

Survey on Social and Emotional Skills (SSES): Houston (United States)



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.

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.

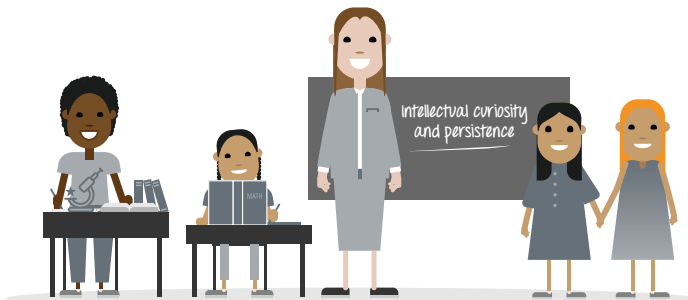
The OECD Survey on Social and Emotional Skills (SSES) focuses on 17 social and emotional skills ranging from curiosity and creativity through to emotional control (see Figure 1). These skills have been selected according to three main criteria. First, previous research shows that they are associated 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.

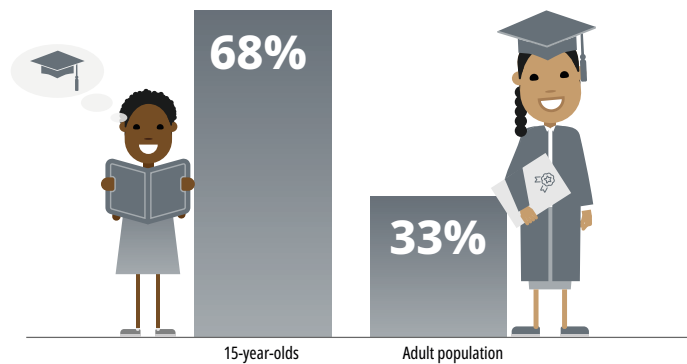
Source: Assessment Framework of the Survey on Social and Emotional Skills (2019^[1])

HIGHLIGHTS FOR HOUSTON (UNITED STATES)



Intellectual curiosity and persistence are the social and emotional skills most strongly related to school performance in Houston.¹

In Houston, being intellectually curious, assertive, and tolerant is associated with expecting to complete post-secondary education.



68% of 15-year-olds in Houston reported that they expected to complete a bachelor's degree or higher – slightly lower than the average share across all cities (77%), but much higher than the actual share of individuals who have completed this level of education in Houston (33% in 2019).



In Houston, as in all participating cities, 15-year-olds who aspire to become health professionals are more curious, responsible, empathetic and energetic but less creative than their peers aspiring to other occupations. Those who want to have a creative occupation (e.g. musician, artist) are more likely to be creative and more trusting but less stress resistant, curious and assertive.

¹ Houston refers to the Houston Independent School District.

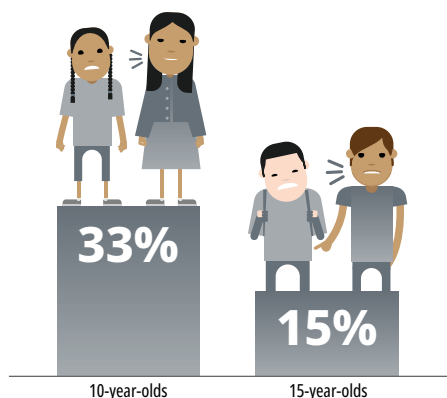


15-year-old girls reported higher levels of responsibility, empathy, co-operation, tolerance, curiosity, and achievement motivation while 15-year-old boys reported higher skills in trust and in the domains of emotional regulation and engaging with others. Gender differences in some social and emotional skills are slightly more pronounced in Houston than on average across participating cities.

In Houston as well as in most participating cities, students who participate in after-school art activities reported higher levels of creativity, particularly among 15-year-olds.



In Houston, and on average across all participating cities, socio-economically advantaged students reported higher levels of every social and emotional skill measured by SSES. In Houston, the gap between students with low or high socio-economic status is especially pronounced in skills related to the domains of open-mindedness (tolerance, curiosity and creativity) and engaging with others (sociability, assertiveness and energy).



In Houston, 33% of 10-year-olds and 15% of 15-year-olds reported having experienced bullying at least a few times a month or more. In Houston, as well as on average across participating cities, exposure to bullying is negatively related to almost all social and emotional skills.

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>

Box 1. 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 Houston (United States), the school samples were drawn from a population of 221 schools (mostly elementary schools but some middle schools) for the younger cohort and from the population of about 95 schools (high schools and combined schools and a few middle schools for the older cohort). The school samples were stratified by school area for the younger cohort and by type of campus for the older cohort.

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.

The context of social and emotional learning in Houston (United States)

The Houston Independent School District (henceforth referred to as “Houston”) (United States) is one of 10 sites that took part in the OECD Survey on Social and Emotional Skills (SSES) in 2019 (see Box 2 for demographic information about the city of Houston). Houston is in the state of Texas. Houston is the fourth most populous city in the United States with over 2.3 million residents and is one of the largest among the cities participating in SSES. Only Istanbul (Turkey), Moscow (Russia), and Suzhou (China) are more populous. In comparison to the diverse pool of cities participating in SSES, Houston is distinguished by having the youngest population, with the median resident age being 33 years old (in 2019). It has a high percentage of first-generation immigrants (30%) and stands out for its low unemployment rate among 25-65 year olds (3.5%) and high average level of education. The vast majority of its residents (60.5%) have exceeded a secondary level of education and 33% hold a bachelor’s degree (or an equivalent degree) or higher. Education is one of the United States’ government’s key areas of public investment, spending USD 12 200 per student on primary to higher educational institutions compared to the OECD average of USD 11 200, in year 2017 (OECD, 2020^[2]). However, per-student spending and funding varies widely by state and year in the United States. Per-student spending in Houston remains low in comparison to the average in Texas and the United States (The Kinder Institute for Urban Research, 2020^[3]).

A wealth of data has been accumulated on the knowledge and cognitive skills that United States 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 the United States have greater cognitive skills than the OECD average in reading and science (OECD, 2018). PIAAC results show that the United States ranks above average in adults’ literacy skills (OECD, 2019^[4]; OECD, 2013^[5]).

Past OECD surveys also provide key information on inequalities of performance in the United States in a cross-country comparative fashion. In the United States, socio-economically advantaged students outperform disadvantaged students. These socio-economic differences in performance are larger than on average across OECD countries. Girls significantly outperform boys in reading and boys outperform girls in mathematics, though to a lesser extent. In the United States in general, a larger share of 25- to 34-year-olds (50%) are postsecondary-educated than the OECD average (45%) (OECD, 2020^[2]).

Box 2. Key demographic information about Houston (United States)

City: Houston

Location: State of Texas

Population (2020): 2 343 365 inhabitants

Median age (2020): 33

Percentage of first- and second-generation immigrants (2016): 42%

Share of people with a bachelor’s degree, an equivalent or a higher degree (2019): 33%

Average unemployment level among adults aged 25-65 (2018): 3.5%

Source: Information provided by the Houston Education Research Consortium (United States).

However, little is known about students’ social and emotional skills and how these relate to their key outcomes despite the attention paid to them in the city of Houston, and, overall, in the United States. Houston’s participation in SSES in 2019 helps fill this important information gap.

The United States does not have national guidelines for teaching students' social and emotional skills although some states may elect to have state guidelines. Texas does not have guidelines for how teachers should incorporate social and emotional skills into the curriculum in primary or secondary education but there are specific social and emotional guidelines for pre-kindergarten students (under the age of 4). Social and emotional skill domains for this age group include increasing self-concept; self-regulating behaviours, emotions, and attention; forming relationships with adults and other children; and understanding how to interact with others.^{2,3} For students over age 4, the state legislation suggests school districts incorporate "positive character traits" into both primary and secondary curriculum.⁴ Some of these positive traits include social and emotional skills assessed in SSES such as responsibility, self-control, and empathy. However, each school district has the liberty to choose their own curriculum to address these character traits and thus there is no alignment across the state for primary and secondary students.

The Houston district participating in SSES includes a vision statement that speaks to the district's priority of social and emotional skills. This statement, which was approved by the local educational authorities, states: "Every child shall have equitable opportunities and equal access to an effective and personalized education in a nurturing and safe environment."⁵ One core aspect of this is the belief that "the district must meet the needs of the whole child, providing wraparound services and social and emotional supports." To ensure that students have positive environments that focus on social and emotional needs, the district has a department that focuses on social and emotional learning. This department provides resources to school administrators, counsellors, and teachers to help each school provide "culturally responsive and emotionally safe learning environments."⁶ In terms of growing students' social and emotional skills, the department focuses on helping students create positive relationships with others, control their emotions, be responsible, and have empathy. Many of the resources for helping students tend to focus on helping them when they need intervention; that is, the resources are reactive to students' behaviours rather than proactive in growing students' social and emotional skills. This is because the district relies on teachers to incorporate social and emotional skills within their classroom curriculum and suggests parents work on these skills at home. Some resources help teachers incorporate social and emotional skills in their classrooms such as weekly modules on topics like goal-setting, time-management, and communication. For parents, resources also include lesson plans, webinars, and handouts to build student skills while outside of school.

It is important that teachers, rather than counsellors or support staff, take the lead in delivering explicit social and emotional skill instruction. This approach allows teachers to form strong relationships with their students and integrate these concepts throughout all instruction so students can practise and apply social and emotional skills in multiple contexts. By taking ownership of teaching these skills, teachers also enhance their own social and emotional learning (SEL). Counsellors and other support staff are great sources of knowledge on social and emotional skills, and may support teachers by co-facilitating, coaching, or leading professional learning on SEL instruction.

Public educational staff often rely on external companies to provide assessment tools, particularly around social and emotional learning. For example, Rethink Ed SEL provides assessments designed to understand and support the development of students' SEL skills. Developed by industry leaders, each assessment uses positively phrased items to protect against discouraging students, and measures concrete, observable, and malleable behaviours that can be impacted by instruction and practice. The assessment items emphasise proactive academic, career, and citizenship behaviours that are appropriate at different points in the students' academic journey: early elementary (ages 5-8), late elementary (ages 8-10), middle school (ages 11-14), early secondary school (ages 15-16), and late secondary school (ages 17-18). See Box 3 for sample assessment items.

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

² https://tea.texas.gov/sites/default/files/PKG_Final_2015_navigation.pdf

³ <https://tea.texas.gov/academics/learning-support-and-programs/character-education>

⁴ <https://statutes.capitol.texas.gov/Docs/ED/htm/ED.29.htm#29.906>

⁵ <https://www.houstonisd.org/Page/32469>

⁶ <https://www.houstonisd.org/Page/153364>

Box 3. Informally assessing social and emotional skills in Houston (United States)

In Houston (United States), teachers work with students to help them develop learning skills and work habits. To informally assess students' social and emotional skills, teachers can use a developmentally adapted social and emotional learning Likert rating system (from 1-5, where 5 is the best score). The following are sample items by developmental stage: "The student can..."

- Early elementary:
 - "Recognize and label emotions"
 - "Pay attention when others are speaking"
 - "Identify a way to calm self"

- Late elementary:
 - "Demonstrate ways to express emotions in a socially appropriate way"
 - "Describe steps in setting and working toward a goal"
 - "Demonstrate cooperative behaviours in a group"

- Middle school:
 - "Apply strategies to manage stress and to motivate successful performance"
 - "Demonstrate an ability to be a team player in achieving group goals"
 - "Recognize emotions as indicators of situations in need of attention"

- Early high school:
 - "Distinguish real feelings from how others expect them to feel"
 - "Practice strategies for coping with and overcoming feelings of rejection, social isolation, and other forms of stress"
 - "Apply decision-making skills to establish responsible social and work relationships"

- Late high school:
 - "Demonstrate reframing skills to promote resiliency and optimism"
 - "Acknowledge an emotion and determine the appropriate time and place to safely digest it"
 - "Use assertive communication to get their needs met without negatively impacting others"

Source: Houston Independent School District. *Developmentally Adapted Social and Emotional Learning Likert Rating System: Progression by Grade Level.*

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 (Noftle and Robins, 2007^[6]; Chamorro-Premuzic and Furnham, 2008^[7]; Suárez-Álvarez, Fernández-Alonso and Muñiz, 2014^[8]).

SSES collected information on students' school grades in three subjects⁷: reading, mathematics and the arts along with the results of a short cognitive ability test administered to participating students. In Houston (United States), no cognitive ability test was administered.⁸ SSES data from all participating cities 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 pursuing objectives in the face of difficulties, intellectual curiosity about a diverse set of topics and the love of learning new things.

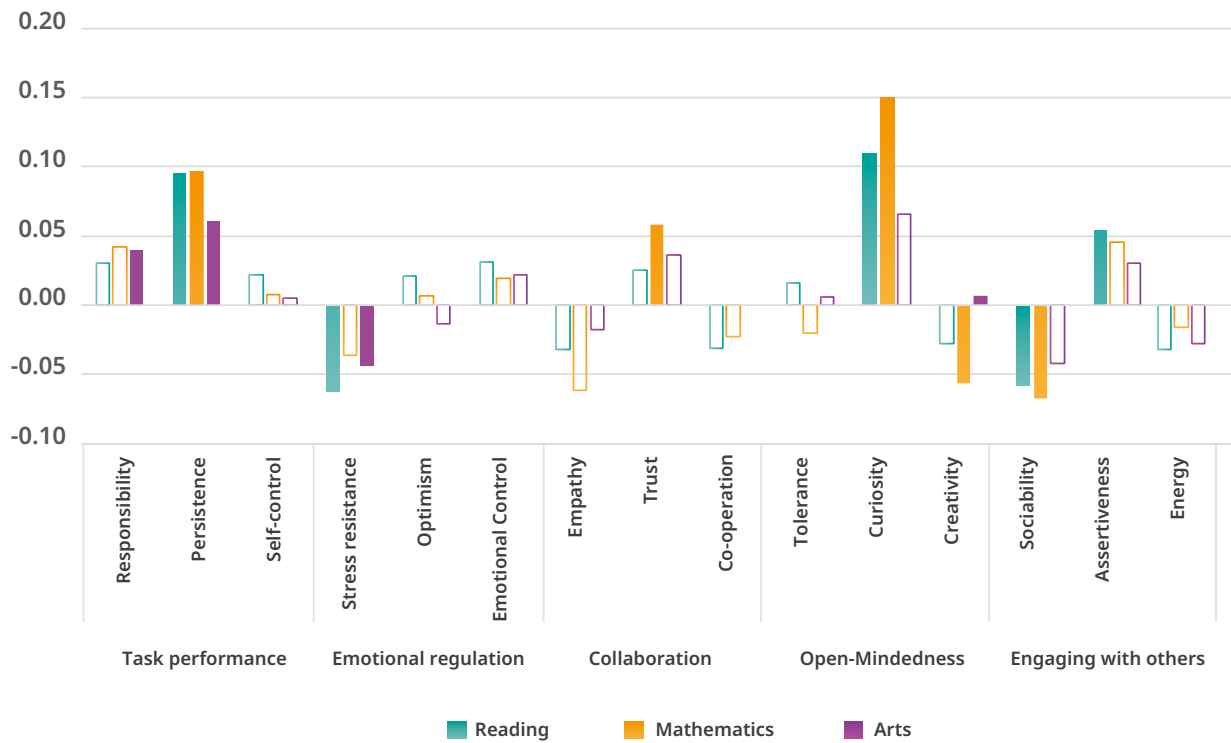
In most cities, 15-year-olds who reported being more stress-resistant (relaxed) and sociable have, on average, lower school grades (Figure 2). This does not mean that calmness in face of adversity (a benefit of being stress-resistant) and seeking support from peers are harmful to school achievement. Instead, this finding might be related to the fact that older students who typically have more autonomy than younger students (10-year-olds) 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 (Trautwein and Lüdtke, 2009^[9]; Fernández-Alonso et al., 2017^[10]).

⁷ School grades were not collected in Ottawa (Canada).

⁸ Not controlling for students' scores at the short cognitive ability test in the regression models for Houston may marginally overestimate the relationships between social and emotional skills and students' school grades in Houston, compared to other cities.

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)

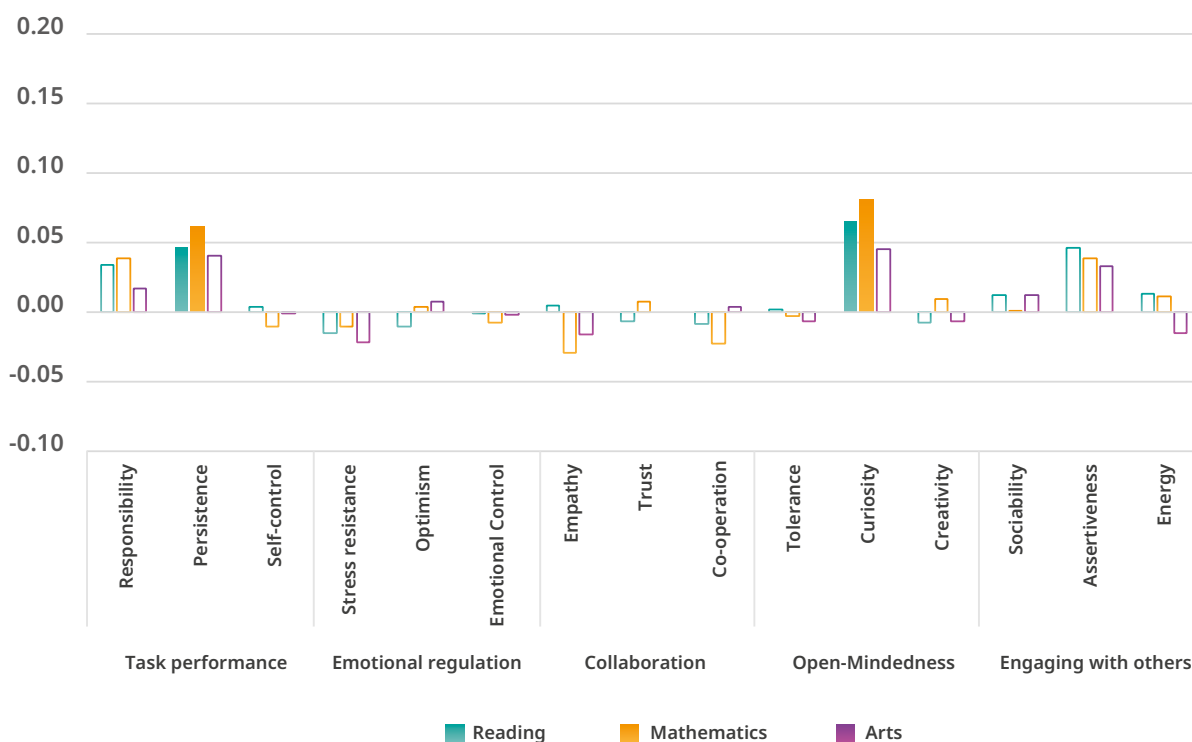


Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The regressions are city-specific and control for gender, socio-economic status, and scores in the cognitive ability test, with the exception of Houston (United States), where 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.

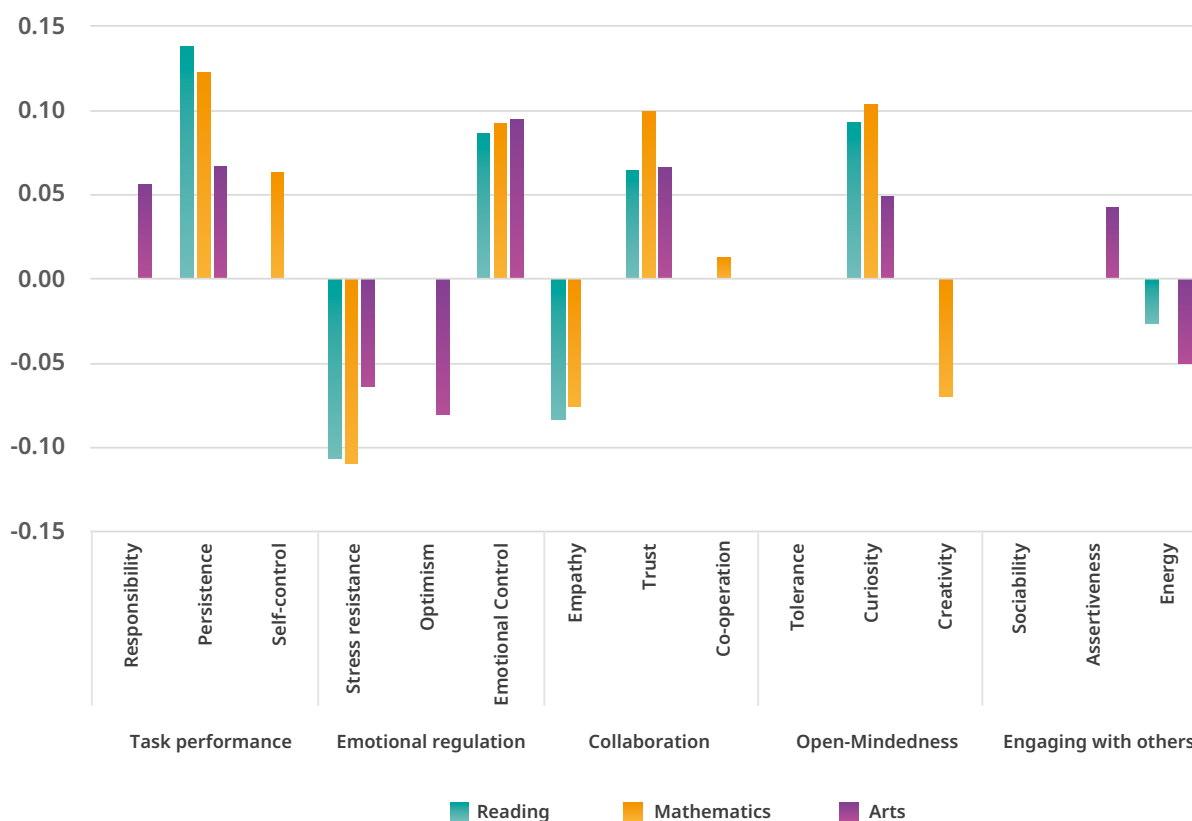
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/92a11084-en>, Figure 2.2.

Figure 4 provides an overview of the social and emotional skills that are most strongly related with 15-year-old students' grades in all three subjects for the city of Houston (United States).⁹ Being intellectually curious, persistent, trusting, and in control of one's emotions are the social and emotional skills most positively related to school grades for 15-year-olds in the subjects analysed in SSES: reading, mathematics and arts. In addition, intellectual curiosity and persistence are the social and emotional skills most strongly related to students' school reading and mathematics performance for both age groups in Houston (United States). These findings emphasise the importance of not only dedication in pursuing predetermined goals even in the face of difficulties, but also cultivating an intellectual curiosity for a diverse range of topics. Students who are curious about a diverse set of topics and love learning new things are better equipped to face difficulties and are more likely to reach their goals (Shah et al., 2018^[11]). Students who reported being more trusting are those who feel they can rely on their peers for support and confide in them. This appears conducive to higher school performance.

⁹ SSES surveyed both 10- and 15-year olds. This report sometimes focuses on findings for 15-year-olds only, either because they tend to present stronger or similar patterns compared to those established for 10-year-olds. Remarkable differences and similarities between cohorts are still noted in the core text.

Figure 4. Skills most strongly associated with students' performance in Houston (United States)

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



Note: Coefficients from regressions of 15-year-olds' (standardised) grades in reading, mathematics and the arts on (standardised) scores on social and emotional skills scales. Each regression controls for gender and socio-economic status. Only significant and lasso-selected relationships are reported.

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 A2.1, A2.2, A2.3, A2.4, A2.5 and A2.6.

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 (OECD, 2020^[12]). 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^[13]).

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^[14]).

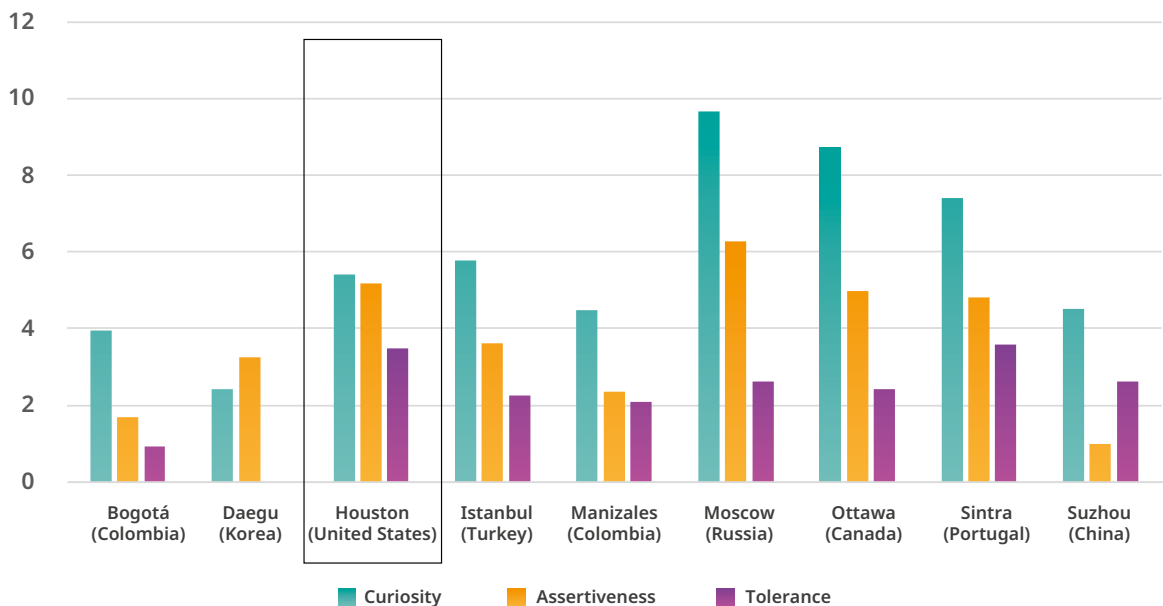
In Houston (United States), 68% of 15-year-olds reported that they expected to go on and complete a bachelor's degree or higher – one of the smallest proportions observed across the participating cities, along with Ottawa (Canada) at 65%, and much lower than the maximum shares observed for the cities of Suzhou (China) at 91%, and Bogotá and Manizales (Colombia) at 88%. While this share is low in comparison to the average across SSES-participating cities (77%), it is much higher than the current share of individuals in Houston holding a bachelor's degree or higher (33% in 2019, see Box 2) and of postsecondary-educated people aged 25 to 34 in the United States as a whole (50%) (OECD, 2020^[2]). This suggests that 15-year-old students in Houston are ambitious but also realistic.

Across all SSES-participating cities with available data, the proportion of students who hold high expectations for post-secondary education is related to how they reported 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. In particular, in Houston (United States) and in all participating cities, highly intellectually curious students tend to have higher educational expectations. Higher levels of assertiveness and tolerance are also, in Houston as well as in most cities, associated with expectations of completing higher education (Figure 5). At the same time, responsibility and stress resistance are negatively related to educational expectations in Houston and a few other cities. (Figure 6). 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 post-secondary 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 post-secondary institutions; an explanation might be that these students see post-secondary institutions such as universities as places where their desire for knowledge can be satisfied. This might indicate the importance of cultivating the affective dimensions that support academic performance (e.g. students' moral adherence to the university's history and culture) – and not only behavioural tendencies such as persistence and self-control – in order to prepare students for lifelong learning.

Figure 5. How curiosity, assertiveness and tolerance relate to expectations of completing post-secondary education

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

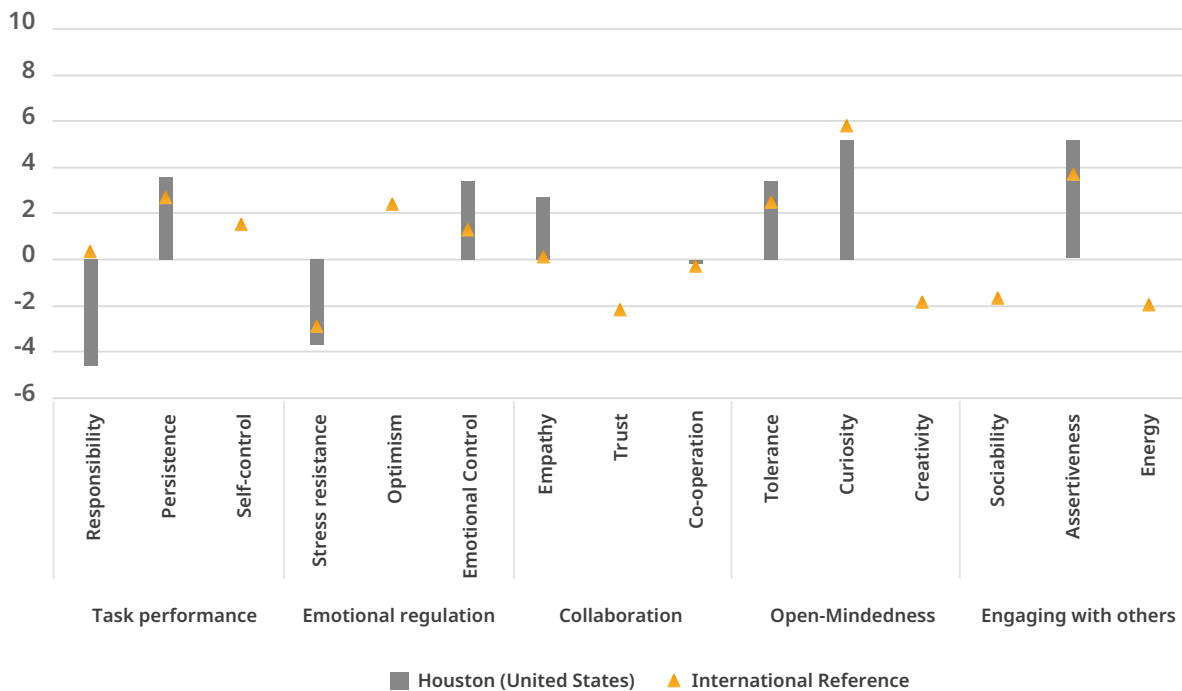


Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to complete a tertiary degree that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the combined 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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

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 6. Skills most strongly associated with expectations of completing post-secondary education in Houston (United States)

Percentage-point change in the likelihood that a 15-year-old student expects to complete a post-secondary 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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

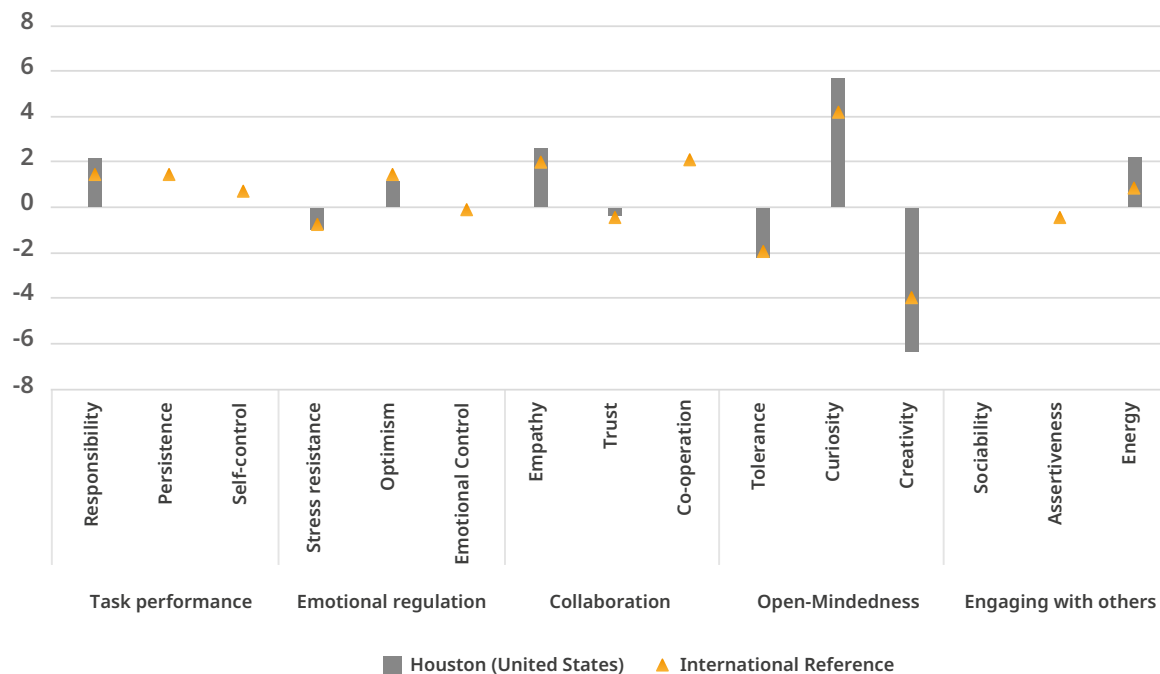
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/92a11084-en>, Table A2.7.

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 Houston (United States), 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) have higher levels of curiosity than peers aspiring to other occupations (Figure 7). In Houston and nearly all other cities, these students also represent themselves as less creative than other students. This combination of social and emotional skills is not surprising given that health occupations require interest in learning sciences and lifelong learning as well as curiosity for the patients' unique experience of illness and interpersonal skills to cater to patients' needs (Dyche and Epstein, 2011^[15]).

Figure 7. Skills most strongly associated with expectations of working as health professionals in Houston (United States)

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

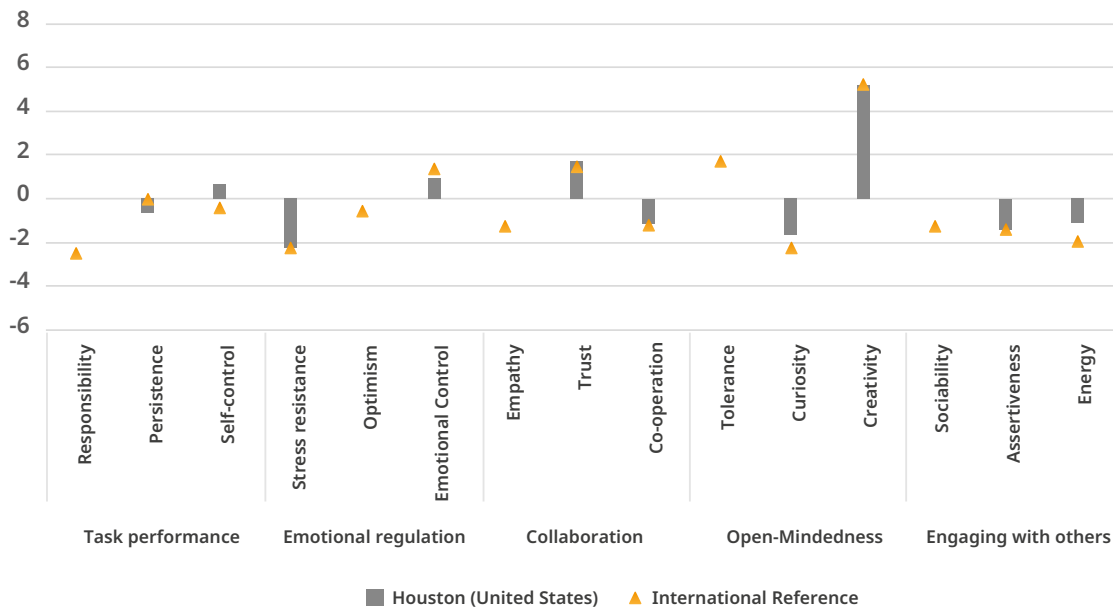


Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to become a health professional that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the 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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

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.

Figure 8. Skills most strongly associated with expectations of working in a creative occupation in Houston (United States)

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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

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^[16]). 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^[17]; Patton, 2016^[18]). 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 SSSES (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.

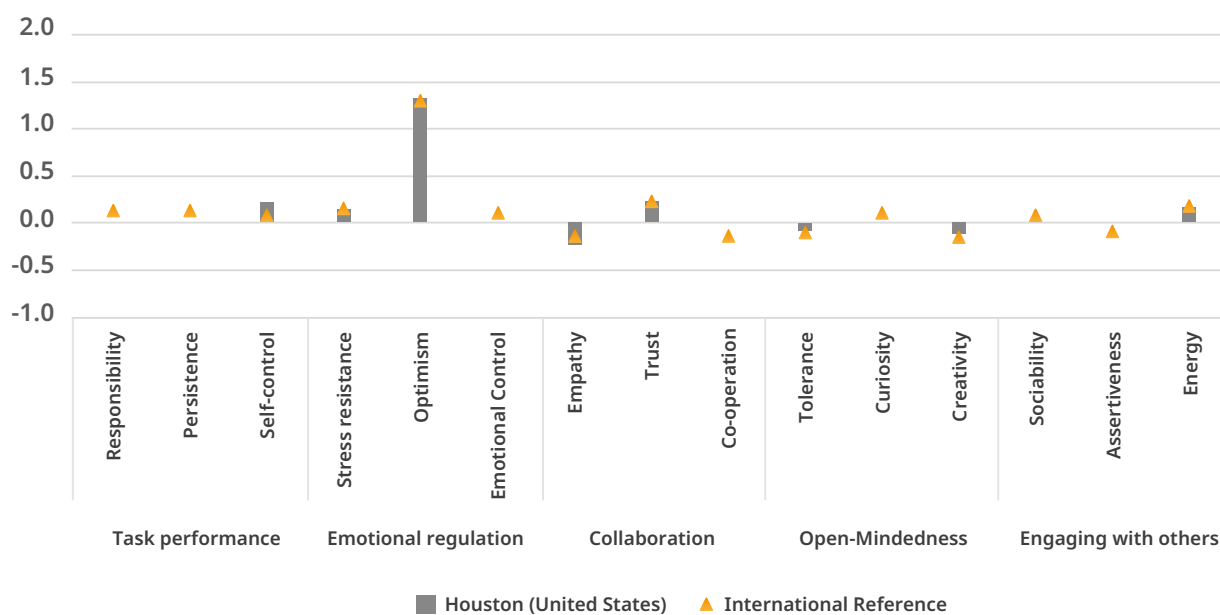
Life satisfaction

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 Houston (United States) and in all other participating cities, 15-year-old students who are more optimistic also reported higher levels of life satisfaction (Figure 9), irrespective of their gender and socio-economic background. This also holds true for 10-year-old students. Previous research indeed shows that higher levels of optimism are inversely related to depressive disorders, confer resilience and coping skills in dealing with stressful events, and are 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^[19]).

As in many other cities, in Houston (United States), other social and emotional skills such as high levels of stress resistance and trust, and low levels of creativity and empathy are related to 15-year-olds' life satisfaction (Figure 9). Another social and emotional skill that is related to the life satisfaction of younger students in Houston is the level of assertiveness they have when engaging with other people – see Table A3.18 in OECD (2021) ⁽²⁰⁾.

Figure 9. 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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

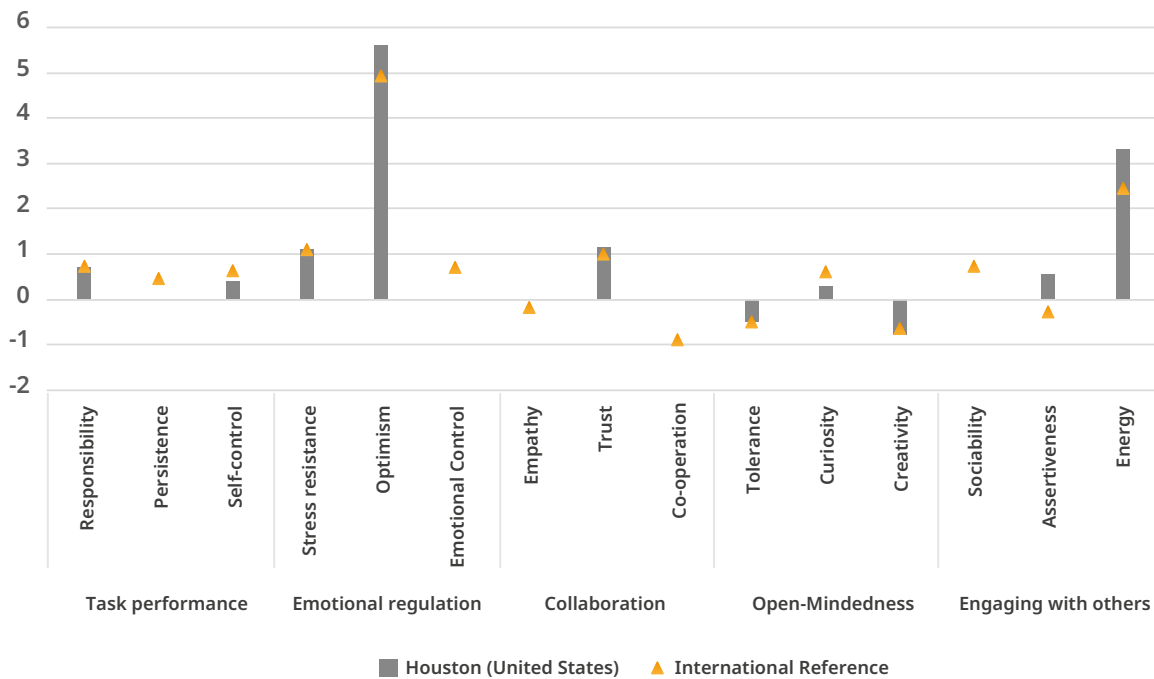
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/92a11084-en>, Table A3.18.

Current psychological well-being

Students' current psychological well-being is an evaluation of students' feelings and experiences in the two weeks prior to the survey. In Houston (United States) 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 Houston are students' trust of others, responsibility, assertiveness, 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. 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 (Scheier, Carver and Bridges, 2004^[21]).

Figure 10. Skills most strongly associated with students' current psychological well-being in Houston (United States)

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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

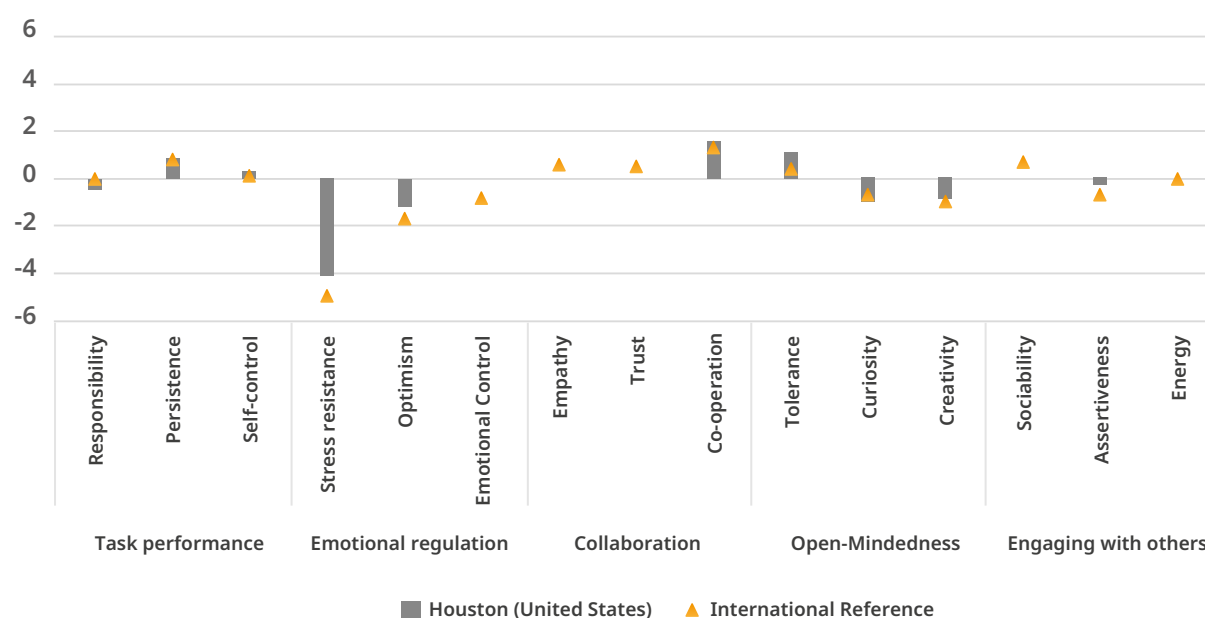
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/92a11084-en>, Table A3.19.

Test anxiety

Test anxiety can be described as “the set of phenomenological, physiological, and behavioural responses that accompany concern about possible negative consequences or failure in an evaluative situation” (Zeidner, 2007^[22]). It typically arises in educational settings where students believe their abilities are stretched or exceeded by the demands of the test situation. In Houston and in all participating cities with available data, students who indicated higher stress resistance reported a lower level of test anxiety. This holds true for students aged 10 and 15 while accounting for students’ grades in both mathematics and reading, which are typically negatively correlated with test anxiety (Figure 13). Among 10- and 15-year-olds, higher levels of optimism and creativity are also related to lower levels of test anxiety in quite a few cities. Houston stands out among other cities in that students with higher tolerance are more likely to have higher rates of test anxiety for both age groups.

Figure 11. Skills most strongly associated with test anxiety in Houston (United States)

Change in 15-year-olds’ test anxiety 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. For more details on the analyses, please refer to the annex of the international report – OECD (2021).

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 A3.20.

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”.

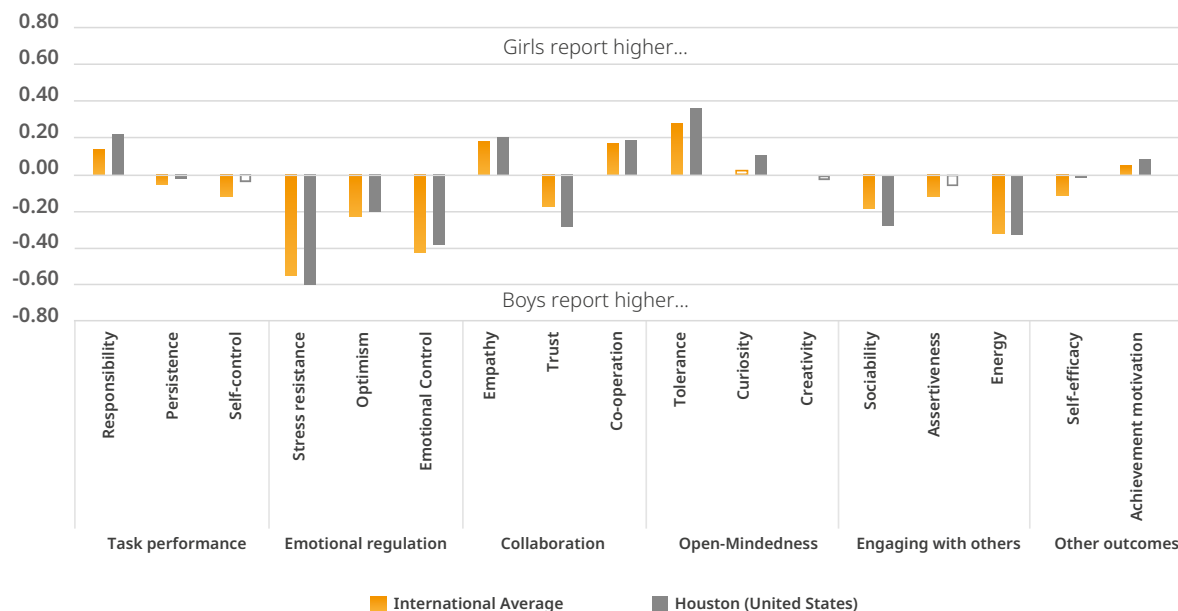
In this context, social and emotional skills such as co-operation, empathy and tolerance are key for citizens and societies to achieve these goals and secure the basis for functioning democracies. However, students with different background characteristics tend to possess different combinations of social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

In Houston (United States) as on average across participating cities, 15-year-old boys reported higher skills in trust, stress resistance, optimism, emotional control, sociability and energy. Likewise, 15-year-old girls reported higher levels of responsibility, empathy, co-operation, tolerance, and achievement motivation. Of note, gender differences in certain social and emotional skills encompassing students' responsibility, collaboration, tolerance, curiosity and self-efficacy are significantly more pronounced in Houston than on average across the participating cities. In addition, both in Houston 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 for most skills (Figure 12).

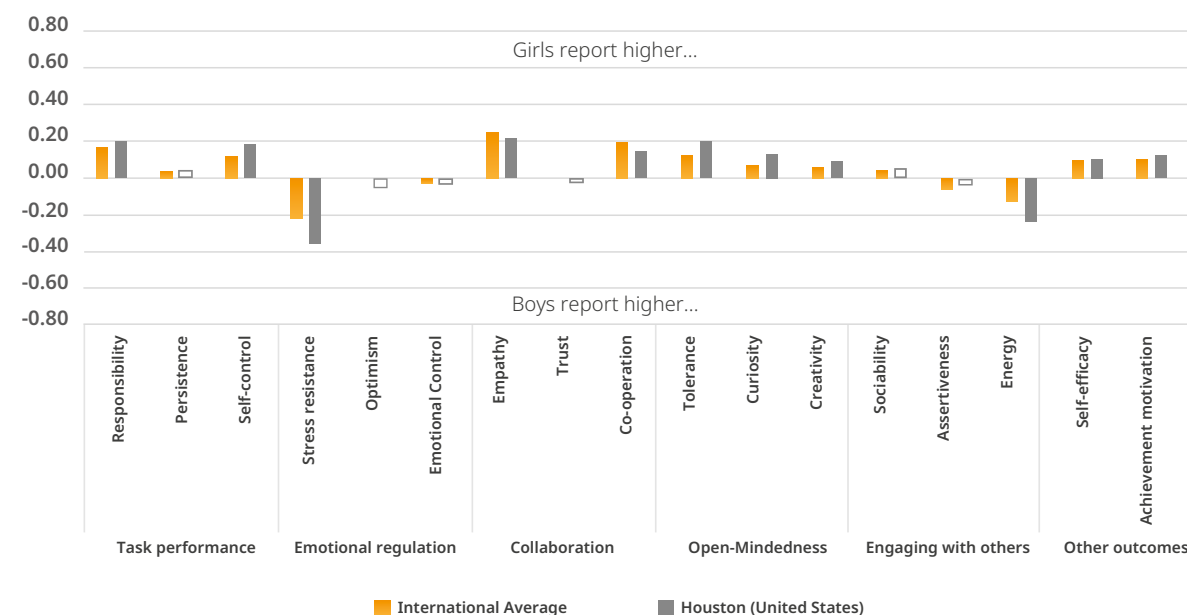
On average across participating cities, socio-economically advantaged students reported higher levels on every social and emotional skill measured by SSES. The difference in skills between students with low or high socio-economic status is especially pronounced in skills related to the domain of open-mindedness such as tolerance, curiosity, and creativity, as well as empathy, assertiveness and self-efficacy. In Houston (United States), socio-economic differences among 15-year-olds are also important for skills in the domain of task performance (responsibility, persistence and self-control) as well as achievement motivation and self-efficacy. Compared to other cities, Houston had the smallest differences in skills between younger students with low or high socio-economic status in emotional control, trust, and curiosity and, notably, no significant socio-economic differences in self-control. For older students in Houston, the smallest differences were for the skills of optimism and energy and no significant difference was found for stress resistance. In Houston and on average across cities, socio-economic differences in students' social and emotional skills tend to be smaller at the age of 15 than 10 (Figure 13).

Figure 12. 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)

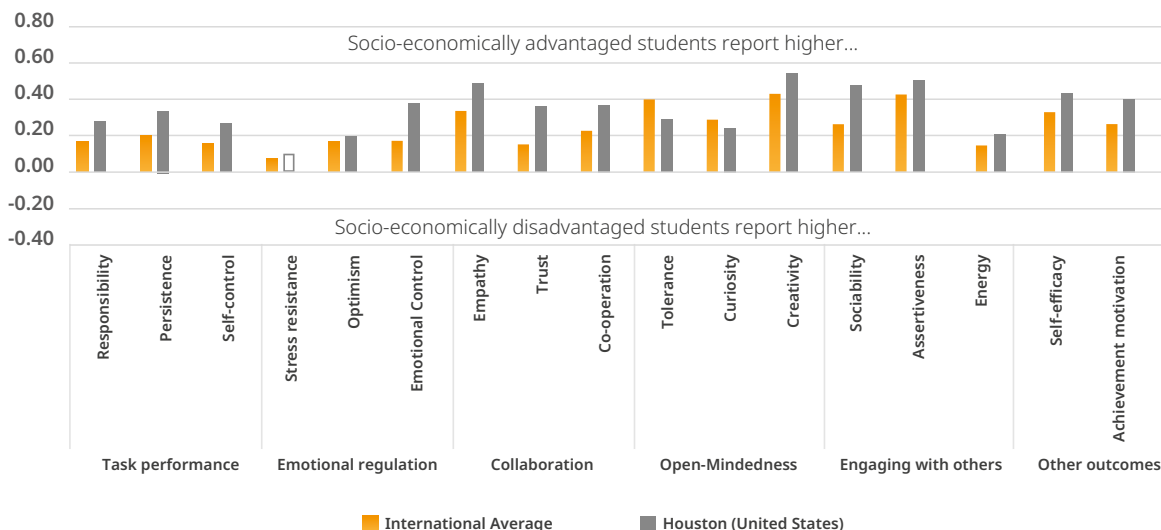


Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The figures report standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured, non-significant differences are outlined.

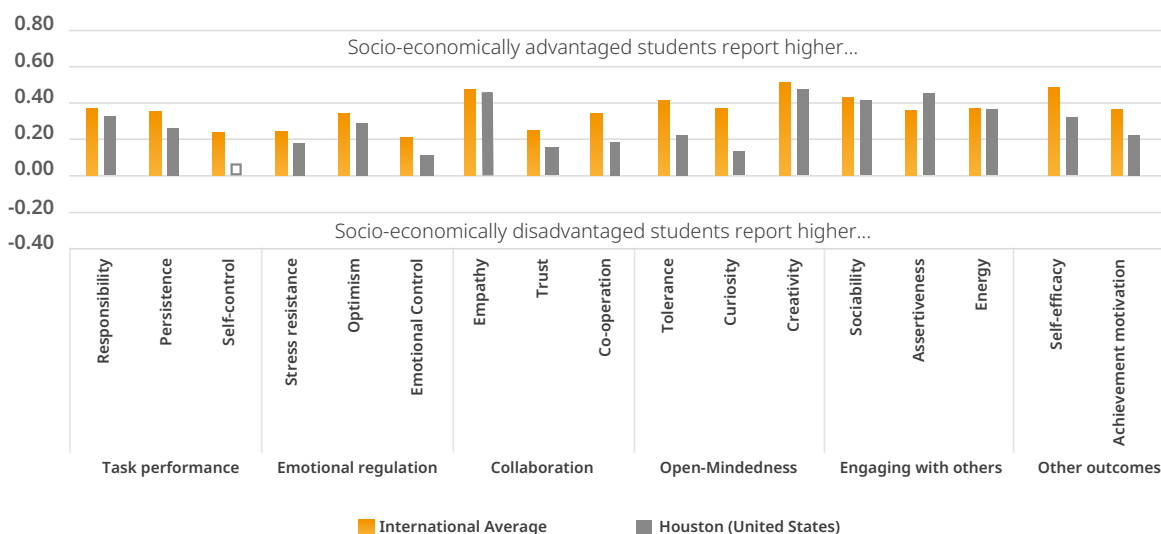
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/92a11084-en>, Tables A1.4, A1.5. and Figure 1.3.

Figure 13. 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.

In Houston (United States), the differences between students with and without a migrant background in terms of their skills do not present a clear pattern – they can go in both directions depending on the skill and the age cohort. Yet, what comes out from the data is that students without a migrant background consistently report higher levels of skills than students with a migrant background, irrespective of student age (10 or 15) in the skills of persistence, empathy, creativity and self-efficacy – see Tables A1.12 and A1.13 in OECD (2021) ^[20].

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

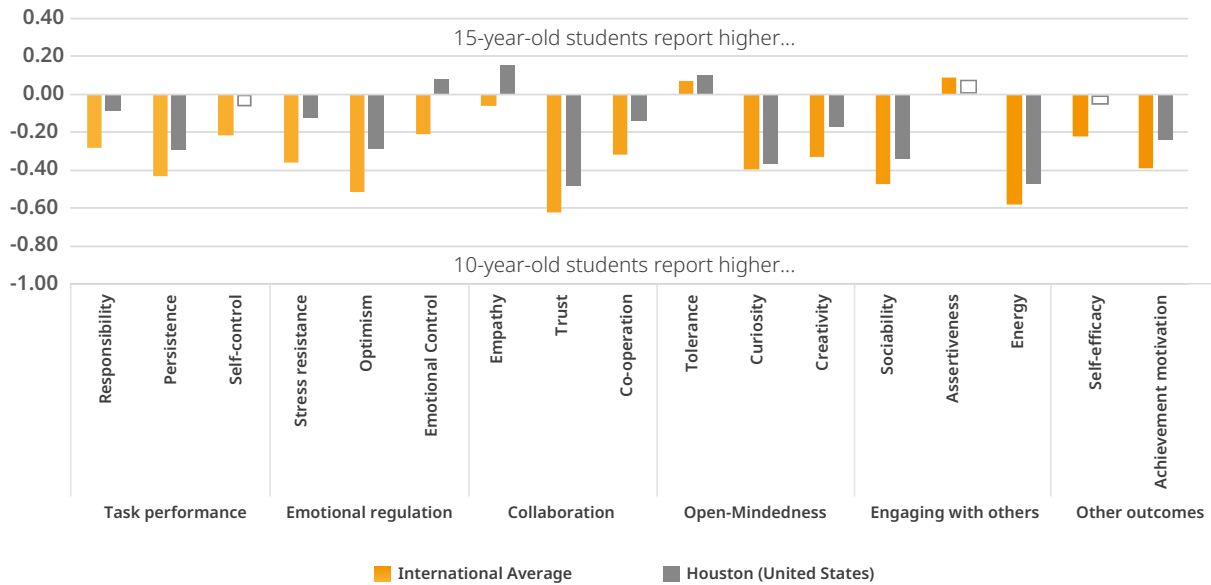
Inequalities in social and emotional skills among students are not set in stone. SSES data as well as previous research support the notion that social and emotional skills are characteristics and abilities that are malleable and change with biological and psychological maturation, environmental influences, individual effort and important life events (Specht et al., 2014^[23]; Kankaraš and Suarez-Alvarez, 2019^[1]; OECD, 2015^[25]; Roberts, Walton and Viechtbauer, 2006^[26]).

In Houston (United States) and on average across participating cities, 15-year-olds reported lower levels than 10-year-olds for most social and emotional skills (Figure 14). The differences are particularly pronounced when it comes to optimism, trust, energy and sociability, and more specific to Houston, curiosity. However, overall, age-related differences in favour of younger students' social and emotional skills in Houston (United States) are of a smaller magnitude as it is on average across cities. In Houston, as well as on average across participating cities, tolerance is reportedly higher among 15-year-olds than 10-year-olds. This might be partly related to a greater awareness of the importance of including class instruction on citizenship and citizens' rights (Schulz et al., 2018^[27]). Exposure to diversity might also play a role. On the other hand, the longer one spends in school with its fixed learning environments the more students' abilities to build and practise self-regulation skills, interpersonal skills and creativity and curiosity may become inhibited (Bailey et al., 2019^[28]; Duckworth, Quinn and Tsukayama, 2012^[29]).

Findings from the international report (OECD, 2021^[20]) show that in general across cities, 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 14. Age differences in social and emotional skills

Differences (15-year-olds – 10-year-olds) in social and emotional skills



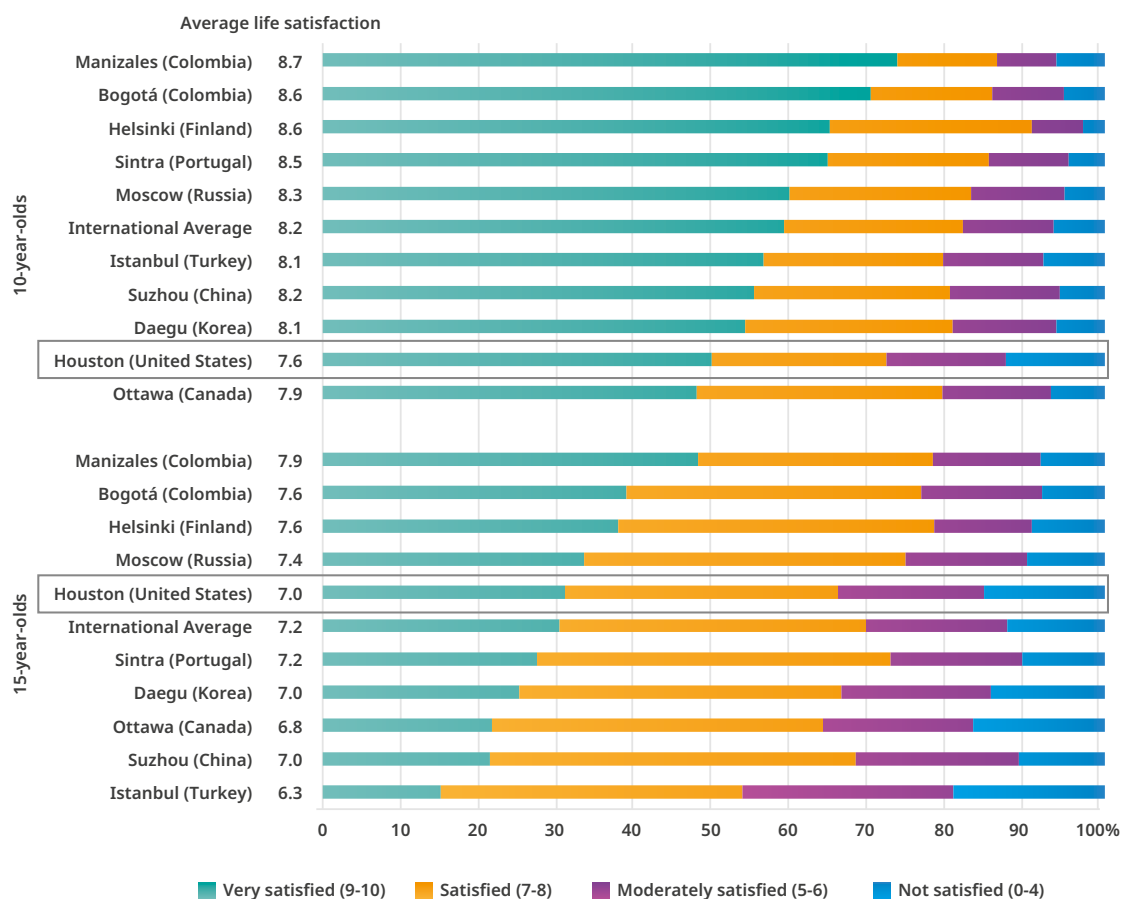
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The figure reports standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured, non-significant 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 across all cities. Life satisfaction and current psychological well-being dip as students get older while test anxiety increases from childhood to adolescence. Figure 15 shows, for example, that the share of students who reported being very satisfied with their life in Houston (United States) goes from nearly 50% among 10-year-olds down to slightly more than 30% among 15-year-olds. This pattern is generally more pronounced among girls than boys, as consistently observed across cities.

Figure 15. 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 in their city. This goes down to 37% for 15-year-old students. A similar pattern is observed for Houston (United States), with 47% of 10-year-olds and 40% of 15-year-olds reporting that they expected to work in one of the 10 most popular occupations among their age cohort.¹⁰ In addition, the relation between students' social and emotional skills, and students' expectations to work in a given occupational sector 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.

¹⁰ For 10-year-olds in Houston, the ten most frequently reported occupations are: medical doctors, athletes and sports players; teaching professionals; veterinarians; police officers; engineering professionals (excluding electrotechnology); lawyers; specialist medical practitioners; creative and performing artists (not elsewhere classified); and musicians, singers and composers. For 15-year-olds in Houston, the ten most frequently reported occupations are: specialist medical practitioners; medical doctors; nursing professionals; engineering professionals (excluding electrotechnology); lawyers; athletes and sports players; veterinarians; mechanical engineers; welders and flamecutters; and building architects.

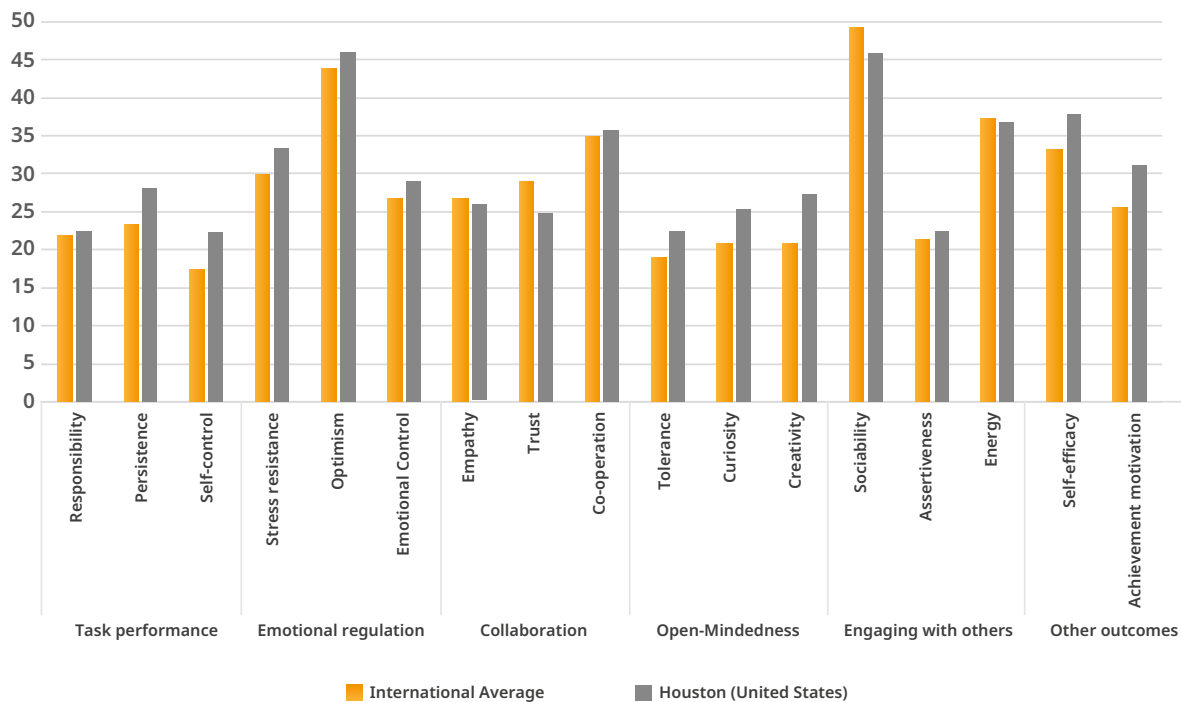
... And students' social and emotional skills can be influenced by the school environment

The malleability of social and emotional skills enables them to be modified and hopefully improved. 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^[30]; Park et al., 2008^[31]; Sklad et al., 2012^[32]; Smithers et al., 2018^[33]). A meta-analysis by Durlak et al. (2011^[30]) 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^[33]) 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^[34]; Srivastava et al., 2003^[35]). 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^[36]).

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 Houston (United States) and for all other participating cities. Fitting in at school is most strongly related to greater optimism, co-operation and sociability (Figure 16). 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 in other research studies (Allen et al., 2018^[37]; Crouch, Keys and McMahon, 2014^[38]; Dotterer, McHale and Crouter, 2007^[39]; Ma, 2003^[40]; OECD, 2017^[41]; Shochet, Smyth and Homel, 2007^[42]). However, it is also possible that higher levels of certain social and emotional skills are conducive of better relationships with teachers and a stronger sense of school belonging among students.

Figure 16. Relations between students' sense of school belonging and social and emotional skills

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



Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in the international average. The standard deviation of the score distribution of each skill was set to 100 for the combined dataset with equally weighted city data. Control variables include gender, socio-economic status and immigration background.

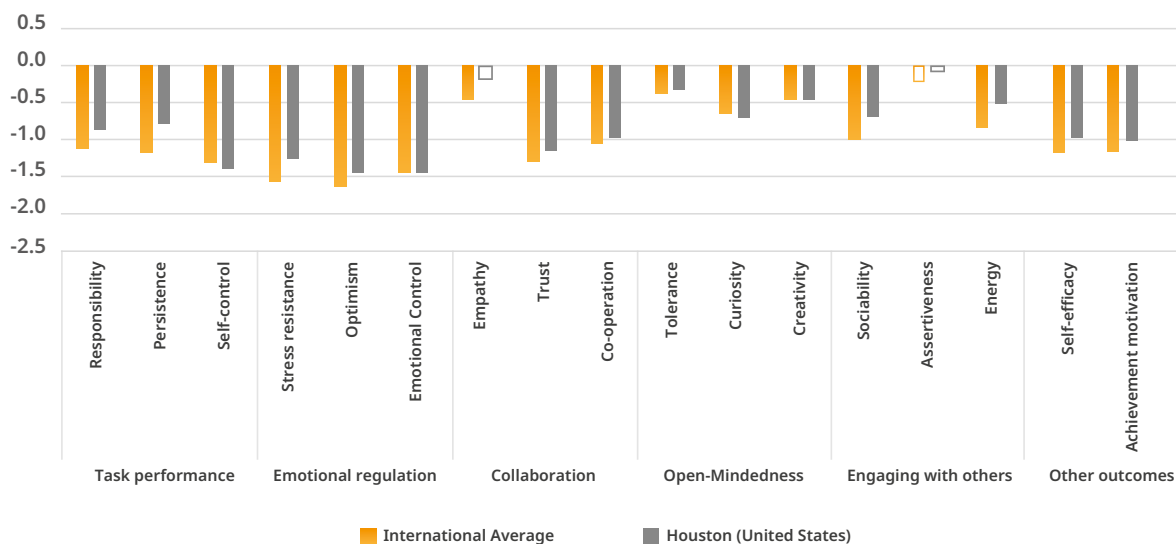
Source: Adapted from OECD (2021), *Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/92a11084-en>, Table A5.16.

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^[43]). This violent 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^[44]). A Korean study established that being bullied in middle school causes symptoms of psychopathologic behaviours to resurface later (Kim, Leventhal and Koh, 2006^[45]). Yet, research suggests that a supportive and caring school environment is linked to less bullying and students' willingness to seek help (Låftman, Östberg and Modin, 2017^[46]; Ma, 2002^[47]; Olweus, 2012^[48]). In schools where students perceive greater fairness, feel they fit in at school, work in a more disciplined, structured and cooperative environment, and have understanding teachers, students are less likely to engage in risky and violent behaviour (Gottfredson et al., 2005^[49]; Kuperminc, Leadbeater and Blatt, 2001^[50]).

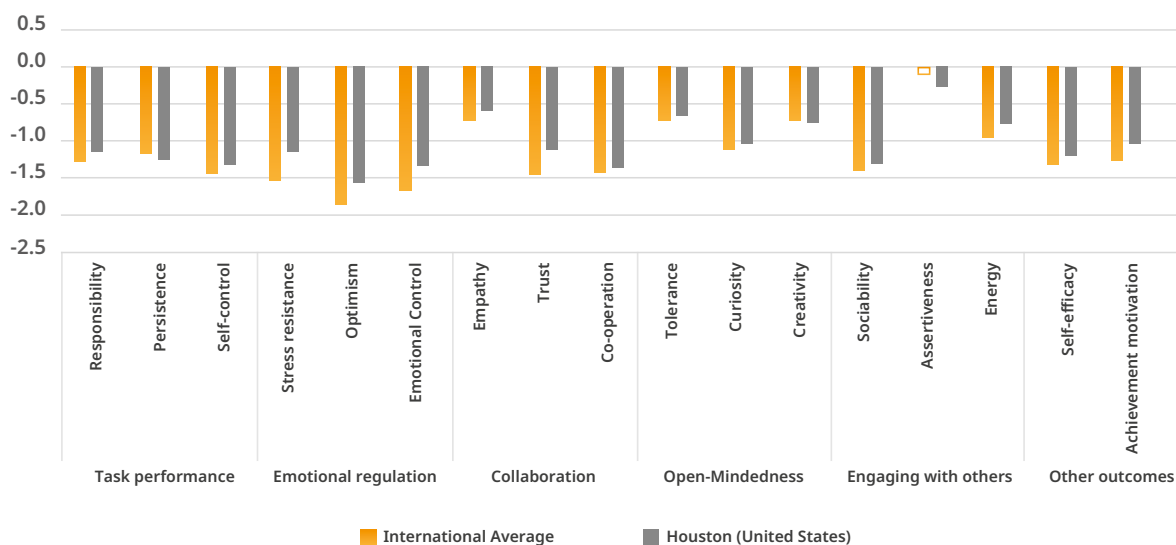
SSES data show that students' exposure to bullying is negatively related to almost all social and emotional skills. In Houston (United States), as well as on average across participating cities, 10-year-old and 15-year-old students' exposure to bullying is most strongly related to lower skills in the domains of emotional regulation. Students who reported greater exposure to bullying tend to report lower levels of optimism, emotional control, stress resistance, self-control, and trust in other people (Figure 17). These findings are particularly worrying as 33% of 10-year-old students and 15% of 15-year-old students in Houston reported having experienced bullying at least a few times a month in the 12 months prior to the 2019 survey. More specifically, 20% of 10-year-old students and 12% of 15-year-old students had been made fun of at least a few times a month. This extends to worse forms of bullying such as being threatened, hit or pushed, which occur approximately for 15% of 10-year-olds and 7% of 15-year-olds.

Figure 17. 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

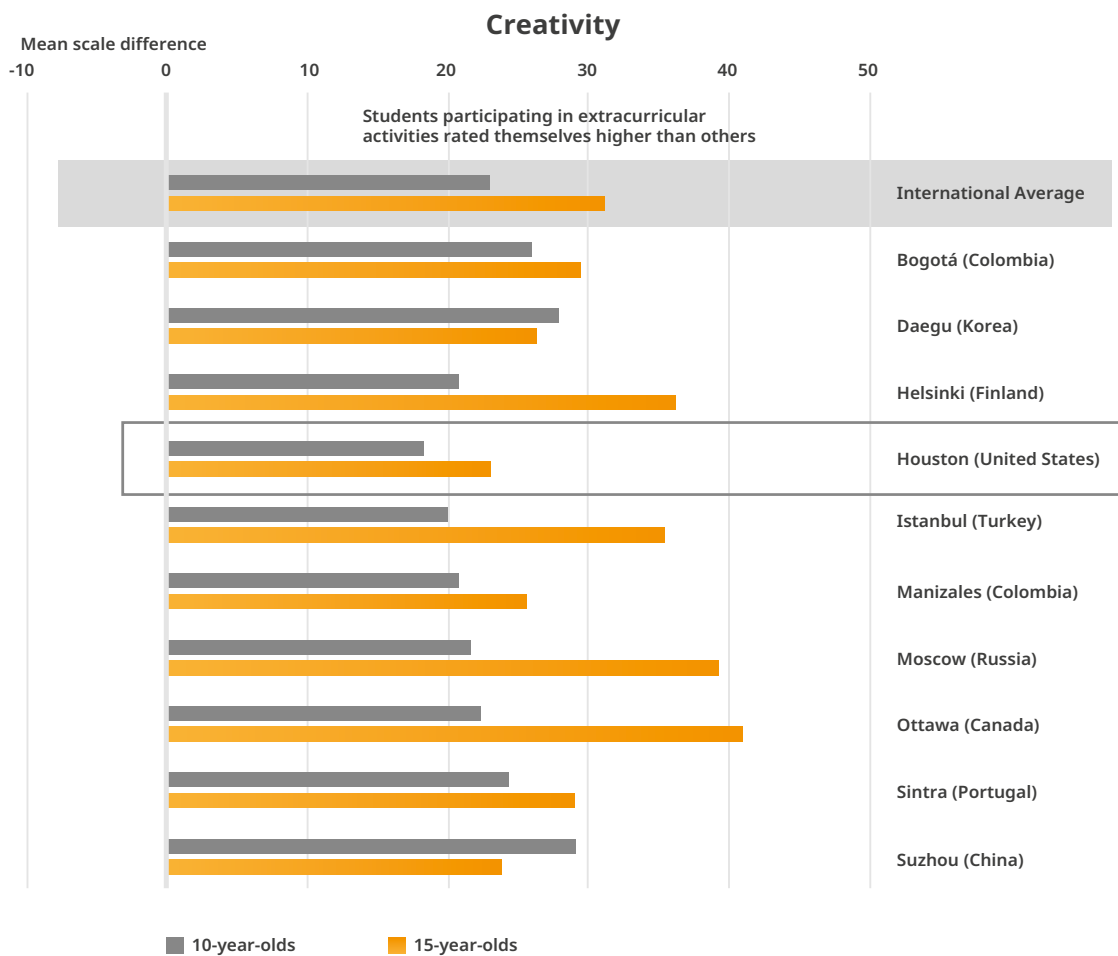


Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in the international average. Control variables include gender, socio-economic status and immigration background. Significant differences are coloured, non-significant differences are outlined.
Source: 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 for the holistic development of their students is in organising extracurricular activities. Extracurricular activities 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^[51]).

SSES data show that, in Houston (United States) as well as in almost all participating cities, students who participate in after-school art activities (e.g. band, drama, art) reported higher levels of creativity, particularly among 15-year-olds (Figure 18). 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 slightly less pronounced in Houston compared to other cities. In Houston, 62% of 10-year-old students participate in art activities outside of school (e.g. playing a musical instrument, dancing, drawing, etc.) – a share that drops down to 44% 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 18. 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.

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