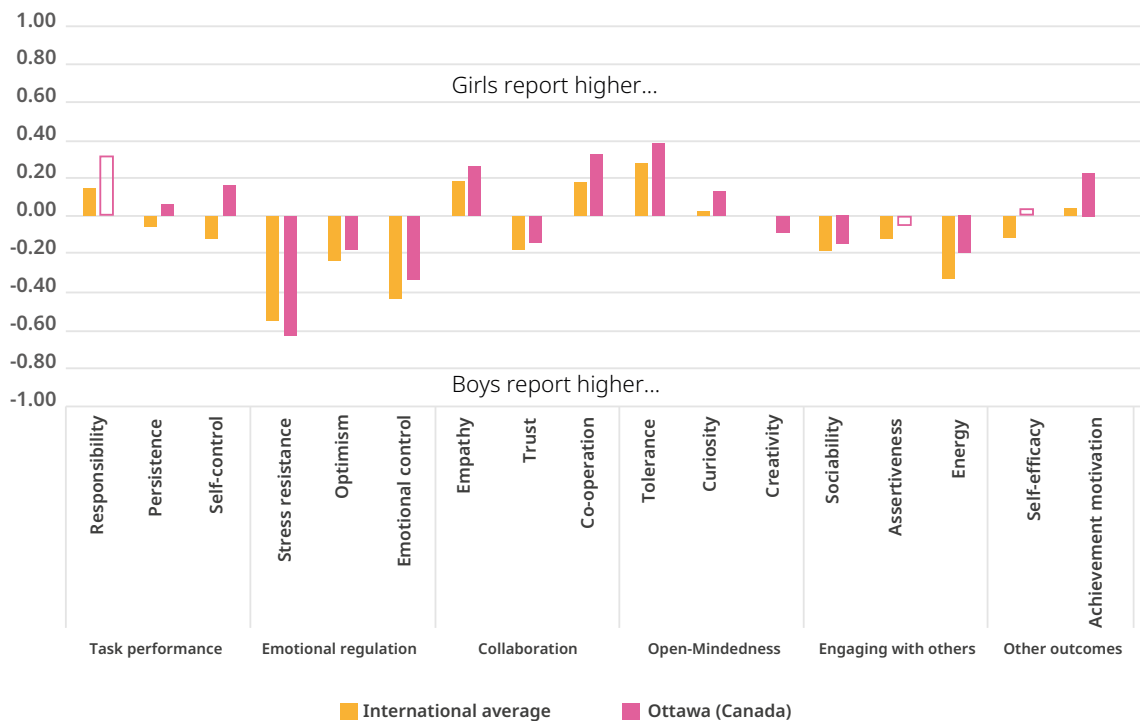
Standardised gender differences in skill scores (10-year-old girls – 10-year-old boys)
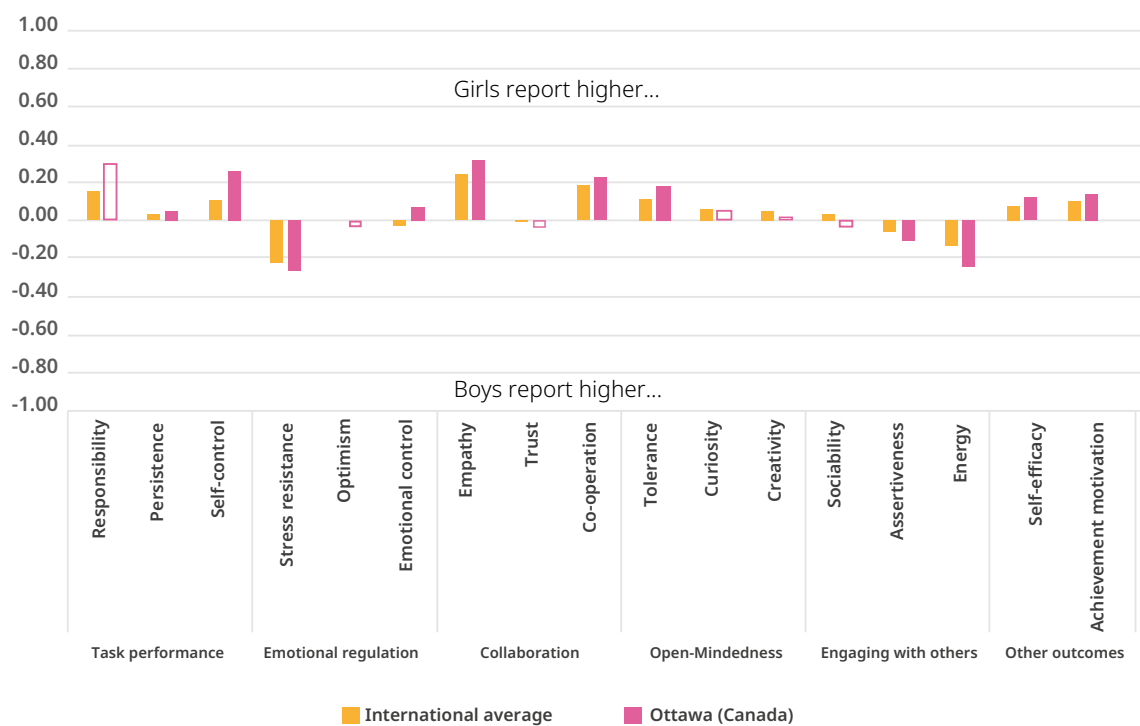
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The figures report standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured, non-significant differences are outlined.
**Source:** Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Tables A1.4, A1.5. and Figure 1.3.

On average across participating cities, socio-economically advantaged students exhibit higher levels on every social and emotional skill measured by SSES. The difference in skills between students with low or high socio-economic status is especially pronounced in skills related to the domain of open-mindedness such as tolerance, curiosity, and creativity, as well as empathy, assertiveness and self-efficacy. In Ottawa (Canada), socio-economic differences are also important for the achievement motivation skill, irrespective of student age (10 or 15). The differences in skills between students with low or high socio-economic status are smallest in stress resistance. In Ottawa and on average across cities, socio-economic differences in students' social and emotional skills tend to decrease between the ages of 10 and 15 (Figure 11).

Understanding the relationship between students' migrant status, and social and emotional skills can also help foster inclusiveness in schools and education systems. Interestingly, differences in social and emotional skills between native-born students and students born abroad (or whose parents are born abroad) are very small when observed on average across cities. But this hides important variation across cities. In Ottawa (Canada), students with a migrant background exhibit higher levels of skills than students without a migrant background in the domains of task performance (responsibility, persistence and self-control), emotional regulation (stress resistance, optimism and self-control), and open-mindedness (tolerance and curiosity) as well as in compound skills (self-efficacy and achievement motivation). This is partly because students with a migrant background tend to be students from socio-economically advantaged families (OECD, 2021, Tables A1.12 and A1.13).

Figure 11. Differences in social and emotional skills by socio-economic status

Standardised differences in skill scores (high socio-economic status – low socio-economic status) among 15-year-olds
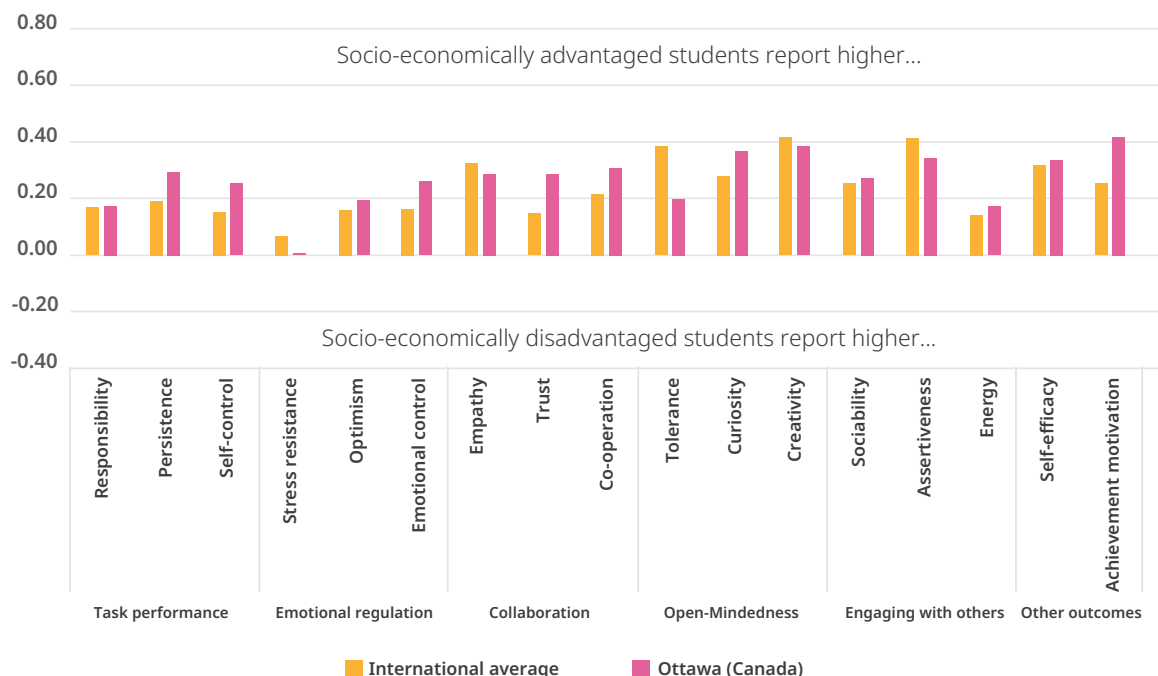
Standardised differences in skill scores (high socio-economic status – low socio-economic status) among 10-year-olds
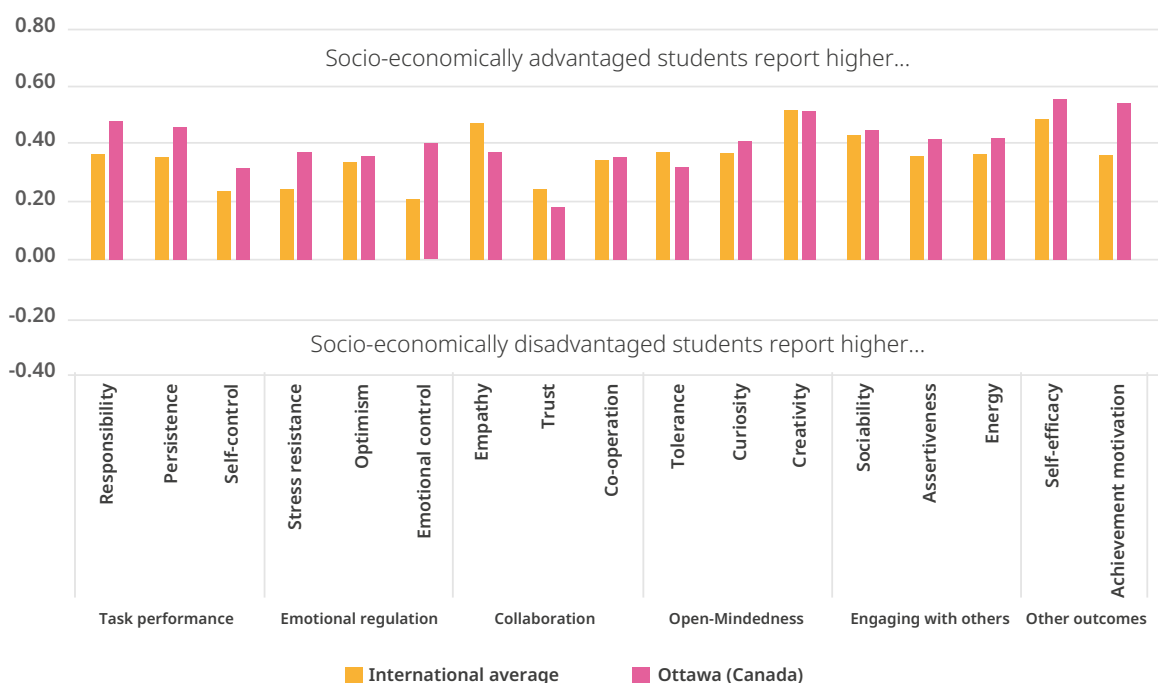
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. Socio-economically advantaged students are those in the top quarter of the city-specific distribution of the index of socio-economic status. Socio-economically disadvantaged students are in the bottom quarter of the city-specific distribution of the index of socio-economic status. The figures report standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured, non-significant differences are outlined.

Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figures 1.8. and 1.9.

... But students' social and emotional skills are malleable...

Differences in social and emotional skills among students are not set in stone. SSES data as well as previous research support the notion that social and emotional skills are characteristics and abilities that are malleable and change with biological and psychological maturation, environmental influences, individual effort and important life events (Specht et al., 2014[16]; Kankaraš and Suarez-Alvarez, 2019[1]; OECD, 2015[18]; Roberts, Walton and Viechtbauer, 2006[19]).

In Ottawa (Canada) and on average across participating cities, 15-year-olds exhibited lower levels than 10-year-olds for most of the social and emotional skills. The differences are particularly pronounced when it comes to optimism, trust, energy and sociability but are smaller for empathy. Tolerance and assertiveness are the only two skills that are reportedly higher (or as high) among 15-year-olds than (or as) 10-year-olds. On the one hand, this might be because teachers and schools are usually more effective at developing these skills. Instruction in citizenship and citizen rights may enhance tolerant attitudes among students. School assignments like oral presentations and written essays may encourage students to develop more assertiveness. On the other hand, the longer one spends in school with its fixed learning environments the more students' abilities to build and practice self-regulation skills, interpersonal skills and creativity and curiosity may become inhibited (Bailey et al., 2019; Duckworth[20], Quinn and Tsukayama, 2012[21]).

Overall, age-related differences in students' social and emotional skills in Ottawa (Canada) are of similar magnitude to those found in other cities. Yet, in Ottawa, between the ages of 10 and 15, the levels of optimism and empathy among students drop more substantially than in most of the other participating cities (Figure 12).

The dip in students' social and emotional skills as students age is not uniform for all types of students. In particular, the decline is more acute for socio-economically advantaged students, or in other words, less pronounced for socio-economically disadvantaged students (Figure 12).

Figure 12. Age differences in social and emotional skills

Differences (15-year-olds – 10-year-olds) in social and emotional skills
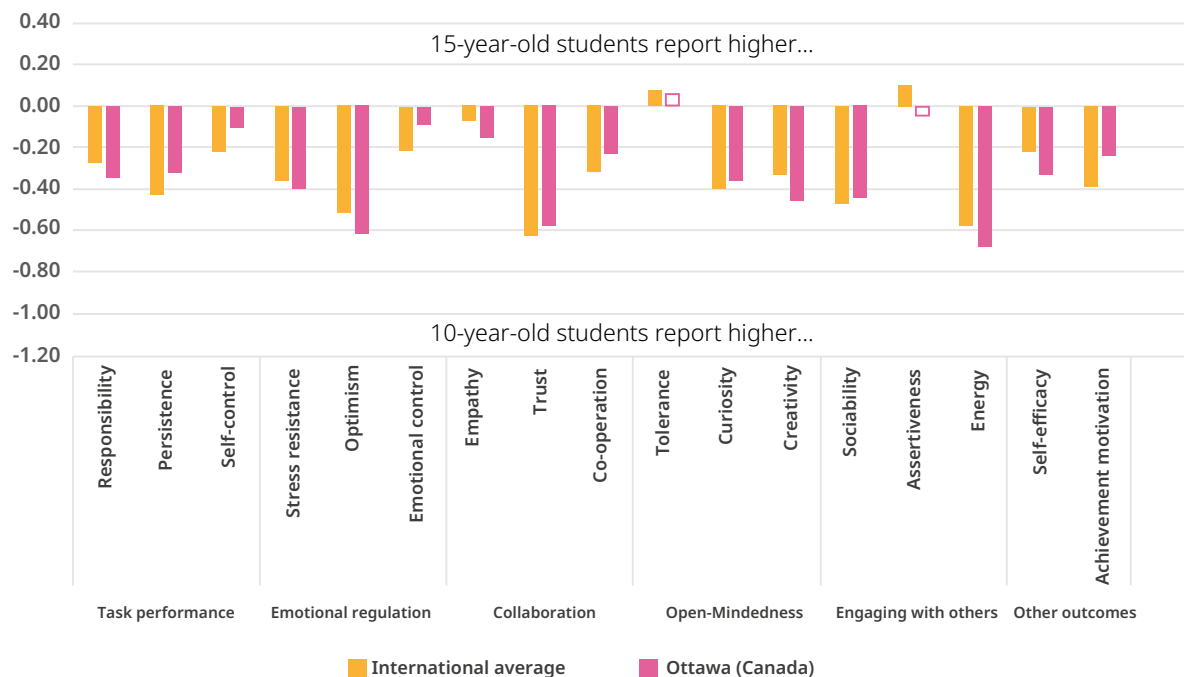
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The figure reports standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured, non-significant differences are outlined.
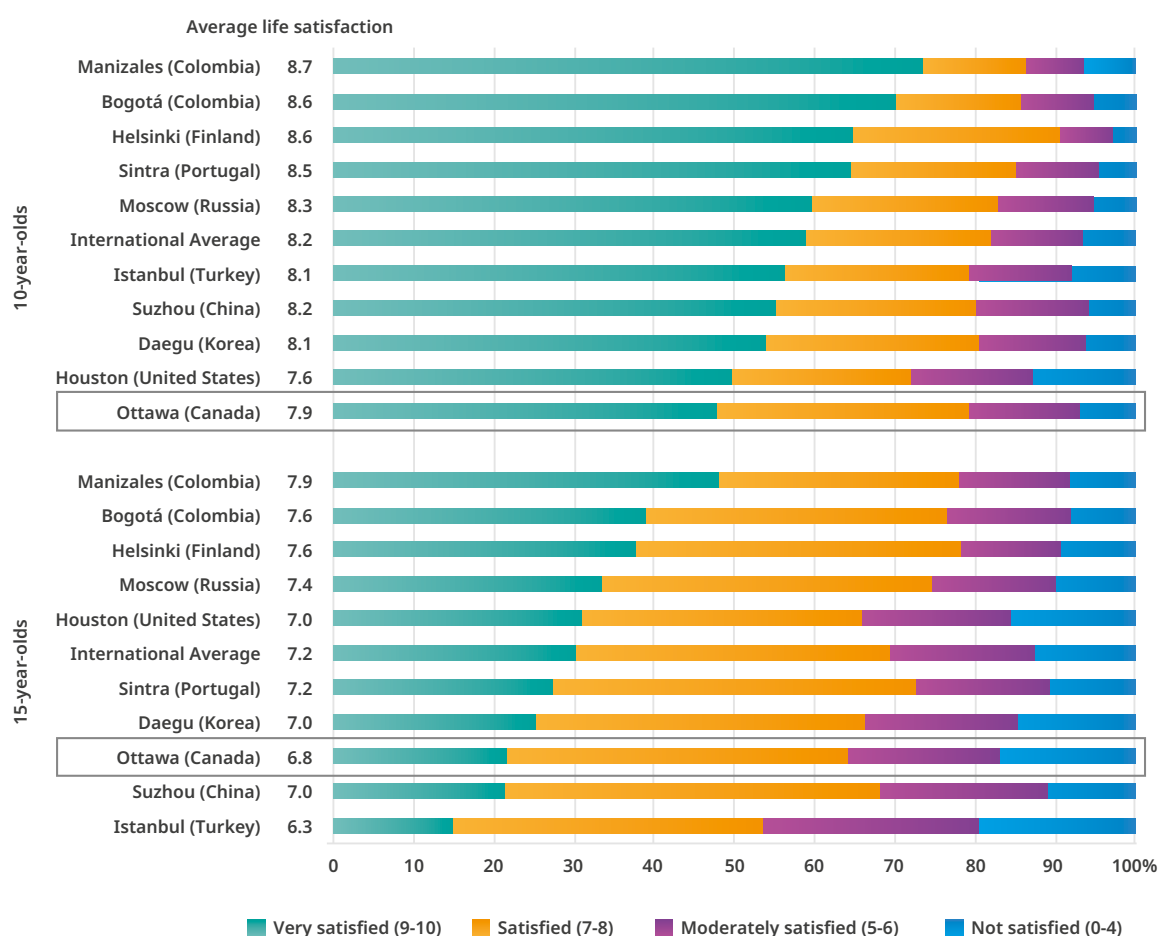**Source:** Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figure 1.3.

Important age-related differences are also observed in other key outcomes examined in SSES. SSES data show that 10-year-old students enjoy higher levels of psychological well-being than 15-year-olds. Life satisfaction and current psychological well-being dip as students get older while test anxiety increases from childhood to adolescence. Figure 13 shows, for example, that the share of students who reported being satisfied or very satisfied with their life in Ottawa (Canada) goes from nearly 80% among 10-year-olds down to approximately 65% among 15-year-olds. This pattern is generally more pronounced among girls than boys.

Figure 13. Students' life satisfaction, by age cohort and city

Percentage of students, by level of life satisfaction

Note: Cities are ranked in descending order of the percentage of students who reported being very satisfied with their life.
Data for Sintra (Portugal) did not reach student response rate standards.
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figure 3.1.

Students' educational and occupational expectations also change as they get older. In particular, older students embrace more diverse occupational expectations than their younger peers. On average across cities, 48% of 10-year-olds expect to work in one of the 10 most frequently reported occupations for their age cohort.[2] This goes down to 37% for 15-year-old students. In addition, the relation between students' social and emotional skills, and their occupational expectations is much stronger for 15-year-olds than 10-year-olds. This suggests reciprocal influence between students' social and emotional skills, and their occupational aspirations.

[2] For 10-year-olds in Ottawa, the 10 most frequently reported occupations are: athletes and sports players; medical doctors; teaching professionals; veterinarians; lawyers; engineering professionals (excluding electrotechnology); creative and performing artists; actors; police officers; and biologists, botanists, zoologists and related professionals. For 15-year-olds in Ottawa, the 10 most frequently reported occupations are: lawyers; medical doctors; engineering professionals (excluding electrotechnology); specialist medical practitioners; business and administration professionals; teaching professionals; psychologists; accountants; nursing professionals; and police officers.

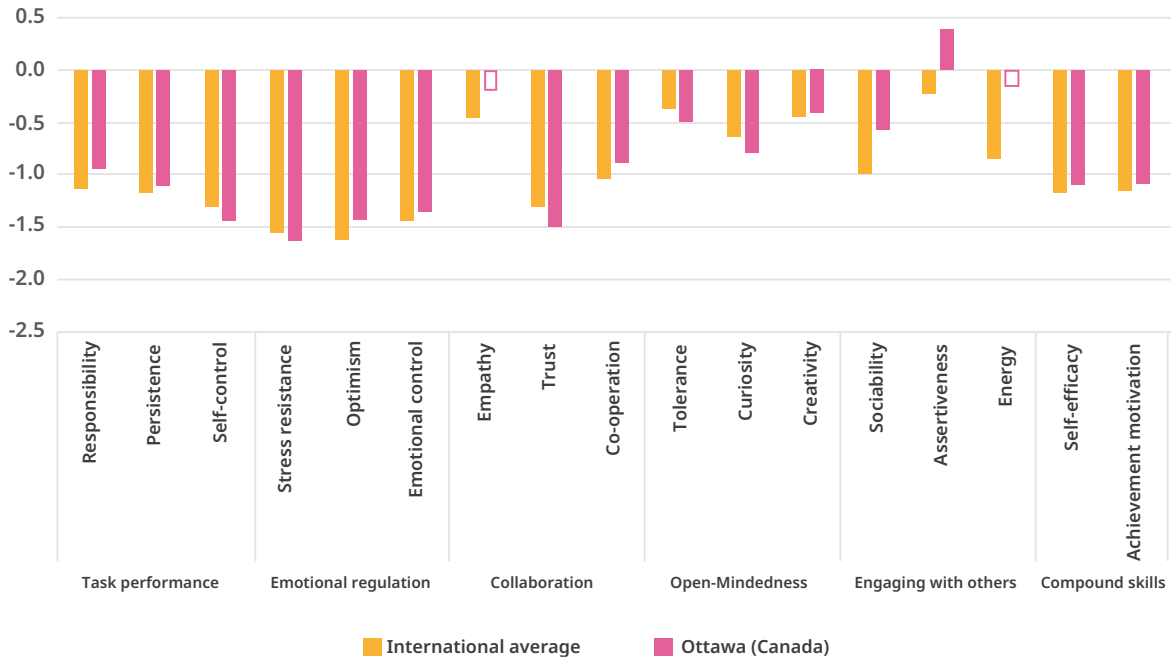# ... And students' social and emotional skills can be influenced by the school environment

The malleability of social and emotional skills enables them to be modified or developed for the better. Schools can play a particularly important role in providing learning environments where skills can be developed, enhanced and reinforced through practice and daily experiences. There are a number of studies that look at the effect of different school-based interventions to enhance students' social and emotional learning (Durlak et al., 2011[22]; Park et al., 2008[23]; Sklad et al., 2012[24]; Smithers et al., 2018[25]). A meta-analysis by Durlak et al. (2011[22]) shows that social and emotional learning programmes had significant positive effects on targeted social and emotional skills, and attitudes about self, others and school. They increased pro-social behaviour, reduced behavioural problems and improved school performance. A more recent meta-analysis of quality research studies (comprising randomised experimental, quasi-experimental intervention studies and observational studies, controlling for relevant confounding factors) by Smithers et al. (2018[25]) found that interventions aiming to improve social and emotional skills had more obvious positive effects on academic achievement outcomes than on psychological, cognitive, language and health outcomes. These findings suggest that people are not born with a fixed set of social and emotional skills. Instead, there is considerable potential in developing these skills throughout people's lives (Helson et al., 2002[26]; Srivastava et al., 2003[27]). Studies linking data on teachers and students show that teachers have an impact on students' social and emotional skills. Teachers' interactions with students, classroom organisation, and emphasis on critical thinking in specific subjects were found to support students' development in areas beyond their core academic skills (Blazar and Kraft, 2017[28]).

SSES data shed light on teachers' and schools' roles in shaping students' social and emotional skills. A first illustration of this is that students with a greater sense of school belonging and better relations with teachers reported higher social and emotional skills. This holds true for Ottawa (Canada) and for all other participating cities. Fitting in at school is most strongly related to higher co-operation, optimism and sociability. At the same time, students who reported having positive relations with their teachers also view themselves as more optimistic, curious and achievement-focused. These findings suggest that schools that are able to provide a positive disciplinary climate, offer support from teachers and engage with parents in building a positive school culture can help students develop their social and emotional skills. Indeed, all these factors are positively associated with students' sense of belonging at school by other research studies (Allen et al., 2018[29]; Crouch, Keys and McMahon, 2014[30]; Dotterer, McHale and Crouter, 2007[31]; Ma, 2003[2]; OECD, 2017[33]; Shochet, Smyth and Homel, 2007[34]). However, these findings may also suggest that teachers respond more positively to students who have skills that tend to be valued in society.

Secondly, school climate and anti-bullying policies can be instrumental to students' positive social and emotional development. Bullying at school can affect any schoolchild in any country (Nansel et al., 2004[35]). This behaviour can have severe long-term physical, social and emotional consequences for students. Teachers, parents, policy makers and the media are increasingly drawing attention to bullying and trying to find ways to tackle it (Phillips, 2007[36]). A Korean study established that being bullied in middle school causes the onset of symptoms of distress or impairment to resurface later (Kim, Leventhal and Koh, 2006[37]). Yet, research suggests that a supportive and caring school environment is linked to less bullying and greater students willingness to seek help (Låftman, Östberg and Modin, 2017[38]; Ma, 2002[39]; Olweus, 2012[40]). In schools where students perceive greater fairness, feel they fit in at school, work in a more disciplined, structured and co-operative environment; and have understanding teachers, students are less likely to engage in risky and aggressive behaviour (Gottfredson et al., 2005[41]; Kuperminc, Leadbeater and Blatt, 2001[42]).

SSES data show that students' exposure to bullying is negatively related to almost all social and emotional skills. In Ottawa (Canada), as well as on average across participating cities, 10-year-old and 15-year-old students' exposure to bullying is most strongly related to lower skills in the domains of emotional regulation. Students who reported greater exposure to bullying tended to report lower levels of optimism, emotional control, stress resistance, and trust in other people (Figure 14). These findings need to be interpreted in light of the share of students who experience bullying. In Ottawa, 28% of 10-year-old students and 25% of 15-year-old students experienced bullying at least a few times a month or more in the 12 months prior to the 2019 survey.

Figure 14. Relations between students' exposure to bullying, and social and emotional skills

Change in 15-year-olds' social and emotional skills related to a one-standard deviation increase in exposure to bullying

Change in 10-year-olds' social and emotional skills related to a one-standard deviation increase in exposure to bullying
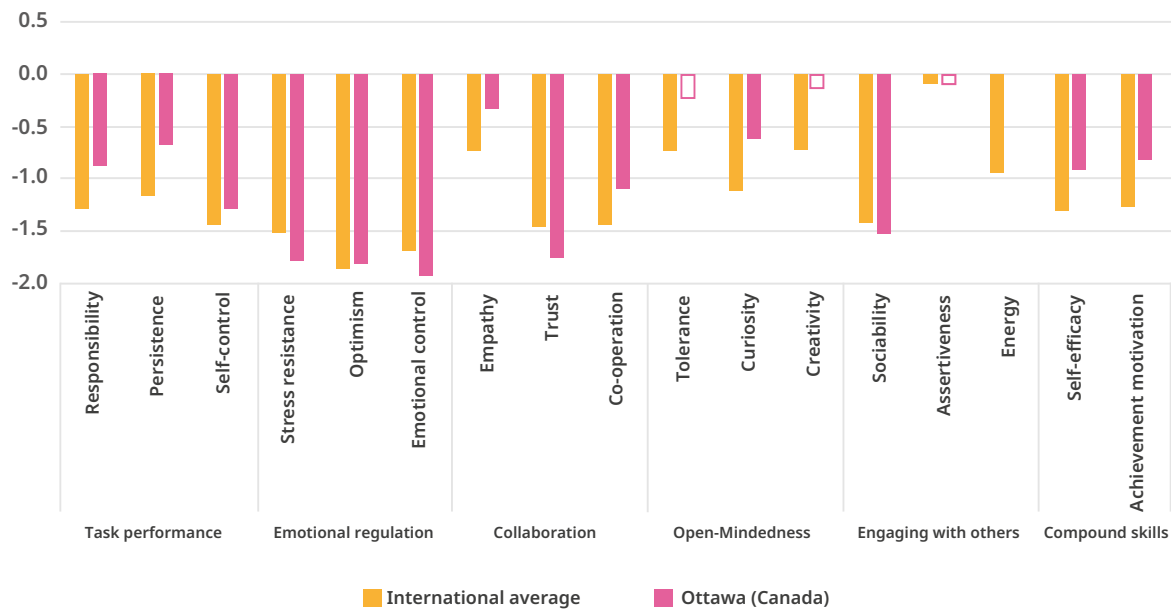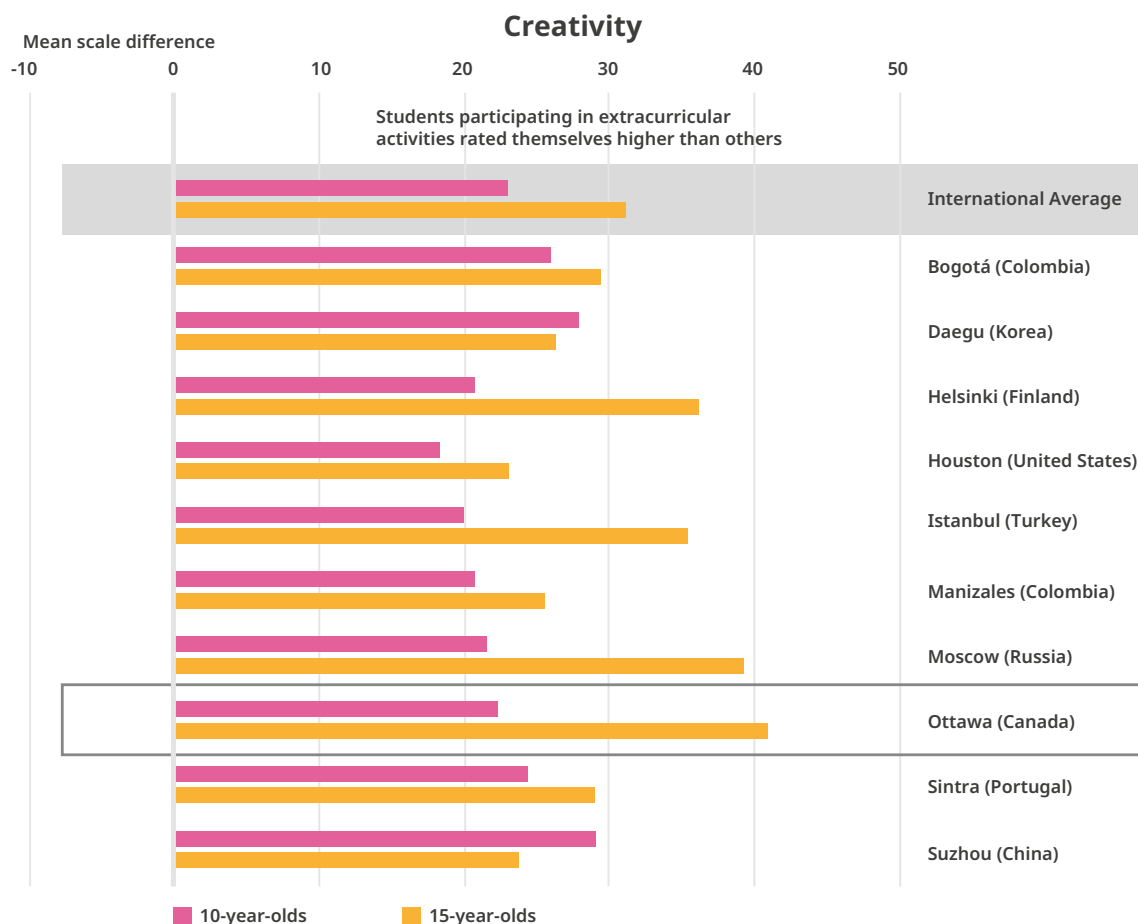

Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in the international average. Control variables include gender, socio-economic status and immigration background. Significant differences are coloured, non-significant differences are outlined.
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A5.17.

A third area where schools could make a difference in the holistic development of their students is in organising informal activities. Extracurricular activities at school do not only have an academic focus, they usually aim to achieve a broader set of goals such as physical exercise and health; developing creativity and practice or appreciation of the arts; and encouraging volunteering and involvement with the community. Participation in extracurricular activities can also help students develop social and emotional skills (Farb and Matjasko, 2012[43]).

SSES data show that, in Ottawa (Canada) as well as in almost all participating cities, students who participate in after-school art activities reported higher levels of creativity, particularly among 15-year-olds (Figure 15). This holds true even after accounting for differences in socio-economic status and gender among students. Differences in creativity levels between students who participate in art activities and those who do not are particularly strong in Ottawa compared to other cities. In Ottawa, 63% of 10-year-old students participate in extracurricular art activities outside of school (e.g. playing a musical instrument, dancing, drawing, etc.) – a share that drops down to 40% among 15-year-old students. The pattern of declining participation in art activities as students age combined with wider differences in creativity levels suggests that students who think of themselves as not creative are more likely to discontinue their participation in art activities during adolescence. Conversely, it is possible that sustained participation in art activities helps students build confidence in their creativity. While the nature of SSES data does not allow us to identify the direction of causality, the data suggest a strong association between art activities at age 15 and creativity.

Figure 15. How participation in art activities relates to creativity

Mean scale differences after accounting for socio-economic status and gender

Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages.
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills,* OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figure 4.9.

Box 3. Key features of the OECD's Survey on Social and Emotional Skills (SSES)

Target populations and samples

The SSES took a single snapshot of two cohorts of primary and secondary school students, at ages 10 and 15. A sample of around 3,000 students was drawn for each of the two age groups in each participating city. The sample design consisted of creating an initial random sample of schools, followed by a random selection of students within sampled schools.

Ten cities participated in the first round of SSES in 2019: Bogotá (Colombia), Daegu (Korea), Helsinki (Finland), Houston (United States), Istanbul (Turkey), Manizales (Colombia), Moscow (the Russian Federation), Ottawa (Canada), Sintra (Portugal) and Suzhou (China).

In Ottawa (Canada), the school samples for both cohorts were drawn from the population of publicly funded schools across four school boards (English Public, English Catholic, French Public and French Catholic). The school samples were stratified by language of education and school type (elementary or secondary).

Survey instruments

SSES assessed students' social and emotional skills directly but also obtained information from their parents, teachers and school principals.

SSES's assessment instruments are self- (student) and others' (parents and teachers) reports on assessed students' typical behaviours, thoughts and feelings. Questions/items are in the form of simple statements such as "I like learning new things" (item assessing students' curiosity) and "I stay calm even in tense situations" (item assessing stress resistance). A 5-point Likert-type agree/disagree response scale was used with answers ranging from 1 – completely disagree to 5 – completely agree. All of the 15 assessment scales used positively and negatively worded items.

These methods are used the most frequently in social and emotional skills assessments. They provide a simple and efficient way to collect information from a large number of respondents, are cost efficient, simple to administer and tend to produce consistent results.

SSES also collected information on students' and their parents' background characteristics as well as family, school, and community learning contexts through four contextual questionnaires developed for: students, parents, teachers and school principals.

SSES data of all participating cities were complemented with information on students' school grades (except in Ottawa [Canada]) and students' scores via a short cognitive test (except in Houston [United States] and Ottawa [Canada]).

Administration mode

The students filled out the questionnaires online through desktop or laptop devices. A trained study administrator delivered the survey with school staff present. Parents, teachers and school principals also filled out questionnaires online but in some participating cities, parents could choose a paper and pencil option in case of necessity or personal preference. All instruments were provided using a centrally managed online platform.

Acknowledgements

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