Survey on Social and Emotional Skills (SSES): Daegu (Korea)

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 (Kankaraš and Suarez-Alvarez, 2019[1])

HIGHLIGHTS FOR DAEGU (KOREA)
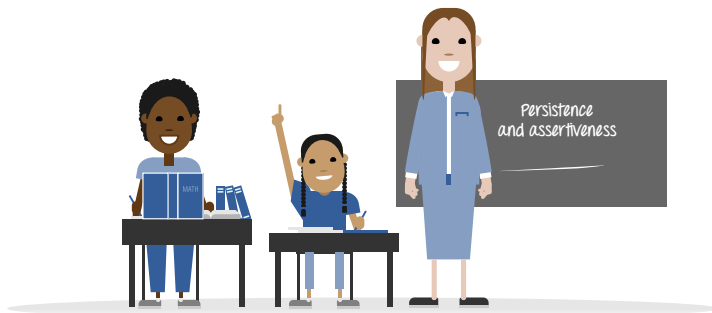
In Daegu, persistence and assertiveness are the social and emotional skills most strongly related to students' school performance. Curiosity is also related to school performance, but to a lesser extent than in other participating cities.

Students who participate in after-school art activities report higher levels of creativity than those who do not, but the difference is not as strong in Daegu compared to other cities.
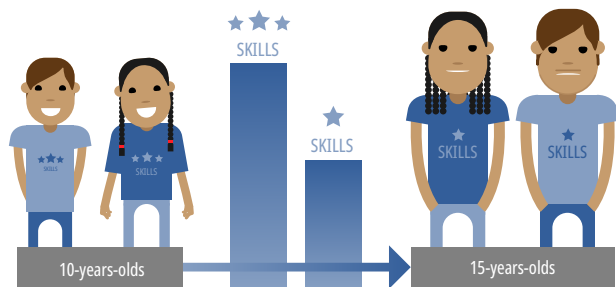

15-year-olds exhibit lower social and emotional skills than 10-year-olds in Daegu and on average across participating cities. The drop is more substantial in levels of stress resistance and emotional control between these ages in Daegu than in most of the other participating cities.


Unlike other participating cities, gender differences in Daegu are only observed in favour of 15-year-old boys — 15-year-old girls did not report significantly higher levels on any social and emotional skills assessed. 15-year-old boys exhibit higher skills than girls in the domains of emotional regulation (stress resistance, optimism and emotional control) and engaging with others (sociability and energy).

83%

70%

15-year-olds   25-34-year-olds
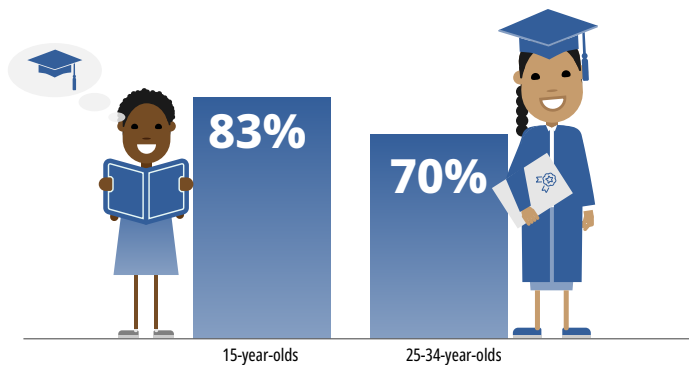
83% of 15-year-olds in Daegu reported that they expected to go on and complete a tertiary degree, higher than the current share of 25-34-year-olds who are tertiary-educated in Korea (70%).

In Daegu and in all participating cities, students tend to have higher educational expectations when they report higher levels of curiosity.

25%

19%

10-year-olds   15-year-olds
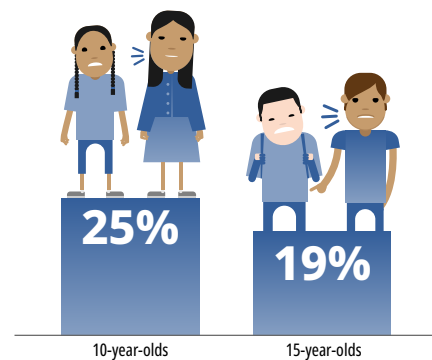
In Daegu, 25% of 10-year-olds and 19% of 15-year-olds experienced bullying at least a few times a month or more. Students' exposure to bullying is negatively related to almost all social and emotional skills.

On average across participating cities, socio-economically advantaged students exhibit higher levels on every social and emotional skill measured by SSES. In Daegu, these socio-economic differences tend to be bigger among 15-year-olds than on average across participating cities and even more so among 10-year-olds.

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 Daegu (Korea)

Daegu (Korea) is one of 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 Daegu). Daegu is situated in South Korea's North Gyeongsang province. With a population of 2.4 million people, Daegu is one of the most populated cities participating in SSES after Istanbul (Turkey), Moscow (the Russian Federation), and Suzhou (China). Education is one of Korea's key areas of investment. An estimated 4.7% of the gross domestic product (GDP) was spent on education (from primary to tertiary) compared to 4.5% on average in the OECD (OECD, 2020[4]).

A wealth of data has been accumulated on the knowledge and cognitive skills that Korean 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 Programme for the International Assessment of Adult Competencies (PIAAC). PISA consistently shows that 15-year-old students in Korea have greater cognitive skills than the OECD average in reading, mathematics and science. PIAAC results show that Korea ranks alongside top countries in adults' literacy and numeracy skills (OECD, 2019[2]; OECD, 2013[3]).

Past OECD surveys also provide key information on equity in education in Korea in a cross-country comparative fashion. In Korea, 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 the gap between scores is similar to the OECD average. However, girls and boys perform similarly in mathematics, unlike other countries in the OECD where boys outperform girls. In Korea, a much larger share of 25- to 34-year-olds (70%) are tertiary-educated than the OECD average (45%) (OECD, 2020[4]).

Box 1. Key information about Daegu (Korea)

City: Daegu
Location: Province of North Gyeongsang in South Korea
Population (2020): 2 446 144 inhabitants
Average age (2020): 42
Average unemployment level among adults aged 15 or older (2020): 4%

Source: Information provided by the city of Daegu (Korea).

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 Korea as well as in the city of Daegu. While students in Korea possess strong cognitive competencies, as evidenced by their exemplary performance in recent PISA cycles, there has been a relatively weaker focus on students' social and emotional skills, and, concomitantly, increased cases of bullying and depression. To address this, there has been a recent movement in Korea to incorporate social and emotional learning in its schools and classrooms. This is evident from the introduction of unique teaching practices such as Creative Experiential Learning, described in Box 2.

Social and emotional learning in Korea

At the national level, the government of Korea has developed a holistic student profile, "An Educated Person", taking inspiration from the Korean concept of "Hongik Ingan", or the drive to broadly benefit humanity. The profile aims to guide every citizen to lead a life worthy of human dignity, contribute to the development of a democratic state and support the realisation of an ideal of shared human prosperity by ensuring the cultivation of character and the development of the abilities for independent life and necessary qualities as a democratic citizen under the humanitarian ideal. Based on the ideal and aims of education, the vision of an educated person in this curriculum is specified as follows: 1) a self-directed person who builds a self-identity and explores a career and life on the basis of holistic growth; 2) a creative person who discovers something novel by means of diverse ideas and challenges based

upon basic abilities; 3) a cultivated person who appreciates and promotes the culture of humankind on the basis of cultural literacy and understanding of diverse values; and 4) a person who lives in harmony with others, fulfilling the ethics of caring and sharing as a democratic citizen with a sense of community and connection to the world.

In order to facilitate the social and emotional development of students in adherence to the student profile, the government of Korea, in 2015, introduced the Character Education Promotion Act (Act No. 17472), a national policy aimed to encourage students to adopt social and emotional skills such as honesty, responsibility, respect, consideration and co-operation. These social and emotional skills are associated with other work-oriented skills that are useful in students' daily lives such as self-management, knowledgeable information processing, creative thinking, aesthetic sensibility and communication in their daily lives. State and local authorities are responsible for formulating and promoting long-term policies to realise the objectives of this Act, focusing on the character development of students and establishing healthy community environments.

Policies to tackle bullying and school-based violence in Korean schools

In addition to national level policies that establish a broad definition of social and emotional skills, schools in Korea have a specific focus on guidelines to reduce bullying and school violence. Daegu has incorporated the Act on Prevention of and Countermeasures for School Violence (Act No. 17668) in its schools. It aims to educate students on how to contribute towards a positive school environment through reduced violence and spread awareness about the importance of physical and mental health, and well-being. The Act requires schools to conduct at least one session every semester that educates students on the social and emotional skills necessary to reduce school violence and bullying. This Act aims to enhance skills such as co-operation, emotional control, empathy, self-control, self-efficacy and sociability.

To further promote non-violence, the Aulim Program, established in 2012, requires all primary and secondary schools to incorporate educational content that promotes non-violence among students. Schools incorporate such ideas within academic subjects such as social sciences, Korean studies and morality. Target skills of this programme include co-operation, emotional control, empathy, self-control, self-efficacy and sociability.

Policies to integrate social and emotional learning in early childhood education

The government of Korea is also committed to integrating social and emotional learning into early childhood education in private and public schools. In 1965, the national government introduced the Law for Elementary and Secondary Education Early Childhood Education Promotion Act, which aims to develop holistic students by focussing on their physical, linguistic, cognitive and emotional development. This is achieved by facilitating a play-based, integrated curriculum from an early stage that encompasses health, social interaction, expression, language and inquiry (OECD, 2004[6]).

In order to offer coverage to children from socio-economically weaker backgrounds, the national government introduced the Child Care Act in 2004. It targets young children whose parents are unemployed or ill with the overall aim of promoting family welfare and supporting children's general social and emotional development in the context of poverty and low levels of economic resources. Children and parents can avail of health, nutrition and safety services on demand in addition to adequate educational support through kindergarten and childcare services. Through these services, the national government aims to foster children's physical, emotional and social competencies and provide disadvantaged students with a fair opportunity for growth (OECD, 2004[6]).

Box 2. Creative Experiential Learning in Korean schools

In 2009, schools in Korea introduced Creative Experiential Learning (CEL) in their curriculum, which comprises extra-curricular activities aimed at developing well-rounded individuals. Students are actively involved in the process of choosing their area of interest and thinking of innovative activities related to the area. This enables students to develop their creative thinking skills as they are encouraged to make autonomous decisions on how they will learn various topics. These include, but are not limited to, multiculturalism, career development, environment and sustainability, human rights, democratic citizenship and financial education. A hands-on approach is employed wherein students are encouraged to learn by doing, thereby enhancing social and emotional skills such as creativity, self-regulation and tolerance while developing a sense of community.
There are four essential components of CEL education in Korean schools:

- Self-regulated activities through which students learn to work independently and react proactively in a changing environment

- Club activities through which students pursue their hobbies while developing social and emotional skills such as creativity and co-operation with other teammates

- Volunteering activities, which teach students to contribute to causes that are important to their community, such as conserving the environment

- Career exploration activities, which help students explore their self-identity, design and prepare for their future careers, and explore various sources of information for career guidance

Source: Source: Kim, H. and J. Eom (2017), *Advancing 21st Century Competencies in South Korea*, https://asiasociety.org/files/21st-century-competencies-south-korea.pdf (accessed on 24 August 2021).

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

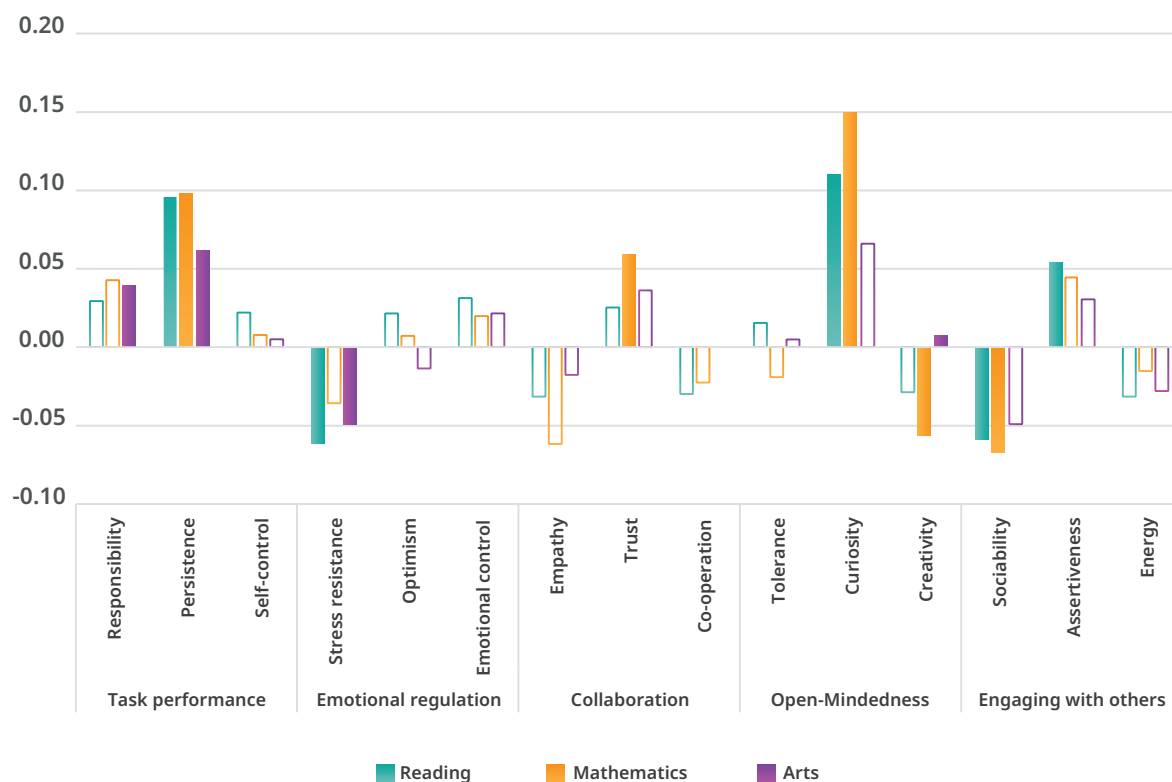## Social and emotional skills matter for academic success

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.

In all participating cities but Ottawa (Canada), SSES collected information on students' school 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, 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 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. 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)
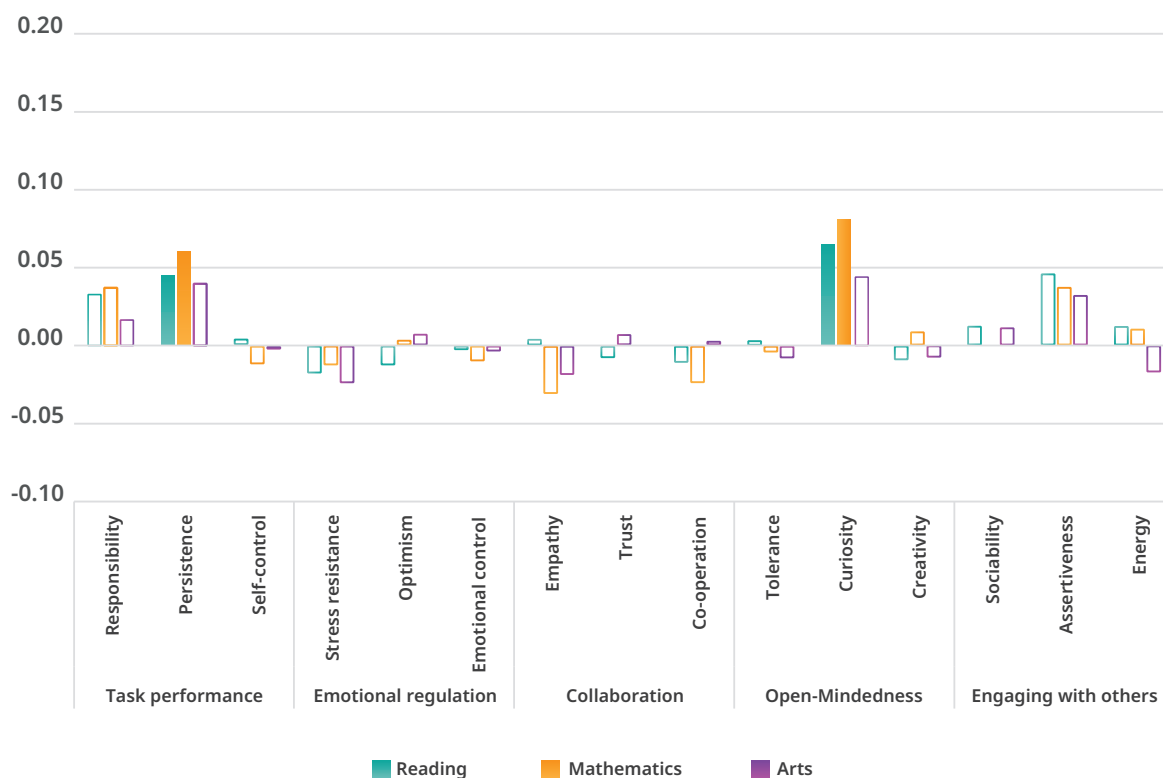

Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The regressions are city-specific and control for gender, socio-economic status, and scores in the cognitive ability test, with the exception of Houston (United States), where 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. 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 students' grades in all three subjects for the city of Daegu (Korea). Being persistent, assertive and optimistic are the social and emotional skills positively related to school grades for 15-year-olds in the three subjects that are part of SSES analysis; reading, mathematics and arts. Students who are intellectually curious also reported higher school grades in all three subjects in most cities but only in mathematics and reading in Daegu. 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. Students who reported being more optimistic are those who have a positive outlook towards challenges and believe that they can overcome them. This appears conducive to higher school performance.

Figure 4. Skills most strongly associated with students' performance in Daegu (Korea)

Coefficients of (standardised) grades in reading, mathematics and the arts on (standardised) scores on social and emotional skills scales (international average)
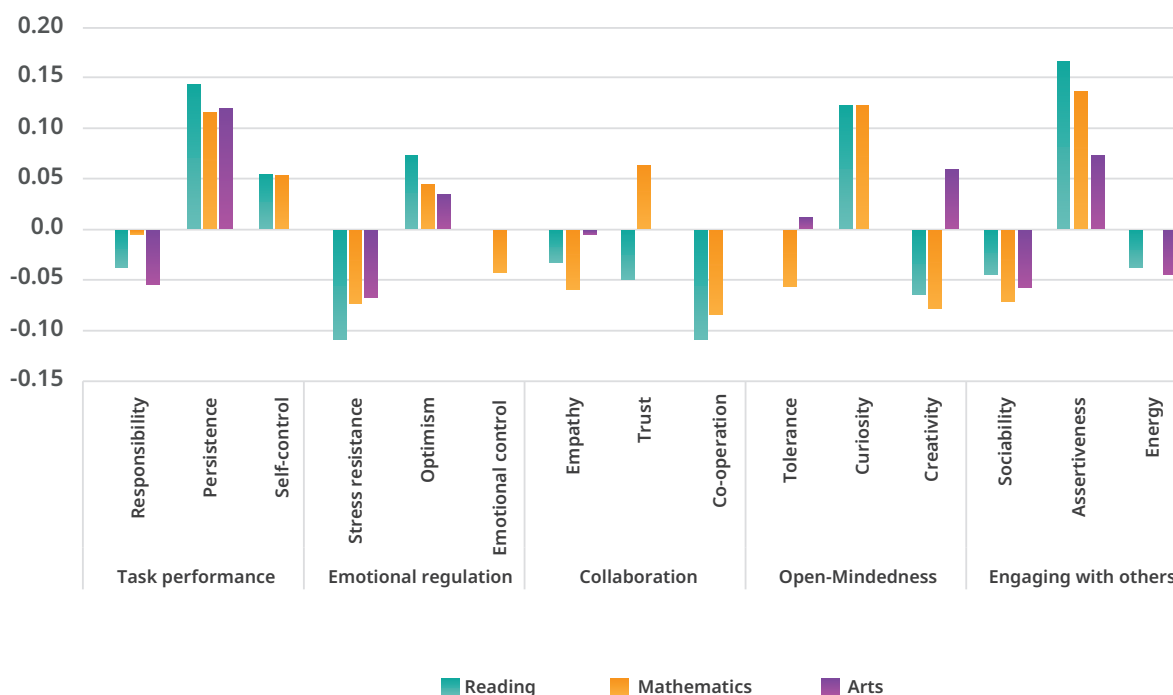
Note: Coefficients from regressions of 15-year-olds' (standardised) grades in reading, mathematics and the arts on (standardised) scores on social and emotional skills scales. Each regression controls for gender, socio-economic status, and scores in the cognitive ability test. Only significant and lasso-selected 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. 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]).
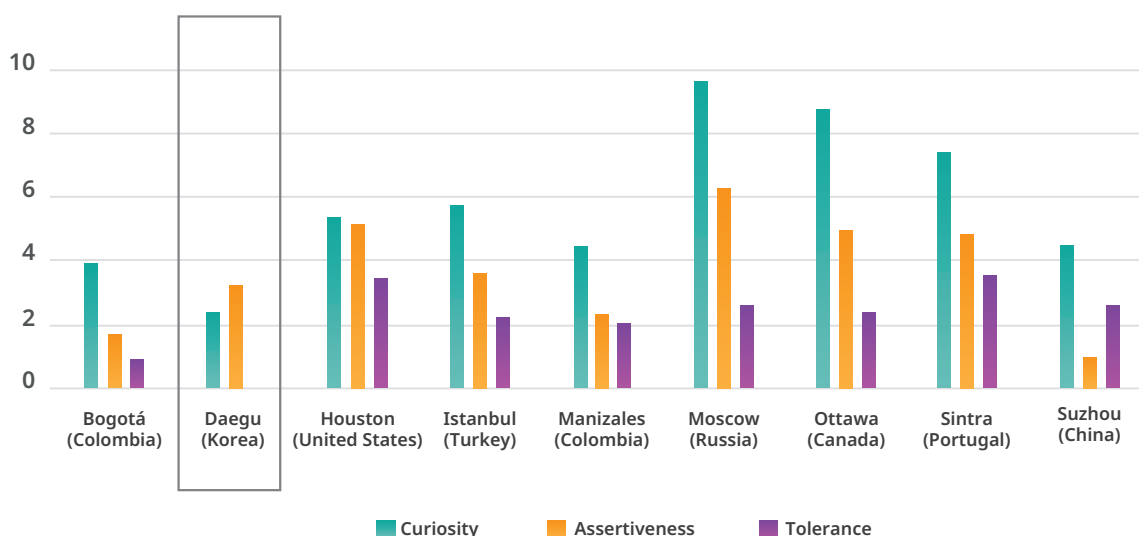
In Daegu (Korea), 83% of 15-year-olds reported that they expect to go on and complete a tertiary degree – one of the highest proportions observed across the participating cities, slightly below that of Suzhou (China) at 91%, and Bogotá and Manizales (Colombia) at 88%. This share is not only higher in comparison to that of other cities participating in SSES but it is also larger than the estimated current share of tertiary-educated individuals in Korea as a whole (70%) (OECD, 2020[4]). This suggests that 15-year-old students in Daegu are ambitious but also realistic. It is important to ensure that students have opportunities to meet their educational expectations or accompany them to review their study plans if higher completion rates in tertiary education are not sustainable.

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. In particular, in Daegu (Korea) and in all participating cities, highly intellectually curious students tend to have higher educational expectations. Higher levels of assertiveness are also associated with expectations of completing higher education in Daegu and on average across participating cities (Figure 5). Unlike other participating cities, in Daegu, students' level of tolerance is not significantly related to their expectations of completing tertiary education. At the same time, responsibility and stress resistance are negatively related to educational expectations in Daegu (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 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 5. 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
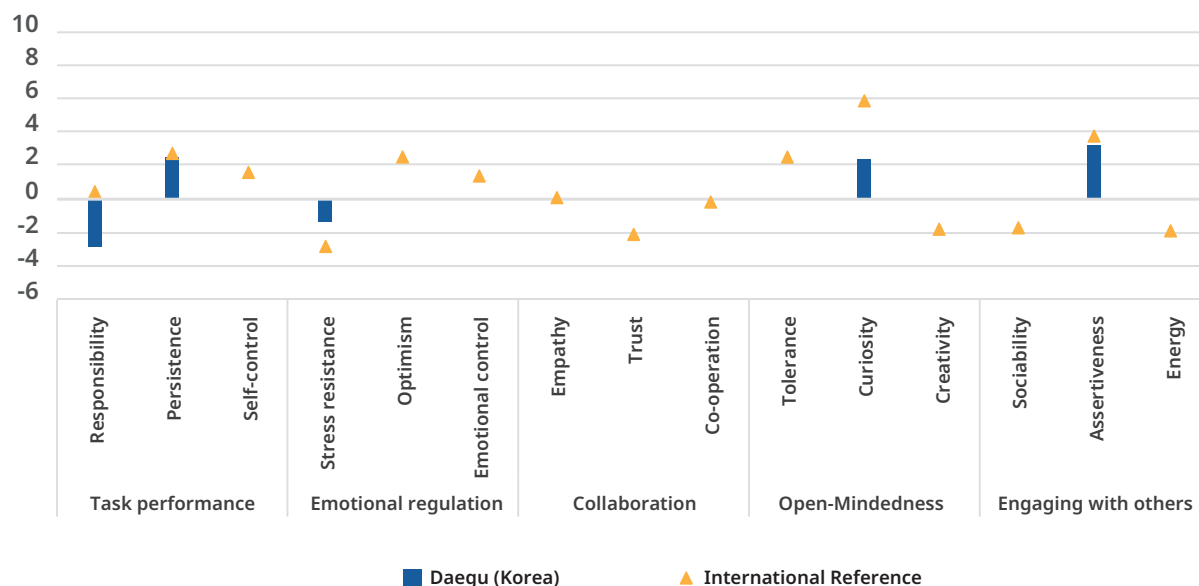

Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to complete a tertiary degree that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the combined 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 6. Skills most strongly associated with expectations of completing tertiary education in Daegu (Korea)

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. 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 Daegu (Korea), 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 7). In Daegu and nearly all other cities, these students also represent themselves as less creative than other students. More specific to Daegu is the fact that students aspiring to become health professionals reported higher levels of self-control, optimism and, to some extent, assertiveness. This combination of social and emotional skills is not surprising given that health occupations require curiosity for the sciences and a favourable outlook towards life to cater to patients' needs.

Figure 7. Skills most strongly associated with expectations of working as health professionals in Daegu (Korea)

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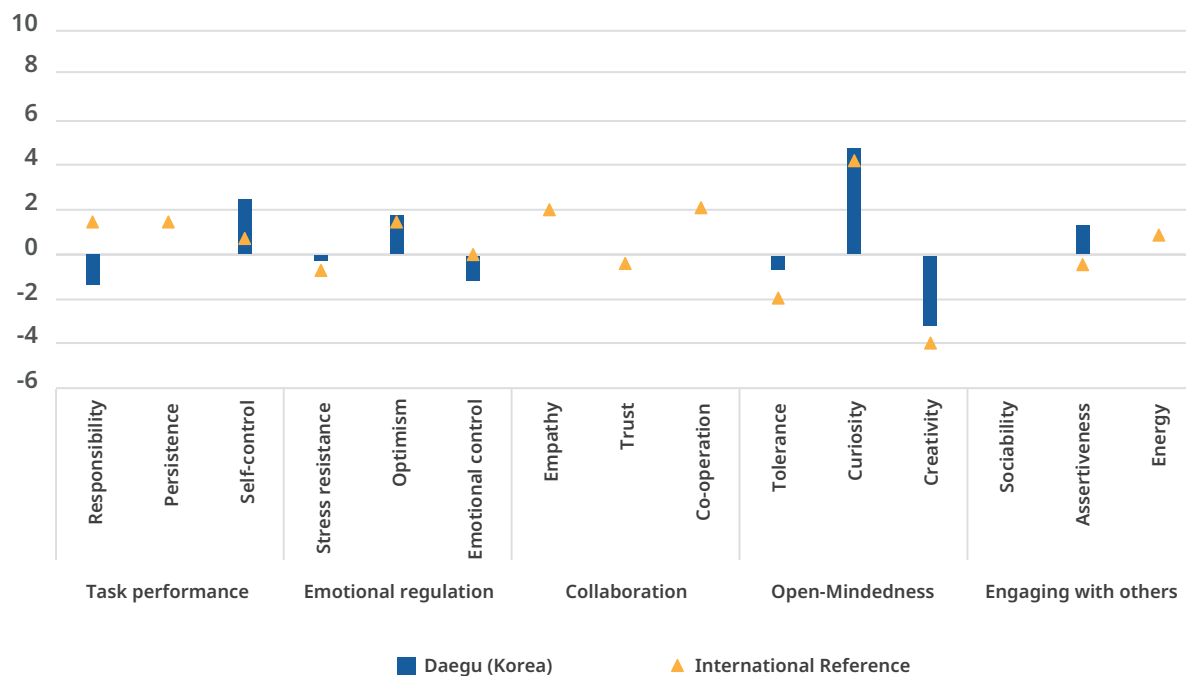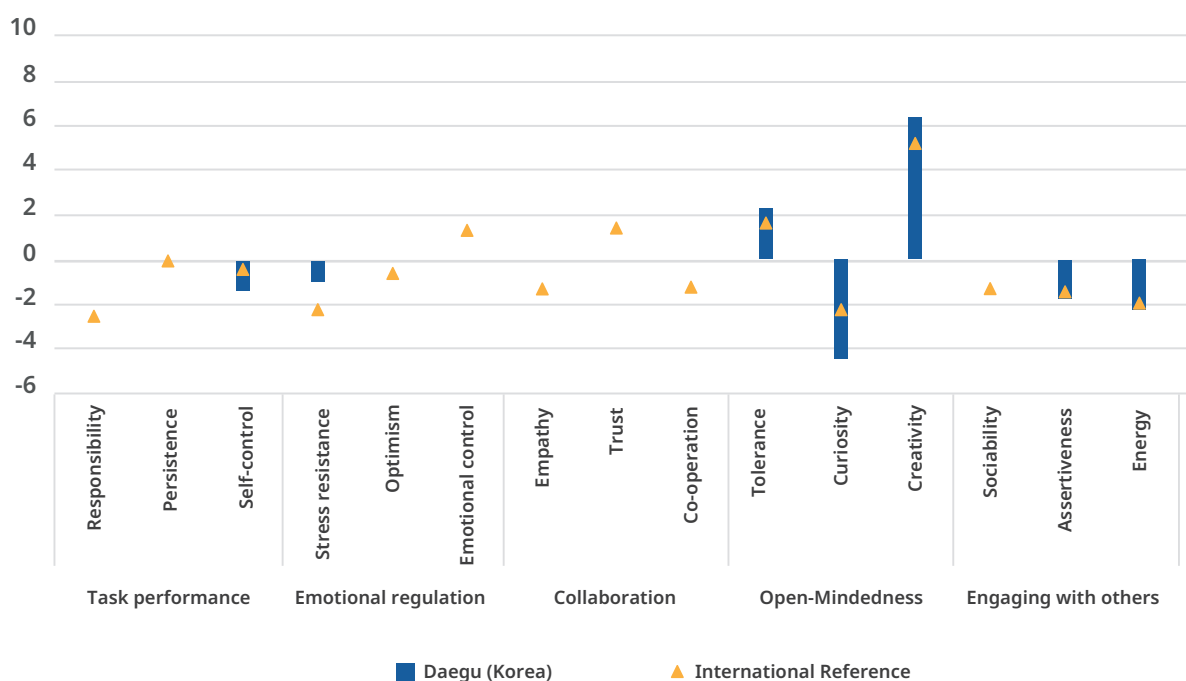

Note: The figure shows the percentage-point change in the likelihood that a 15-year-old student expects to become a health professional that is associated with a 100-point increase in the corresponding skill score (the standard deviation of the score distribution of each skill was set to 100 for the 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 Daegu (Korea), students expecting to work in a creative occupation also represent themselves as more creative (Figure 8). Creative occupations include, for example, artists, musicians, actors but also marketing directors, professionals and associate professionals, architects, journalists, public relations officers, and software professionals. In Daegu, students expecting to pursue a creative occupation tend to be more tolerant but also less curious, energetic and assertive.

Figure 8. Skills most strongly associated with expectations of working in a creative occupation in Daegu (Korea)

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.
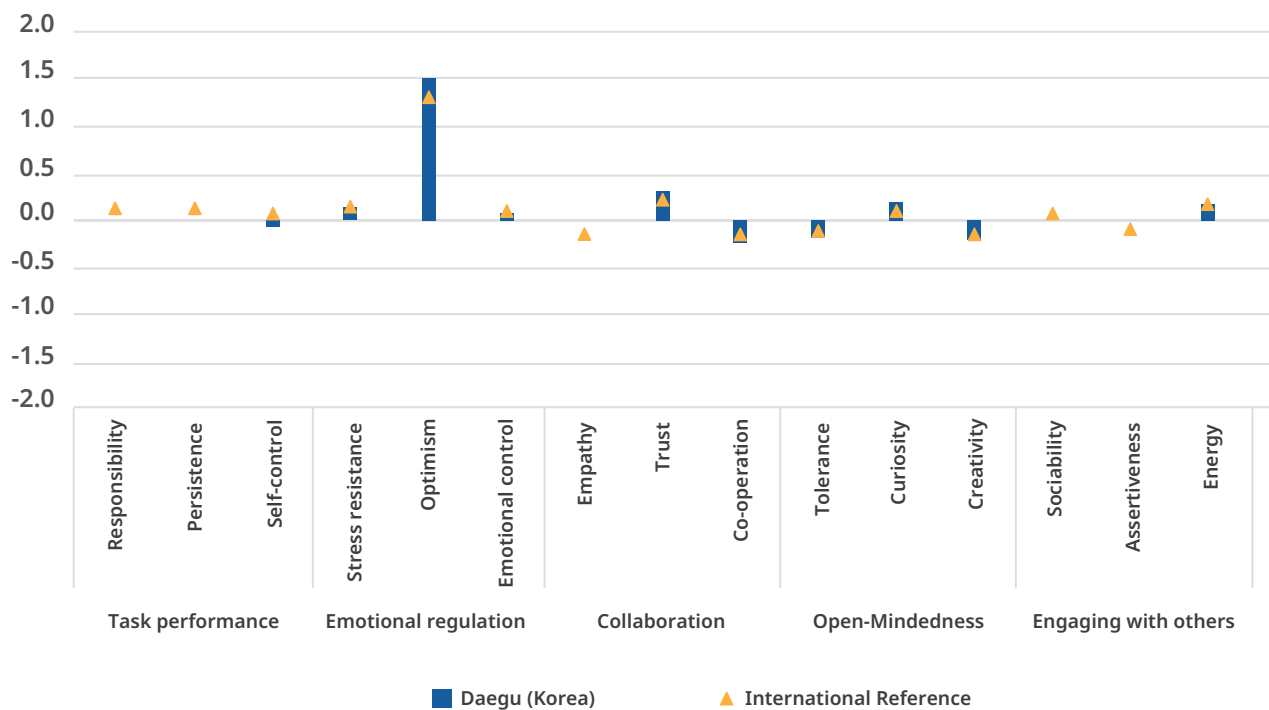
Life satisfaction

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 Daegu (Korea) and in all other participating cities, 15-year-old students who are more optimistic also reported higher levels of life satisfaction (Figure 9). 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]).

In Daegu (Korea), optimism is the sole social and emotional skill that is the most strongly related to 15-year-old students' life satisfaction. Another social and emotional skill that is moderately related to the life satisfaction of 15- but also 10-year-olds in Daegu is the level of trust they have in other people.

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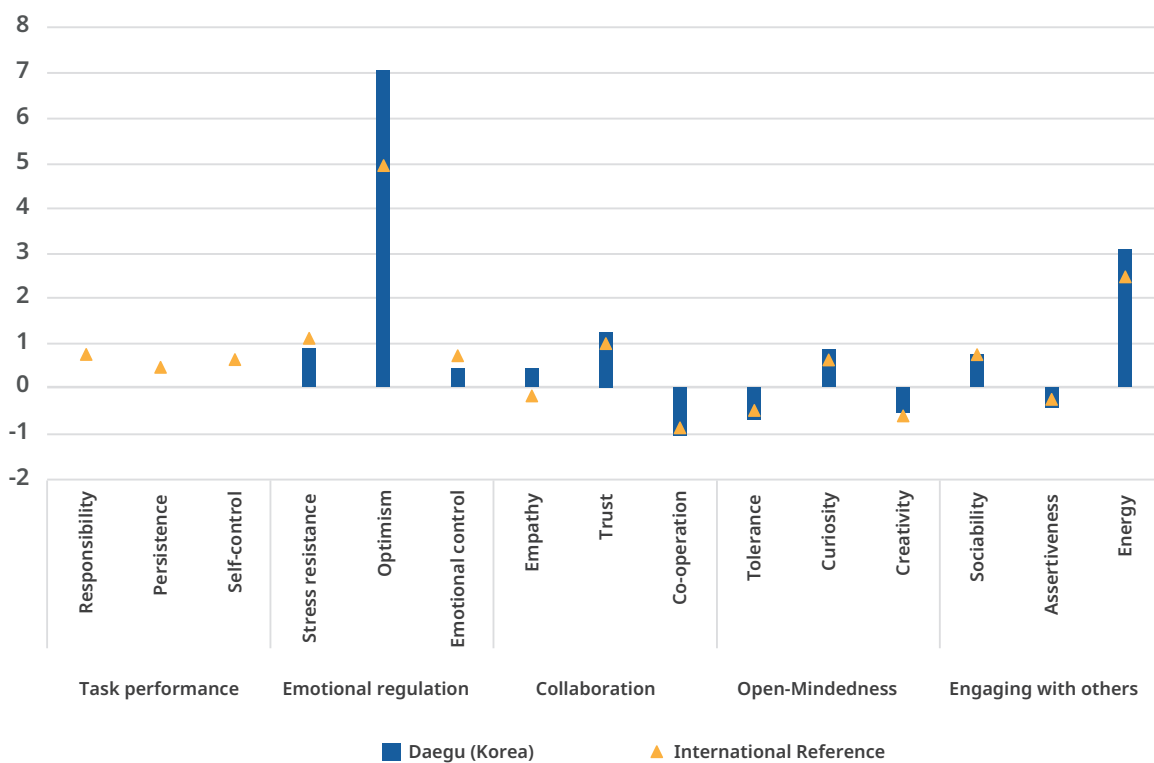*Source: Adapted from OECD (2021), Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills, OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Table A3.18.*

Current psychological well-being

Students' current psychological well-being is an evaluation of students' feelings and experiences during the two weeks prior to the survey. In Daegu (Korea) 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-old students' current psychological well-being in Daegu are students' level of energy, trust of others, stress resistance, sociability and curiosity. 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 10. Skills most strongly associated with students' current psychological well-being in Daegu (Korea)
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.*
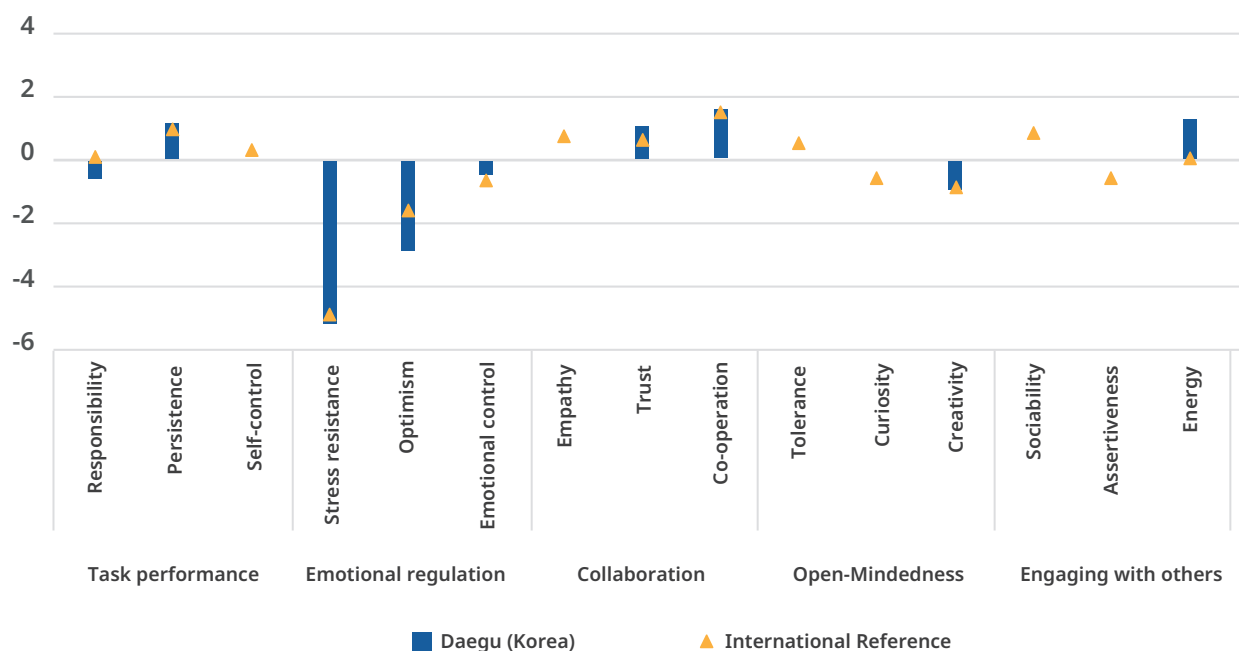
Test anxiety

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[15]). It typically arises in educational settings where students believe their abilities are stretched or exceeded by the demands of the test situation. In Daegu 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 correlated with a lower level of test anxiety (Figure 11). Among 10- and 15-year-olds, higher levels of optimism, creativity and emotional control are also related to lower levels of test anxiety in quite a few cities. In Daegu, students who are more co-operative, energetic, persistent and trusting reported higher levels of test anxiety.

Figure 11. Skills most strongly associated with test anxiety in Daegu (Korea)
Change in 15-year-olds' test anxiety associated with changes in social and emotional skills

Note: The figure shows coefficients from a regression of students' test anxiety 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 A3.20.

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 Daegu (Korea) as well as on average across 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 and energy). Other than that, Daegu presents quite a unique pattern with respect to gender differences in comparison to other participating cities. In most participating cities, 15-year-old girls exhibit higher levels of responsibility, empathy, co-operation, tolerance and achievement motivation. But this is not observed in Daegu where 15-year-old girls do not report significantly higher levels on any of the social and emotional skills assessed. However, at the age of 10, girls in Daegu reported higher levels on four social and emotional skills: responsibility, empathy, co-operation and assertiveness. In Daegu, gender differences seem to increase with age, in favour of boys (Figure 12).

Figure 12. Gender differences in social and emotional skills

Standardised gender differences in skill scores (15-year-old girls – 15-year-old boys)
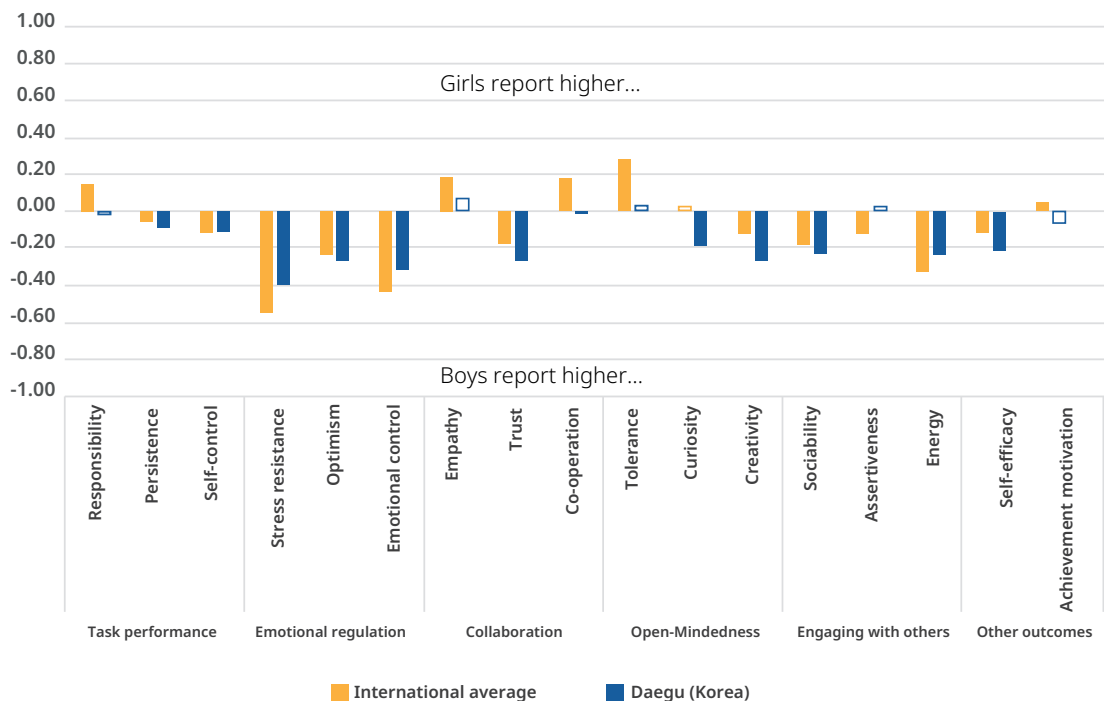
Standardised gender differences in skill scores (10-year-old girls – 10-year-old boys)
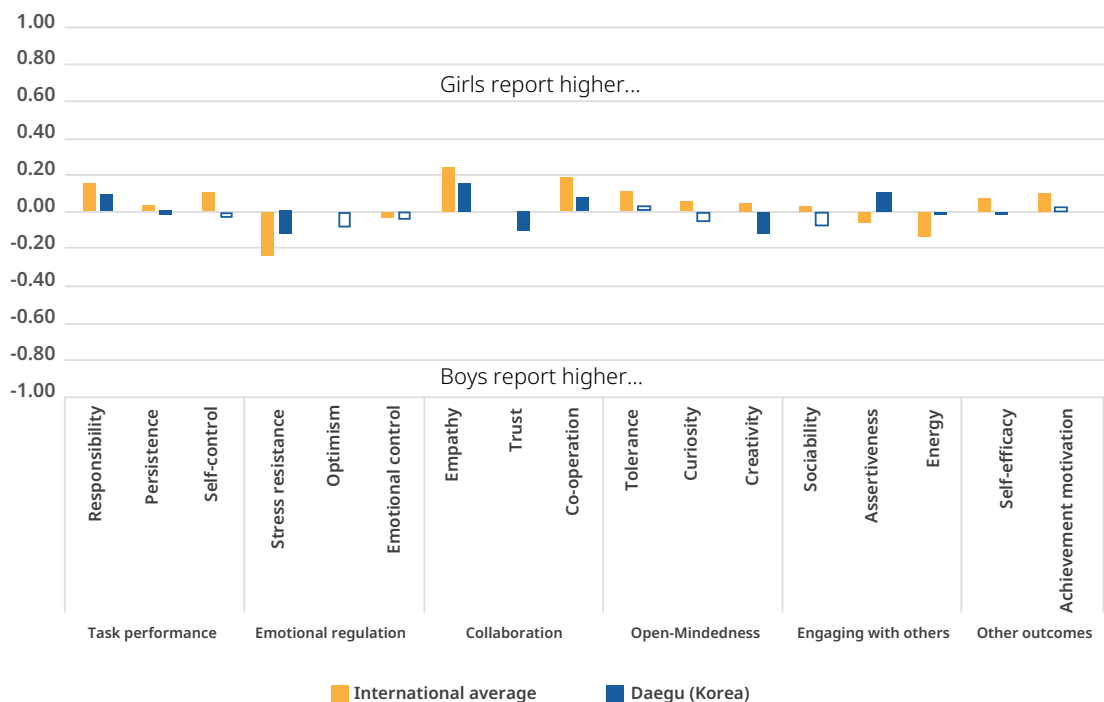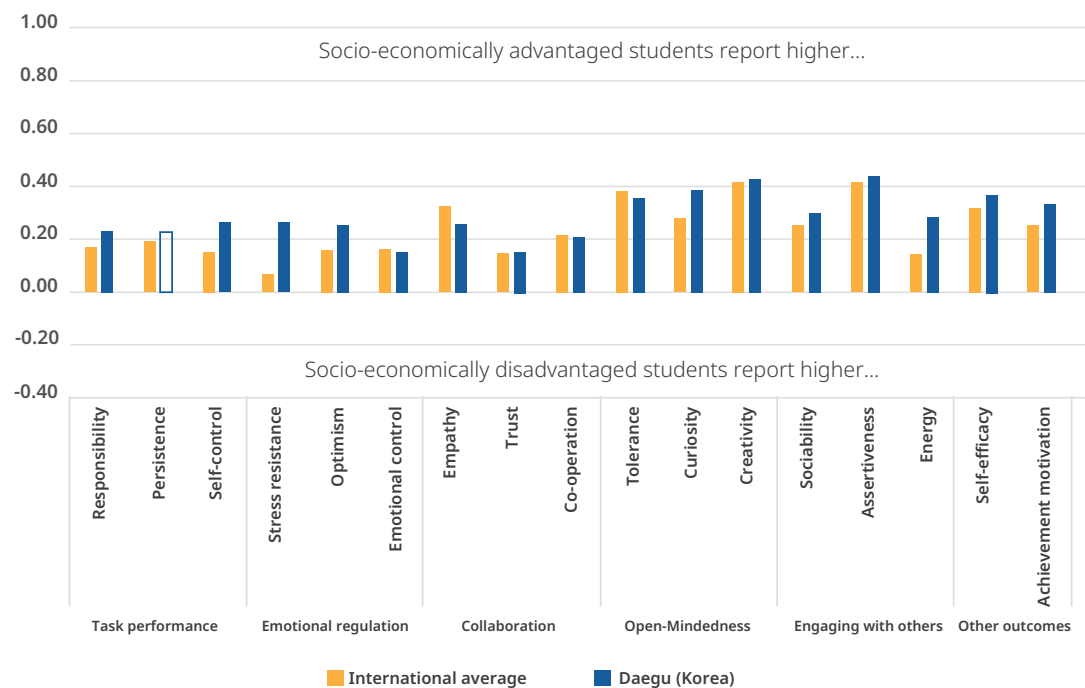

Note: *Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The figures report standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured,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

On average across participating cities, socio-economically advantaged students exhibit higher levels on every social and emotional skill measured by SSES. This is true for both 10-year-olds and 15-year-olds. More specific to Daegu is the fact that the differences in skills between students with low or high socio-economic status are especially pronounced among 10-year-olds. Among 10-year-olds, socio-economically advantaged students report much higher levels of self-control and stress resistance than their disadvantaged peers. Among 15-year-olds, socio-economic differences in Daegu are more similar in magnitude than in other participating cities, although still slightly higher (of note, there is no socio-economic gap in the skill of persistence in Daegu). In Daegu more than on average across cities, socio-economic differences in students' social and emotional skills seem to decrease between the ages of 10 and 15 (Figure 12).

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
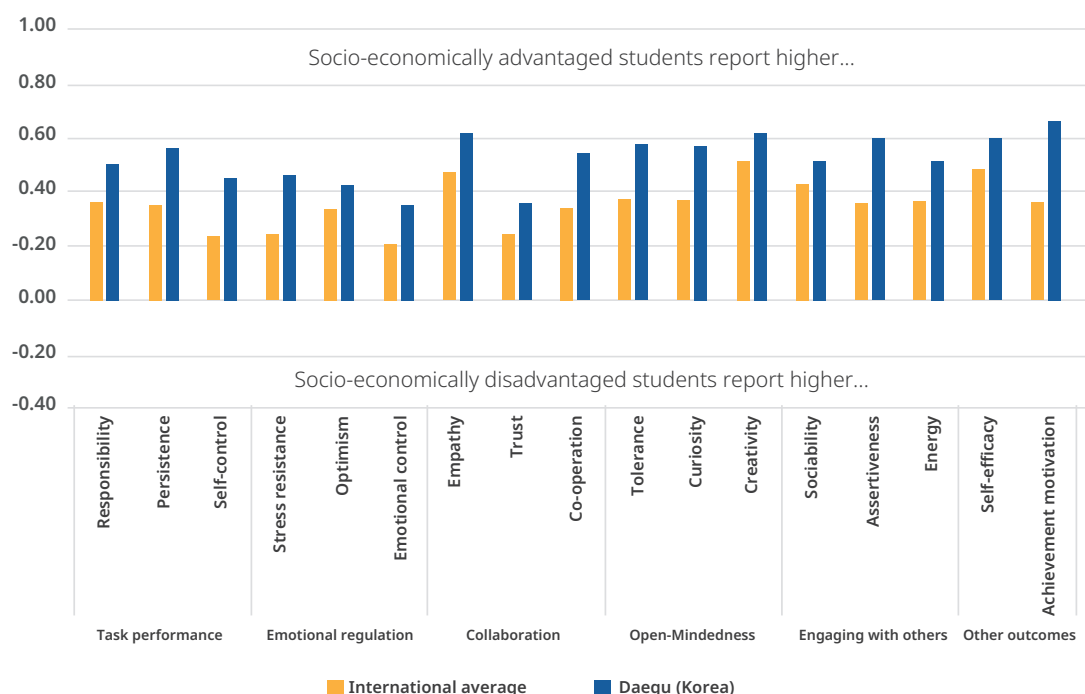
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. Socio-economically advantaged students are those in the top quarter of the city-specific distribution of the index of socio-economic status. Socio-economically disadvantaged 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.

... 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[16]; Kankaraš and Suarez-Alvarez, 2019[17]; OECD, 2015[18]; Roberts, Walton and Viechtbauer, 2006[19]).

In Daegu (Korea) and on average across participating cities, 15-year-olds exhibit lower levels than 10-year-olds for most social and emotional skills. In Daegu, in comparison to other participating cities, the differences are particularly pronounced when it comes to optimism and sociability but are smaller and even non-significant for stress resistance and energy. Important age differences in favour of the younger students exist in the skills of creativity and curiosity. This could be explained by the fact that 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.

Overall, age-related differences in students' social and emotional skills in Daegu (Korea) are of similar magnitude as on average across cities. Yet, in Daegu, between the ages of 10 and 15, the levels of optimism and sociability among students drop more substantially than in most of the other participating cities (Figure 14).

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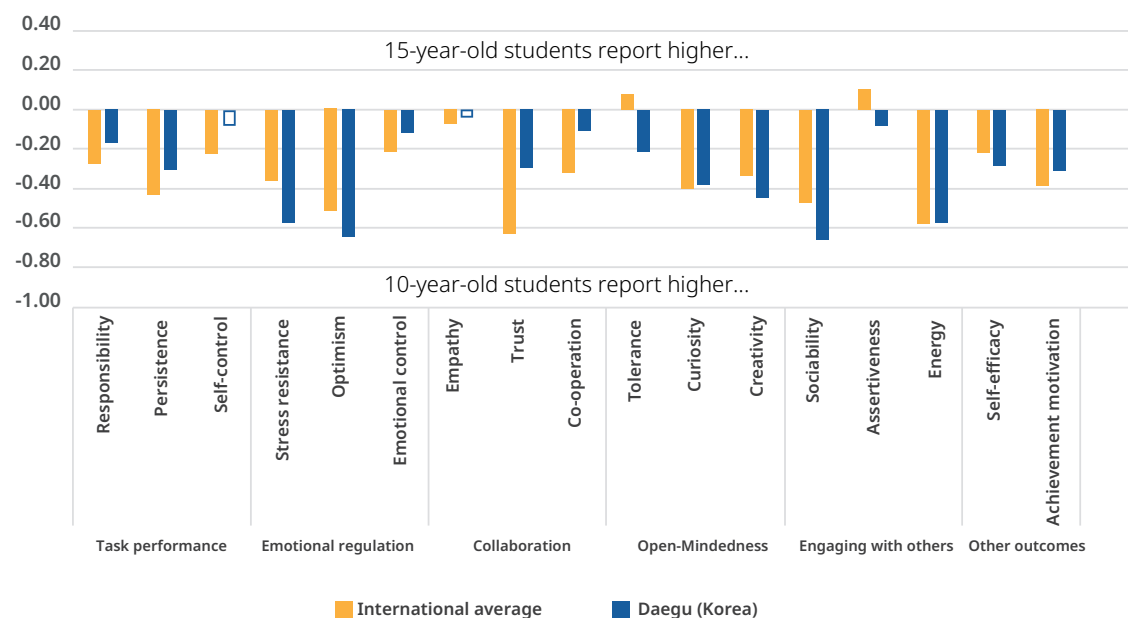
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages. The figure reports standardised differences, whereby the raw scale points have been divided by the (city-specific) standard deviation. Significant differences are coloured, non-significant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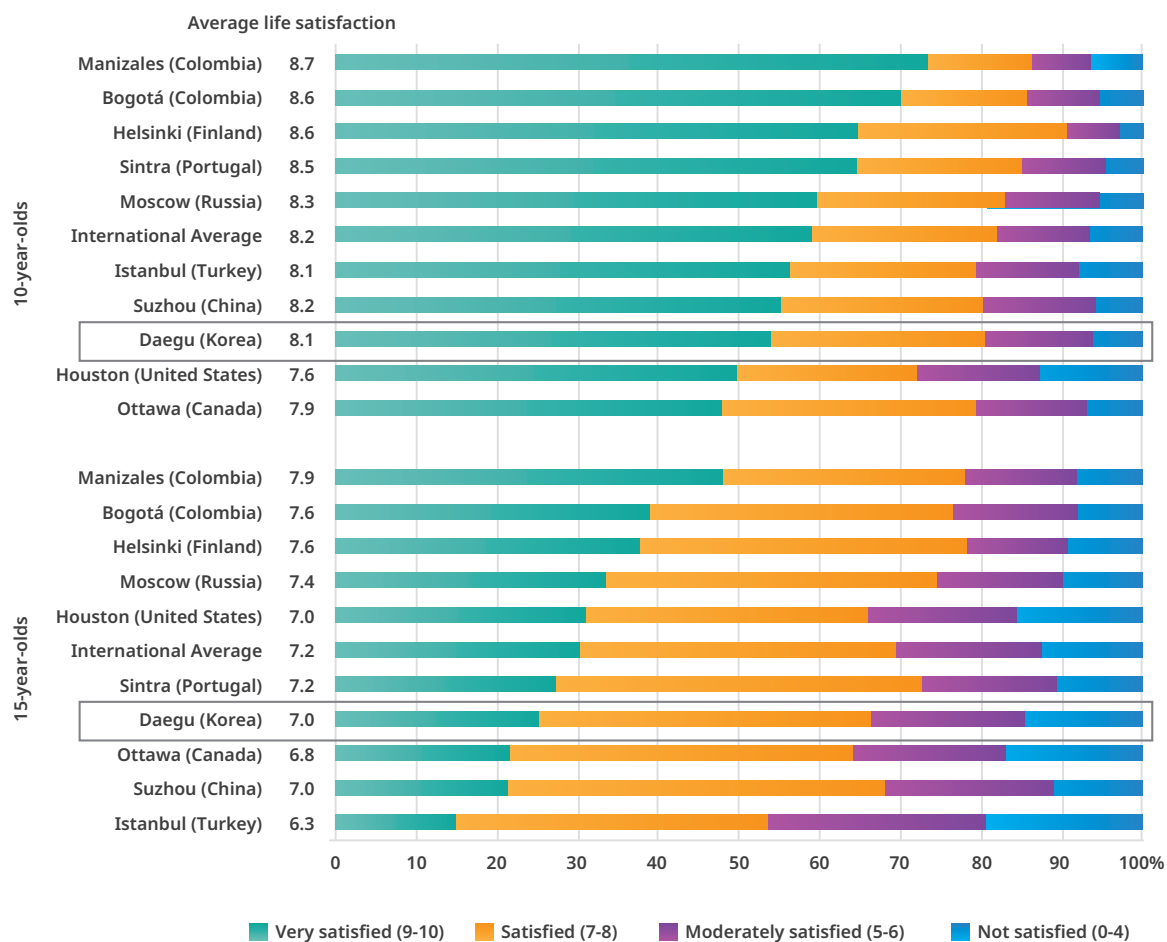*Source:* Adapted from OECD (2021), Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills, OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, Figure 1.3.

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. 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 Daegu (Korea) goes from more than 50% among 10-year-olds down to approximately 25% among 15-year-olds. This pattern is generally more pronounced among girls than boys.

Figure 15. Students' life satisfaction, by age cohort and city

Percentage of students, by level of life satisfaction

Average life satisfaction

10-year-olds	
Manizales (Colombia)	8.7
Bogotá (Colombia)	8.6
Helsinki (Finland)	8.6
Sintra (Portugal)	8.5
Moscow (Russia)	8.3
International Average	8.2
Istanbul (Turkey)	8.1
Suzhou (China)	8.2
Daegu (Korea)	8.1
Houston (United States)	7.6
Ottawa (Canada)	7.9

15-year-olds	
Manizales (Colombia)	7.9
Bogotá (Colombia)	7.6
Helsinki (Finland)	7.6
Moscow (Russia)	7.4
Houston (United States)	7.0
International Average	7.2
Sintra (Portugal)	7.2
Daegu (Korea)	7.0
Ottawa (Canada)	6.8
Suzhou (China)	7.0
Istanbul (Turkey)	6.3

Legend: Very satisfied (9-10) — Satisfied (7-8) — Moderately satisfied (5-6) — Not satisfied (0-4)

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. 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.

... 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[20]; Park et al., 2008[21]; Sklad et al., 2012[22]; Smithers et al., 2018[23]). A meta-analysis by Durlak et al. (2011[20]) 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[23]) 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[24]; Srivastava et al., 2003[25]). 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[26]).

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 Daegu (Korea) 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[27]; Crouch, Keys and McMahon, 2014[28]; Dotterer, McHale and Crouter, 2007[29]; Ma, 2003[30]; OECD, 2017[31]; Shochet, Smyth and Homel, 2007[32]).

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[33]). 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[34]). A Korean study established that being bullied in middle school causes the onset of symptoms of psychopathologic behaviours to resurface later (Kim, Leventhal and Koh, 2006[35]). Yet, research suggests that a supportive and caring school environment is linked to less bullying and, conversely, students' willingness to seek help (Låftman, Östberg and Modin, 2017[36]; Ma, 2002[37]; Olweus, 2012[38]). 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[39]; Kuperminc, Leadbeater and Blatt, 2001[40]).

SSES data show that students' exposure to bullying is negatively related to almost all social and emotional skills. In Daegu (Korea) 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 16). These findings are particularly worrying as, in Daegu, 25% of 10-year-old students and 19% of 15-year-old students have experienced bullying at least a few times a month or more during the 12 months prior to the 2019 survey.
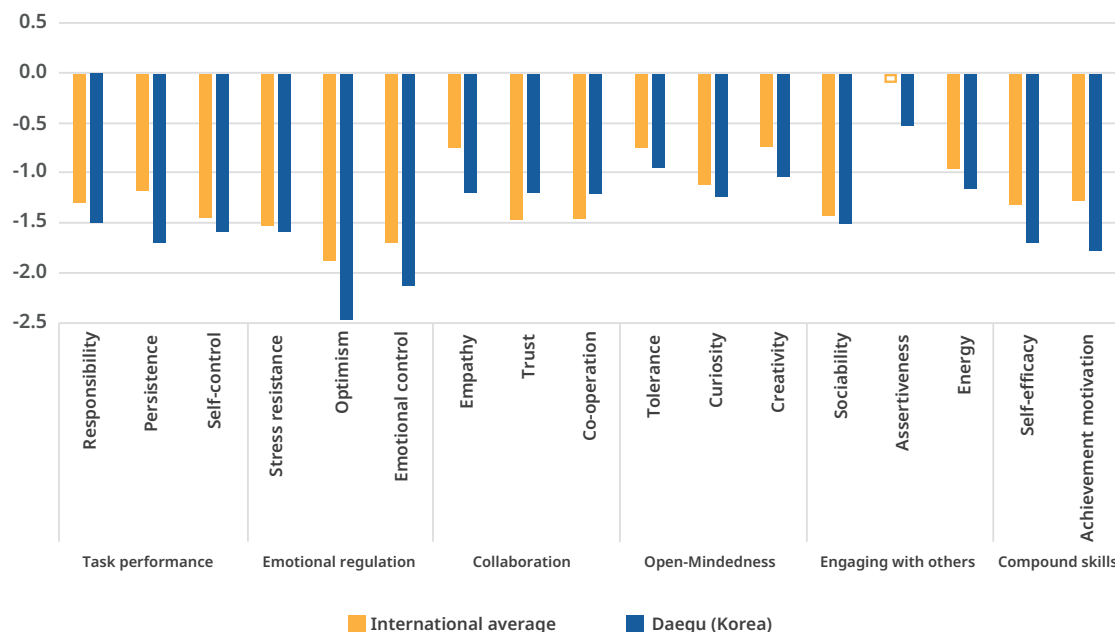
Figure 16. Relations between students' exposure to bullying, and social and emotional skills

Change in 15-year-olds' social and emotional skills related to a one-standard deviation increase in exposure to bullying
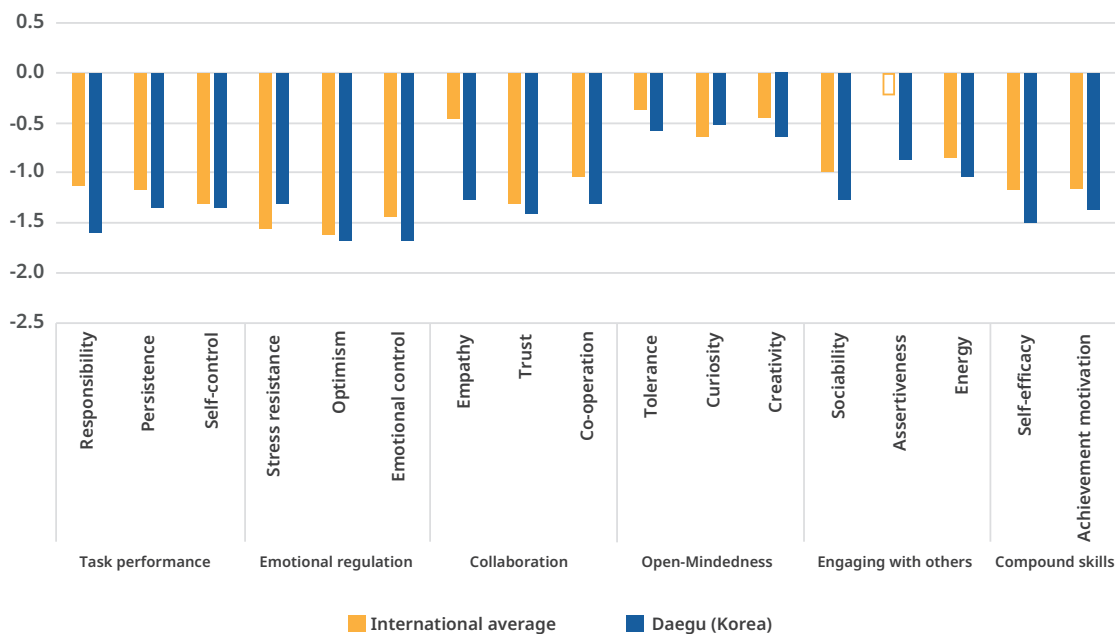
Change in 10-year-olds' social and emotional skills related to a one-standard deviation increase in exposure to bullying

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[41]).

SSES data show that in all participating cities students who participate in after-school art activities reported higher levels of creativity, particularly among 15-year-olds (Figure 17). More specific to Daegu is the fact that this holds equally true for 10- and 15-year-olds. This holds true even after accounting for differences in socio-economic status and gender among students. Compared to other cities, differences in creativity levels between students who participate in art activities and those who do not are not as strong in Daegu. In Daegu, 61% 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 52% 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 17. How participation in art activities relates to creativity
Mean scale differences after accounting for socio-economic status and gender
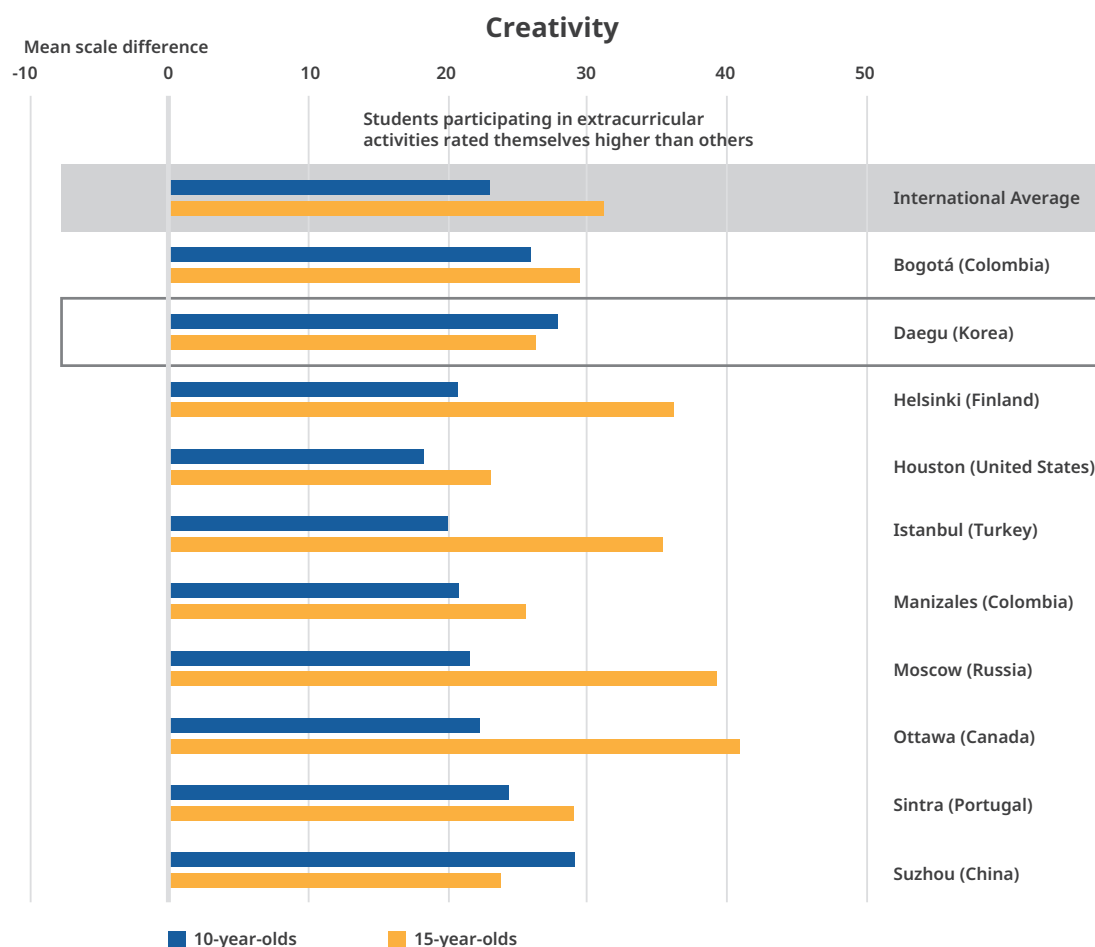
Note: Data for Sintra (Portugal) did not reach student response rate standards and are not included in international averages.
Source: Adapted from OECD (2021), Beyond Academic Learning. First Results from the Survey on Social and Emotional Skills, OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en, 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 Daegu (Korea), more than 20 000 students were eligible to participate in the survey in each 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.

Acknowledgements

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