

# The Bigger the Storm, the Bigger the Strength: Did Social and Emotional Skills (SES) Make a Difference on a COVID-19 Lockdown Scenario Among Children and Young People?

Gina C. Lemos<sup>1</sup> & Ana Cristina Saraiva<sup>2</sup>

<sup>1</sup> Education Research Centre, University of Minho, Portugal

<sup>2</sup> Calouste Gulbenkian Foundation, Portugal

Correspondence: Gina C. Lemos, Education Research Centre, University of Minho, Portugal.

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## Abstract

Little is known about the emotional experience of children and young people during lockdown, their coping strategies on COVID-19 pandemic context and their influence on the emotional state when dealing with the challenges associated with lockdown. In this study, 1031 children and young people (865 aged 8–15 years old and 166 aged 16–25 years old) answered an online self-report survey, specifically designed to assess the perceived potential contribution of SES learned/developed in the Gulbenkian Academies for Knowledge—a national initiative—in coping with the consequences of the context of the COVID-19 pandemic during the Portugal first lockdown. There are three main findings. First, the prevalent emotional pattern was predominantly negative (53.7%) for the younger participants (most frequent emotions: boredom 66.9%; worry 47.8%) and predominantly positive (52.0%) for the older participants (most frequent emotions: boredom 70.1% and tranquillity 52.6%). Second, school activities (25.2%, 8–15 subsample; 32.7%, 16–25 subsample) and self-knowledge and self-regulation activities/strategies (24.8%, 8–15 subsample; 20.0%, 16–25 subsample) were the most frequently reported by participants from both subsamples and that this has significantly interfered with their emotional state: among 8–15 subsample, they reported feeling more excited, more calm, more optimistic and more hopeful; among 16–25 subsample, they reported feeling more cheered up, more optimistic, more quiet and more hopeful. Culinary and horticultural activities predict about 4% the possibility of feeling hope, sadness, optimism, irritation, and worry (8–15 years old) and school activities contribute about 17% to the explanation of the emotional states of sadness and optimism (16–25 years old). Third, both the younger and the older participants showed a medium-superior level of socio-emotional skills and those SES predict about 20% the possibility of feeling optimistic, irritation, sad, hopeful, and bored (8–15 years old) and about 12% the possibility of feeling sadness (16–25 years old). The potential of social and emotional skills in exceptional circumstances and vulnerabilities are discussed.

**Keywords:** Social and Emotional Skills (SES), COVID-19, lockdown, children, young people

## 1. Introduction

There is clear evidence on the association between a sustainable and resilient development trajectory on human lives and economic, environmental, and social progress (OECD, 2020a). Social and emotional skills (SES) are increasingly recognized as crucial for healthy and inclusive societies (Durlak et al., 2011; McCormick et al., 2020; Taylor et al., 2017). Recent studies have shown that an increase in SES in children and young people is related to a decrease in mental health problems, a decrease in school failure and school dropout, and better living conditions in adult life, such as better jobs, higher income (Chernyshenko & Kankaraš, 2018; Greenberg et al., 2017) and higher social justice (Muñiz, 2020).

The progressive integration of economies and societies, and technological advances have raised a new social dimension on the life and work of people, on their families and their communities. Globalization has brought societies and citizens closer together and the way they develop and thrive amid constant change depends on how flexible they are in dealing with uncertainty (Petersen et al., 2020). Flexibility, openness to change, problem solving, resilience, self-regulation, critical thinking, communication, collaboration are key skills to weather and rebound from crisis (International Labour Organisation & World Bank, 2021; National Research Council, 2012)

and youth, in particular, “need to be equipped with the social and emotional skills to achieve success in a diverse and ever-changing global society” (Singh & Duraiappah, 2020, p. 49). The unprecedented nature of Coronavirus pandemic crisis has highlighted its dire human consequences on social and emotional skills putting in jeopardy individual well-being and presenting an extraordinary collective challenge (OECD, 2020b).

A recent study has evaluated 1036 children and young people during lockdown in China from 6 to 15 years old, of which 10.6% presented depression, 18.9% presented anxiety, and 6.6% presented both (Chen et al., 2020). A study with 1586 families, with 7 to 17 years old demonstrated that children and young people in Germany feel significantly burdened by lockdown, social distancing and home-schooling measures, experiencing significantly lower health-related quality of life (40.2% vs. 15.3%), more mental health problems (17.8% vs. 9.9%) and higher anxiety levels (24.1% vs. 14.9%) than before the pandemic (Ravens-Sieberer et al., 2021). Another study, regarding quarantine in India, with 131 participants in an age range from 9 to 18 years old, shows a high incidence of psychological distress in children and young people during lockdown. These participants have experienced helplessness (66.1%), worry (68.6%), boredom (39.7%), nervousness (60.3%), anger (58.7%), annoyance (57.9%), sadness (25.6%) and fear (62.0%), compared to non-lockdown children and young people (Saurabh & Ranjan, 2020). We found another study with 13,000 students from high school, undergraduate, and postgraduate levels, that indicates a dominance of negative feelings among the students regardless of their academic level (Camacho-Zuñiga et al., 2021).

Moreover, the socio-emotional impact of the pandemic and lockdown revealed group differences. The youngest, the girls, the migrants, the lowest socio-economic levels were the most affected, reinforcing the idea of widening the gap in the pre-existing inequalities to the pandemic crisis (Carmo et al., 2020; Lehmann et al., 2021). For example, in a study with young people with 13 to 17 years old in Pakistan girls showed more somatic complaints, while boys reported more anger problems (Majeed & Ashraf, 2020). They were also significantly impacted by the abrupt withdrawal from school, social life and outdoor activities, and financial losses in the family cause stress (Crescentini et al., 2020; Guessoum et al., 2020).

In Portugal, the crisis caused by the COVID-19 pandemic has been plaguing since March 2020. The pandemic and all efforts to contain it, such as the declaration of the state of emergency, restrictions on mobility, physical distancing, the generalization of remote work, school closures, distance learning, have shaped the lives of thousands of children and young people in a significant and sudden way (OECD, 2020b). A study with 617 Portuguese participants between 16 to 24 years old showed that young people reported less confidence, depression, anxiety, loneliness despite some of them reported feeling more relaxed and less tired (Branquinho et al., 2020).

To prepare children and young people for an uncertain and rapidly changing world, helping to develop skills that allow them to deal with complex problems, and increasing their opportunities for achievement is the core of the Gulbenkian Academies for Knowledge (GAK). Based on the theoretical framework of the Big Five personality model (Goldberg, 1990) and on the conceptualization of the Organization for Cooperation and Development for well-being, connectedness, and success (OECD, 2018), GAK is a national network of 100 projects, funded by the Calouste Gulbenkian Foundation, that are highly committed to the promotion and development of a set of social and emotional skills in children and young people under 25 years old: communication, resilience, critical thinking, problem solving, creative thinking, self-regulation, and adaptability. Regardless of the nature of methodology (Reference Methodology, i.e., those based on experimental or quasi-experimental evidence; or Experimental Strategies, i.e., those seeking to establish evidence), each Academy is focused on promoting and developing one or more social and emotional skills through artistic, scientific, community, cultural or sports activities, in areas as diverse as education, health, social inclusion or technological. Since 2018, Calouste Gulbenkian Foundation, through GAK, has reached 36,695 children and young people and has funded 67 consortiums composed of schools, municipalities, universities, and non-profit organisations.

Little is known about the emotional experiences of children and young people during lockdown. The same applies to coping strategies and their influence on emotional state when dealing with the challenges associated with lockdown. The present study provides evidence from more than a thousand children and young people who participated on a SES program - Gulbenkian Academies of Knowledge - on three main questions: (1) How children and young people felt during lockdown?, (2) Which strategies or activities learned/developed in GAK have they used and how did they interfere in their emotional state during lockdown?, and (3) How can SES of GAK participants be described and which SES are most relevant to the use of certain strategies or activities learned/developed? Therefore, this study aims: (a) to characterize the emotional state of children and young people, who participated on GAK, during lockdown; (b) to identify the strategies or activities learned/developed in GAK used in the context of lockdown; (c) to identify the emotional state associated to the use of those strategies/activities, and to analyse the relationship between the strategies/activities and the emotional state

associated to this use; (d) to characterize SES of GAK participants during lockdown and (e) to analyse the relationship between their SES and strategies or activities learned/developed in GAK.

## 2. Materials and Methods

### 2.1 Participants

In a total sample of 1031 participants, two subsamples of participants from GAK were analysed. The first subsample comprised 865 participants between 8 and 15 years old ( $M = 11.09$ ,  $SD = 2.20$ ) whereas the second included 166 participants between 16 and 25 years old ( $M = 16.99$ ,  $SD = 1.71$ ). The subsamples were obtained through a convenience sample from the universe of GAK participants. 72.5% of participants in the younger group were between 9 and 13 years old (mode = 9) and 74.8% of participants in the older group are between 15 and 17 years old (mode = 16). The subsamples were quite balanced in gender, with a slightly higher percentage in the female gender: 52.6% in the subsample 8 to 15 years old and 56.6% in the subsample 16 to 25 years old. For both subsamples, mother, father, and siblings were the most common persons with whom participants were during the lockdown: 70.8% in the participants aged between 8 to 15 years old (father, mother, and siblings: 33.5%, mother and father: 14.0%, father: 12.8%, mother and siblings: 10.5%) and 68.5% in the participants aged between 16 to 25 years (father, mother and siblings: 36.7%, father and mother: 11.4%, mother and siblings: 11.4%, mother: 9.0%).

### 2.2 Measures

The survey “COVID-19 Gulbenkian Academies for Knowledge”, created for the GAK population and for the specific context of the COVID-19 pandemic, consisted in an online self-report survey for children and young people between 8 and 15 years old (version 8–15) and young people between 16 and 25 years old (version 16–25). These two versions were designed to match the age/development/school level of the participants (version 8–15 for children and young people in 1st, 2nd, and 3rd cycles of basic education; version 16–25 for young people in secondary education and higher education). This survey aims to evaluate the potential contribution attributed by the participants of GAK to the work developed within the scope of promoting the initiative target skills and its application in the context of the pandemic. The survey was subjected to preliminary testing among a small group of children and young people, who answered the questions following the method of spoken reflection aimed at eliminating any source of ambiguity and ensuring the clarity of all items. The estimated duration for answering the survey was between 5 and 7 minutes. The first group of questions focused on the participant’s sociodemographic data (i.e., gender, date of birth, persons they were with during the lockdown), and the second group of questions (some mandatory, some optional) on aspects such as the emotional state of the participants, strategies and activities learned/developed in Academies and applied in lockdown, target skills learned/developed in Academies and their application in the context of the COVID-19 pandemic. Regarding the target skills, the survey consisted of a group of twenty-one items, distributed over seven scales, i.e., three items per target competency (i.e., social and emotional skill), with one item inverted per scale. The definitions considered for each of the seven target skills are the following:

Communication: Initiates and maintains social contacts, effectively expressing opinions, needs or feelings.

Resilience: Handles adversity well and does not give up easily.

Critical thinking: Evaluates situations from multiple perspectives, divides problems into their components and systematizes the path to resolution through new methods and processes. Look for causes or think through the consequences of the different possible courses of action.

Problem solving: Realistically assess problems, look for alternatives, decide and implement solutions using creativity and logical thinking, bearing in mind the consequences for him/herself and others.

Creative thinking: Has vision and generates new ways of thinking and doing, exploring and learning from error.

Self-regulation: Is decided, strategic and persistent in its objectives, evaluates progress and modifies behaviours as a result of this evaluation.

Adaptability: Adjusts to change, flexibly adapting their attitudes and behaviours.

### 2.3 Procedure

GAK participants were invited to collaborate in the study by answering the online survey under the conditions of General Data Protection Regulation 2016/679. They were provided by acquaintances with the study's main ethical concerns, such as data confidentiality, as well as the relevance of their contribution for a study of this nature. The online survey was open between June 23rd and July 13th 2020.

### 3. Results

#### 3.1 Emotional Experience During Lockdown

To characterize the emotional state of children and young people during lockdown, the emotional patterns were analysed in both subsamples. Participants were asked to select three out of eight emotions regarding the question: “During lockdown, how did you feel most of the time?”, which allowed us to analyse the emotional state as predominantly positive/negative or exclusively positive/negative. For the 8–15 years old subsample, the prevalent emotional pattern was mainly negative (53.7%), with boredom (66.9%) and worry (47.8%) among the most frequent emotions. For the 16–25 years old subsample, the emotional pattern was mainly positive (52.0%), with boredom (70.1%) and tranquillity (52.6%) at the top of the reported emotions. In both subsamples, girls were in a situation of greater vulnerability with emotional patterns being more negative compared to the emotional patterns of their counterparts, the boys. We found that, on average, female participants tend to have more negative emotional patterns (8–15 subsample,  $M = 1.66$ ,  $SE = 0.05$ ,  $t(711) = -2.574$ ,  $p < .05$ ; 16–25 subsample,  $M = 1.78$ ,  $SE = 0.11$ ,  $t(152) = -2.382$ ,  $p < .05$ ).

#### 3.2 Activities or Strategies During Lockdown

To know if participants applied strategies or activities, they have learned/developed in GAK during the lockdown and to identify those strategies/activities they were first asked: “During lockdown, did you do something you learned at the Academy?” and then “What things did you do?”. In this regard, 48.6% of 8–15 years old subsample and 37.7% of 16–25 years old subsample reported having put into practice, during the lockdown, strategies or activities learned/developed in Academies. After listing all the strategies or activities respondents (8–15 subsample,  $n = 286$ ; 16–25 subsample,  $n = 52$ ) reported, categories were created. Table 1 presents categories of strategies or activities respondents reported with some examples per category and the respective percentage distribution for both subsamples.

Table 1. Distribution of results regarding strategies/activities learned/developed in Academies and applied during lockdown, by categories

	8–15 yrs		16–25 yrs		Examples
	freq	% valid	freq	% valid	
School activities	72	25.2	17	32.7	study, school assignments, group assignments, remote sessions, solving math problems
Physical and motor activities	33	11.5	8	15.7	training, physical exercise, running, yoga, push-ups, take-offs, hiking, walking, cycling, basketball, skipping, playing soccer
Passive/static activities linked to technologies	28	9.8	8	15.7	watching television, watching TV series, watching movies, playing video games, listening to radio/music
Playful activities	56	19.6	1	2.0	play with family, play with pets, word game, pendulum game, didactic games, make Legos
Activities of creative expression by the movement	5	1.7	0	0.0	breakdance, dance, dance lessons, mime games
Creative expression activities by technologies	25	8.7	8	16.0	making videos and photos with higher quality, recording plans to demonstrate what I felt during the lockdown, filming for the project of the diary of sensations, programming
Activities of creative expression through fine arts	23	8.0	2	4.0	draw, paint, paint posters, crafts, create a t-shirt, change and paint the room, make toys, origami, make dresses for dolls, build a game of chess
Creative expression activities through music	1	0.3	3	6.0	play guitar, sing
Reading and writing activities	19	6.6	3	6.0	research, read books, read scientific papers, read articles and reports
Culinary and horticultural activities	16	5.6	2	4.0	cooking, making cakes and cookies, sow various things (lettuce, cucumbers, parsley, onion), germination experiments, making a vegetable garden
Activities associated with basic needs	5	1.7	4	8.0	eat, rest, sleep
Domestic activities	5	1.7	0	0.0	cleaning the house, cleaning, helping with housework
Support and monitoring activities	11	3.8	3	6.0	take care of the brother/sister, play with the brother/sister, help the parents
New learnings	22	7.7	6	12.0	workshops, learn how to cook, learn new recipes, learn to ride a bike, use creativity to create and invent something new to do at home
Self-knowledge and self-regulation	71	24.8	10	20.0	meditate, I learned things about myself
Understanding the other	6	2.1	3	6.0	have respect for others, answer questionnaires, observe people's behavior to see how they were reacting to this situation
Communication with others and socializing	27	9.4	3	6.0	socializing, making calls, spending time with the family
Daily personal organization and management activities	9	3.1	4	8.0	manage study time, organize classes and the day better, have more autonomy, plan the next year
More specific activities of the Academy	17	5.9	4	8.3	do the challenges proposed by the project

As Table 1 shows, school activities (25.2%, 8–15 subsample; 32.7%, 16–25 subsample) and self-knowledge and self-regulation activities/strategies (24.8%, 8–15 subsample; 20.0%, 16–25 subsample) are the ones that stand out, because they were the most frequently reported in both subsamples. In the subsample of the youngest participants, recreational activities (19.6%) and physical and motor activities (11.5%) were in the third and fourth positions and in the subsample of the older participants, in third place in ex aequo, with about 16.0%, appear physical and motor activities, passive/static activities technology related, and creative expression activities technology related.

### 3.3 Relation Between Activities or Strategies and Emotional Experience During Lockdown

To identify the emotional state associated with the use of those strategies/activities, participants were asked to select three out of eight emotions regarding the question: “By doing these things I felt more...”. Emotional states participants associate with putting the strategies or activities learnt/developed in GAK into practice are the options

with a positive nature, namely: excited (78.1%), calm (77.8%), optimistic (65.7%) and hopeful (46.0%), among 8–15 subsample (n = 315) and cheer (80.4%), optimism (76.5%), tranquillity (76.5%), and hope (41.2%) among 16–25 subsample (n = 51). Almost all responses (92.4%, 8–15 subsample; and 96.1%, 16–25 subsample) point to a positive emotional pattern associated with the application of the strategies or activities learnt/developed in GAK, highlighting the exclusively positive state, for bringing together about 80% of the participants.

### 3.4 Socio-Emotional Profile During Lockdown

To characterize participants' SES during lockdown they were asked to read 21 statements (three per each SES) and indicate the extent to which each of the statements has to do with him/her, choosing the option that best represents the participant ('exactly like me', 'a lot like me', 'a little like me' or 'nothing like me'). Table 2 presents the descriptive statistics of the SES, item by item, by scale and overall score.

Table 2. Descriptive statistics of the SES, item by item, by scale and overall score

8–15 yrs n = 652						16–25 yrs n = 139					
	Min	Max	Mode	Mean	SD		Min.	Max	Mode	Mean	SD
<b>Communication</b>											
I've found ways to keep in touch with my friends or family.	1	4	4	3.24	0.86	I've found ways to keep up with friends.	1	4	4	3.29	0.83
I've kept my fears and worries to myself. (-)	1	4	3	2.69	1.02	I've kept my fears and worries to myself. (-)	1	4	3	2.56	1.05
I've shared with friends or family members my thoughts.	1	4	2	2.27	1.04	I've expressed my thoughts and emotions to my friends or my family.	1	4	2	2.19	0.96
Communication subtotal	3	12	9	8.20	1.90	Communication subtotal	3	12	9	8.04	1.92
<b>Resilience</b>											
I've asked for help when I felt it was necessary.	1	4	3	2.99	0.86	I've asked for help when I needed it.	1	4	2	2.59	1.06
I've created routines that helped me feel better.	1	4	3	2.80	0.94	I've created routines that helped me feel better.	1	4	3	2.68	0.96
I've felt my effort to feel better was not worth it. (-)	1	4	4	3.31	0.89	I had difficulties in taking the initiative to do things.	1	4	3	2.93	0.98
Resilience subtotal	3	12	9	9.10	1.81	Resilience subtotal	4	12	8	8.20	1.83
<b>Critical thinking</b>											
I've tried hard to find solutions to solve new situations.	1	4	3	3.01	0.84	I've committed myself to find solutions to solve new situations.	1	4	8	3.00	0.83
I've decided to face one day at a time not to feel down.	1	4	3	2.90	0.93	I've decided to face one day at a time not to feel down.	1	4	a)	2.75	0.98
I've had difficulties dealing with the behavior of certain friends or family members. (-)	1	4	4	3.09	0.95	I've had difficulties dealing with the behavior of certain friends or family members. (-)	1	4	4	2.91	1.07
Critical thinking subtotal	4	12	9	8.99	1.72	Critical thinking subtotal	3	12	9	8.66	1.79
<b>Problem solving</b>											
I've discovered that I could make a difference in the daily life of others by doing simple things.	1	4	3	2.86	0.89	I've discovered that I could make a difference in the daily lives of others by doing simple things.	1	4	2	2.69	0.99
I've felt it was impossible to fulfill my plans. (-)	1	4	4	3.04	0.97	I've felt it was impossible to fulfill my plans. (-)	1	4	3	2.88	0.99
I've tried to think about what I could do to improve my day-to-day life.	1	4	3	2.84	0.86	I've analyzed what was within my reach and I focused on that.	1	4	3	2.73	0.87
Problem solving subtotal	3	12	9	8.74	1.83	Problem solving subtotal	4	12	8	8.30	1.69
<b>Creative thinking</b>											
I've decided to try new	1	4	3	2.83	0.98	I've decided to try new	1	4	3	2.65	1.01

activities.						activities.					
I couldn't feel enthusiasm for anything. (-)	1	4	4	3.28	0.89	I couldn't feel enthusiasm for anything. (-)	1	4	4	3.14	0.92
I've found new ways of learning things from school.	1	4	3	2.84	0.89	I've found a way to make my days more productive.	1	4	3	2.79	0.91
Creative thinking subtotal	3	12	a)	8.94	1.95	Creative thinking subtotal	4	12	9	8.58	1.87
Self-regulation											
I've found ways to keep myself busy and in a good mood.	1	4	3	3.02	0.87	I've persisted until I found ways to keep myself busy and in a good mood.	1	4	3	2.93	0.91
I overreacted in certain situations. (-)	1	4	3	2.98	0.89	I overreacted in certain situations. (-)	1	4	3	2.81	0.93
I've found ways to keep myself focused on my school tasks.	1	4	3	2.89	0.86	I've recreated my plans to ensure that I fulfill my commitments.	1	4	3	2.61	0.91
Self-regulation subtotal	3	12	9	8.89	1.80	Self-regulation subtotal	4	12	9	8.35	1.71
Adaptability											
I had difficulties thinking positively about not being able to leave home. (-)	1	4	3	2.79	1.00	I had difficulties thinking positively about not being able to leave home. (-)	1	4	4	2.81	1.07
I've managed to turn boring days into more exciting ones.	1	4	3	2.83	0.87	I've managed to turn boring days into more exciting ones.	1	4	3	2.59	0.88
I've used my sense of humor to deal with difficulties.	1	4	3	2.76	0.95	I've used the sense of humor to deal with difficulties.	1	4	3	2.94	0.93
Adaptability subtotal	3	12	8	8.38	1.90	Adaptability subtotal	4	12	7	8.33	1.79
Global Score Target Skills	26	84	62	61.26	9.72	Global Score Target Skills	36	78	65	58.46	8.96

Note. (-) inverted items: Likert scale: 1 Nothing like me, 2 A little like me, 3 Much like me, 4 Exactly like me; a) There are several modes.

An overview of participants' social and emotional skills during lockdown showed a medium-high skill level in both younger (8–15 subsample) and older (16–25 subsample) participants. The average value of all seven social and emotional skills subscales is always higher than 8.00 (8–15 yrs,  $M = 8.20$ ; 16–25 yrs,  $M = 8.04$ ), in a range of 3 to 12 points. In addition, if, on the one hand, in the group of the youngest, resilience was the SES where they presented the best results (8–15 yrs,  $M = 9.10$ ,  $SD = 1.81$ ), in the older group this was the case for critical thinking (16–25 yrs,  $M = 8.66$ ,  $SD = 1.79$ ). In common, the fact that communication is the competence where, both the youngest and the oldest, reported a lower level of skill (8–15 yrs,  $M = 8.20$ ,  $SD = 1.90$ ; 16–25 yrs,  $M = 8.04$ ,  $SD = 1.92$ ). It should be noted that, although they reported finding a way to keep in touch with their friends and family, the truth is that the sharing of thoughts with those significant people does not seem to occur to the same extent.

### 3.5 Relation Between Activities or Strategies and SES and Emotional Experience During Lockdown

To analyse the relationship between strategies or activities learned/developed in Academies and their SES, coefficient correlations were calculated. In the supplementary material (Appendix A and Appendix B) we present the correlations between the perception of application of strategies/activities developed in the Academies, the SES, and the strategies/activities (categories) themselves for each subsample.

The perception that they applied what they learned/developed in the Academies seems to be closely related to the value that the participant attributes to their participation in the Academies to deal with the changes inherent to the pandemic context (8–15 yrs,  $r = .38$ ,  $p < .01$ ; 16–25 yrs,  $r = .41$ ,  $p < .01$ ). It is suggested that the learning developed in the context of the Academies is significantly associated with all seven SES, even though the correlation rates are relatively low, around 15. Among the SES that children and young people, from both subsamples, associate the most with the application of strategies and activities learned/developed in the Academies is creative thinking (8–15 yrs,  $r = .25$ ,  $p < .01$ ; 16–25 yrs,  $r = .20$ ,  $p < .05$ ). It should be noted that among the oldest group creative thinking is, in fact, the only SES that assumes a correlation with statistical significance.

Table 3 presents the results obtained through the analysis of linear regression ANOVA, method Enter, to assess the predictive power of the global score of the target skills in relation to the emotional state that the 8–15 years old participants report.

Table 3. Predictive power of the overall score of the target competencies in relation to the emotional state in the lockdown (n = 651)

ESLockdown	B	SE	Beta	t	Sig.
(Constant)	61.659	1,877		32.852	.000
Hopeful	2.116	.965	.102	2.192	.029
Optimistic	4.136	.957	.202	4.324	.000
Sad	-2.657	1.073	-.122	-2.475	.014
Bored	-2.165	1.037	-.105	-2.088	.037
Quiet	-.181	.890	-.009	-.204	.839
Irritated	-4.951	1.148	-.185	-4.312	.000
Cheered up	1.716	.975	.082	1.760	.079

Note.  $R^2$  Adj. = .201;  $F(7, 651) = 24.445$ ,  $p = .000$ .

By analysing Table 3, we can see that the overall score of the participants' target skills predicts 20% of the variance of the results in the following emotional states: optimism, irritation, sadness, hope and boredom.

Using the same method described above, we can see in Table 4 that the overall score of the set of target competencies of the participants predicts the results in a single emotional state in the lockdown: sadness, in about 12% of its variance.

Table 4. Predictive power of the overall score of the target competencies in relation to the emotional state in the lockdown (n = 138)

ESLockdown	B	SE	Beta	t	Sig.
(Constant)	61.644	4.610		13.371	.000
Worried	1.135	1.841	.063	.617	.539
Hopeful	-.782	2.420	-.036	-.323	.747
Optimistic	.465	2.541	.025	.183	.855
Sad	-6.181	2.282	-.311	-2.709	.008
Bored	-1.888	2.381	-.098	-.793	.429
Irritated	-3.027	2.246	-.136	-1.347	.180
Cheered up	-.234	2.806	-.012	-.083	.934

Note.  $R^2$  Adj. = .119;  $F(7, 138) = 3.665$ ,  $p = .001$ .

In order to know the predictive power of each strategy/activity developed in GAK in relation to the emotional state during lockdown, the analysis of linear regression ANOVA, Enter method, was computed for both subsamples. For parsimony reasons, tables depicted are the ones regarding strategies/activities with statistical significance.

Table 5. Predictive power of strategies/activities learned/developed in GAK in relation to emotional state in lockdown 8–15 yrs (n = 285)

Reading and Writing Activities	B	SE	Beta	t	Sig.
(Constant)	-.119	.078		-1.527	.128
Worried	.051	.042	.103	1.208	.228
Hopeful	.063	.041	.123	1.532	.127
Optimistic	.123	.040	.238	3.054	.002
Sad	.133	.048	.238	2.754	.006
Quiet	.033	.039	.065	.833	.406
Irritated	.040	.056	.052	.708	.480
Cheered up	.108	.041	.204	2.642	.009

Note.  $R^2$  Adj. = .025;  $F(7, 285) = 2.057$ ;  $p = .048$ .



Culinary and horticultural activities	B	SE	Beta	t	Sig.
(Constant)	-.137	.072		-1.915	.057
Worried	.083	.039	.182	2.154	.032
Hopeful	.116	.038	.245	3.074	.002
Optimistic	.099	.037	.208	2.695	.007
Sad	.125	.044	.243	2.841	.005
Quiet	-.002	.036	-.005	-.067	.947
Irritated	.116	.051	.165	2.263	.024
Cheered up	.071	.037	.144	1.886	.060

Note.  $R^2$  Adj. = .042;  $F(7, 285) = 2.781$ ;  $p = .008$ .

Table 6. Predictive power of strategies/activities learned/developed in GAK in relation to the emotional state associated with the application of strategies learned in Academies 16–25 yrs (n = 50)

	B	SE	Beta	t	Sig.
(Constant)	.051	.332		.155	.878
Worried	-.447	.240	-.326	-1.862	.069
Optimistic	.336	.168	.303	1.999	.052
Sad	1.006	.463	.414	2.173	.035
Bored	.270	.343	.154	.786	.436
Quiet	-.206	.189	-.185	-1.091	.281
Cheered up	.228	.189	.192	1.204	.235

Note.  $R^2$  Adj. = .165;  $F(7, 50) = 2.646$ ;  $p = .028$ .

In the subsample of 8–15 years old, as Table 5 shows, culinary and horticultural activities contribute in 4% to explain the variance of the results of the emotional states of (more) hope, sadness, optimism, irritation, and worry; while reading and writing activities explain about 3% of the variance of the results in the emotional states of (more) optimism, sadness, and cheered up in lockdown.

In the subsample of 16–25 years old, as Table 6 shows, school activities contribute about 17% to the explanation of the emotional states of (more) sadness and optimism.

It is important to underline the small number of respondents in the question regarding the strategies/activities learned/developed in the Academies and applied in the lockdown (285 out of a total of 865 participants in 8–15 subsample, and 50 out of a total of 154 participants in 16–25 subsample), which can interfere with the results obtained.

#### 4. Discussion

On the last day of 2019, the new coronavirus was identified in Wuhan, China (WHO, 2020). In Portugal, the crisis caused by the COVID-19 pandemic has been plaguing since March 2020. The pandemic had a substantial psychological impact worldwide, particularly in children and young people (Branquinho et al., 2020; Li et al., 2020; Zhang et al., 2020).

Previous work demonstrated the importance of the promotion of social and emotional skills (Durlak et al., 2011; McCormick et al., 2020; Taylor et al., 2017) and COVID-19 gave us an opportunity to get a first glance on the potential contribution of SES in coping with the challenges introduced by this exceptional context. In Portugal, the initiative Gulbenkian Academies for Knowledge (GAK) has been preparing children and youth for the uncertain and rapidly changing world, helping them to develop skills that allow them to deal with complex problems, and increasing their opportunities for achievement. The present study was a preliminary assessment about the potential contribution of the skills and strategies that each Academy developed among its participants in the lockdown scenario: Did they make a difference? To what extent? This study has three major contributions.

First, the findings of this study reinforce our knowledge of the significant and differential psychological impact of COVID-19 pandemic in children and young people. Here, we highlight the prevalence of a predominantly negative emotional pattern during lockdown with boredom and worry in the top places of the most frequent emotions in the younger participants, 8–15 yrs, and the prevalence of a predominantly positive emotional pattern during lockdown with boredom and tranquillity as the most frequent emotions in the older participants, 16–25 yrs (Orgilés, 2020).

Second, this study contributes further evidence to the debate on the most vulnerable groups in the context of the psychological impact of particularly demanding circumstances due to the pandemic such as the lockdown. In both subsamples, there are gender differences in the emotional patterns experienced during lockdown, with girls

presenting emotional patterns that tend to be more negative. Previous research shows that girls experience more emotional vulnerability (Charbonneau et al., 2009), more exposure and reactivity to social stress (Hankin, 2007) and more sensitivity to stress and consequent depressive symptoms (Rudolph et al., 2018).

Third, this study also provides evidence on the relevance of promoting social and emotional skills to better deal with the uncertain and rapidly changing world and to preserve children and young people's psychological well-being. Half of the participants report that, during lockdown, they have put into practice strategies or activities learned/developed in the Academies and this significantly interfered with their emotional state. The ones most frequently reported, by both the youngest and the oldest, were activities related to learning, self-knowledge, and self-regulation. For the younger, the predominance of school strategies/activities, self-knowledge, and self-regulation during lockdown seems to be associated with ambivalent emotional states during that period (sometimes negative, sad; sometimes positive, optimism). Reading and writing, and physical motor activities are the ones that best predict positive emotional states (cheer, optimism, tranquillity), and domestic activities explain more states of irritation and sadness, in children 8–15 yrs. Again, in the older participants, ambivalent emotions are associated with school activities: it seems that maintaining these scholar tasks may have been a reason for encouragement or optimism, but – due to the conditions experienced, i.e., lockdown—it was also associated with sadness. The boredom experienced during lockdown is associated with activities related to the basic needs of eating, sleeping, and resting; in other words, maintaining these routines in those conditions seem to have bored the older participants. This could be explained since “more boredom is part of the price adolescents pay for the uncertain developmental journey they now undertake—having more times of not knowing what to do with themselves” (Ali, 2020, p. 58). On the other hand, activities that involve respecting, accepting, and understanding each other are particularly associated with positive emotional states (optimism and hope) during lockdown in 15–26 yrs. Moreover, social and emotional skills predict about 20% the possibility of feeling optimistic, irritated, sad, hopeful, and bored in 8–15 years old subsample, and explain the experience of sadness in a magnitude of 12% for 16–25 yrs, with creative thinking standing out among the other six social and emotional skills.

With this exploratory study we hope to pave the way for further investigations about the contribution of projects or initiatives aiming to promote SES in this volatile and uncertain scenario, as in a preliminary way GAK seems to be a promising one. This study has some limitations. First, the subsamples were obtained through a convenience sample; for further studies it would be better to have a representative sample. Second, the survey had some constraints that may interfere with the results obtained: psychometric properties of the survey require a validation study. For further studies, we suggest the Resilience Scale (Felgueiras, Festas, & Vieira, 2010) from 8 to 18 years, and the scale used in OECD Survey on Social and Emotional Skills, the subscale of Perseverance/Persistence and Resilience/Resistance to stress (Kankaraš & Suarez-Alvarez, 2019). Also, the optional nature of some questions lead to a drop of our sample in some items. Despite the limitations, our findings provide useful information, adding evidence on the importance of programs that promote social and emotional skills for the well-being of children and youth.

Preparing future generations for uncertainty is the right thing to do, today and tomorrow. We believe that the promotion of social and emotional skills is a step towards a more sustainable and fair future.

## 5. Conclusions

The present study provides evidence from more than a thousand children and young people who participated on a SES program—Gulbenkian Academies of Knowledge—on three main questions: (1) How children and young people have felt during lockdown? (2) Which strategies or activities learned/developed in GAK have they used and how the use of them has interfered in their emotional state during lockdown? and (3) How can SES of GAK participants be described and which SES are most relevant to the use of certain strategies or activities learned/developed? The findings of this study reinforce our knowledge of the significant and differential psychological impact of COVID-19 pandemic in children and young people. The results do not only add to researchers' knowledge about SEL but are also relevant for policymakers, administrators, and school staff.

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Appendix A. Correlation coefficients between the perception of application of learning developed in Academies as target skills as strategies/activities learned/developed (8-15 yrs)

Table with 35 columns representing variables and rows for various learning activities and perceptions. Correlation coefficients are provided for each pair of variables. Values range from -0.558 to 0.656.

Note: \*p<.05. \*\*p<.01. b. It cannot be considered because at least one of the variables is constant

Appendix B. Correlation coefficients between the perception of application of learning developed in Academies as target skills. as strategies/activities learned/developed (16-25 yrs)

Table with 35 columns representing variables and rows for various learning activities and perceptions. Correlation coefficients are provided for each pair of variables. Values range from -0.558 to 0.656.

Note: \*p<.05. \*\*p<.01. c. It cannot be considered because at least one of the variables is constant

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