Reduced Emotional Intelligence in Children Aged 9–10 caused by the COVID-19 Pandemic Lockdown

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ABSTRACT—It is necessary to know the influence of the current pandemic situation on children’s emotional intelligence (EI). Therefore, this study aimed to analyze the difference in 34 Spanish children’s EI (aged 9–10) caused by the lockdown. EI was measured with the BarOn Emotional Intelligence Inventory (EQ-i:YV). Results have revealed a reduction in EI, specifically on intrapersonal, interpersonal, and adaptability scales (all \(p < .01\)). Thus, the study highlights the negative influence of lockdown situation on children’s EI and considering the impact this may have at a cognitive, social, or academic level, it would be convenient to promote its development at school.

Because of this current pandemic caused by COVID-19, many countries have limited mobility, social relations, labor, or school activity (Berasategi et al., 2020) and this situation is affecting people’s daily behavior, well-being, mental health, and cognitive skills (Kontoangelos, Economou, & Papageorgiou, 2020; Li, Wang, Xue, Zhao, & Zhu, 2020; Yan Jiao et al., 2020). This has increased negative emotions such as anxiety, fear, anger, or sadness and reducing people’s well-being (Allodola, Buccolo, & Mongili, 2020; Li et al., 2020). Because of the lockdown, stress problems and difficulties in emotional control have been observed in 48% of the population (Wang, Zhang, Zhao, Zhan, & Jiang, 2020a; Wang et al., 2020b) and psychological problems in 40.4% of young people (Liang et al., 2020). This situation has a greater impact on the behavior, emotions, and well-being of children (Grechyna, 2020; Kontoangelos et al., 2020; Yan Jiao et al., 2020), and an increase in negative emotions because of the lockdown has also been observed (Berasategi et al., 2020; Kontoangelos et al., 2020), but more evidence is needed regarding the psychological impact of the pandemic on children (García & Cuéllar-Flores 2020; Wang et al., 2020a; Wang et al., 2020b).

Emotional intelligence (EI), understood as the ability to cope with environmental demands, has an impact on success and emotional well-being and includes different factors (Bar-On & Parker, 2018): intrapersonal (understanding and discerning one’s own emotions and feelings); interpersonal (interact with others with a social conscience); adaptability (adjust and cope with change); and stress management (manage adversarial emotions). Because emotional and cognitive systems influence each other (Allodola et al., 2020; Lahiri, Dubey, & Ardila, 2020), students with higher levels of EI also show better well-being, psychological adjustment, interpersonal relationships, behavior, and higher academic performance (Extremera-Pacheco & Fernández-Berrocal, 2004).

For all that, children’s EI needs to be addressed (Allodola et al., 2020) and prevent consequences in cognitive, social, or academic aspects. This study addresses an area that has been little studied so far with the objective to study the differences in children’s EI and its scales (aged 9–10) because of the lockdown. The hypothesis was as follows: a reduction in EI and its scales is expected after the COVID-19 lockdown.

METHOD

Sample
The sample consisted of 34 pupils (18 girls) in the fourth year of primary education (aged 9–10) from three schools...
in the Basque Country. The schools were selected by means of cluster sampling with these inclusion criteria: be bilingual (Spanish-Basque), in a town with a family income and level of higher education equal to or higher than the average in the Basque Country (data provided by the Basque Institute of Statistics). Therefore, 58 schools were homogeneous according to these criteria and after random selection, three schools agreed to participate. These were the participants’ inclusion criteria: IQ ≥ 80 (Kaufman Short Intelligence Test K-BIT), no mental disorder (DSM-5), medium to high socio-economic level and sign the consent form. Both the socio-economic level and the diagnosis of a mental disorder were recorded using a questionnaire. Table 1 shows the sample’s sociodemographic data.

### Instruments

**BarOn EQ Inventory: version for young people (7–18 years old)** (EQ-i:YV). Evaluates EI and interpersonal, intrapersonal, adaptability, and stress management scales. It can be applied individually or collectively (20–25 min). It has 51 items (e.g., “I like to have fun”) with 4-point Likert scale and provides an IQ score for EI and each scale (≤ 69 extremely low; 70–79 very low; 80–89 low; 90–109 medium; 110–119 high; 120–129 very high; and ≥ 130 extremely high). EQ-i:YV has proven validity, an internal consistency between 0.69–0.79 and adequate psychometric properties (Bar-On & Parker, 2018).

### Procedure

Initially, this exploratory study with a prospective single-group ex post facto design was approved by the Research Ethics Committee of the International University of La Rioja (PI: 006/2019). After completing the questionnaire about the inclusion criteria, K-BIT was applied individually. EQ-i:YV, firstly (evaluation 1), was applied collectively in each school (October–November), but then (evaluation 2) it was applied online (May–June), because of the lockdown.

### Analysis

SPSS (v. 25) program was used to carry out descriptive analyses and Student t-test for paired samples (after checking the assumption of normality) with \( p \leq .05 \) significance level. G-Power program was used to calculate Cohen’s \( d \) effect size (means: difference between two dependent means) with these interpretations: .20 (small), .50 (medium), and .80 (large).

### Results

Table 2 shows that in the first assessment all the data are within the normal range (medium level), while in the second, the interpersonal and adaptability scales have been reduced to a low level, while the rest have remained at a medium level. 

\( T \) test for paired samples has shown that the scores are statistically lower in the second evaluation compared to the first: intrapersonal \( (p = .002) \), interpersonal \( (p = .003) \), adaptability \( (p = .004) \), and EI \( (p = .001) \). However, the stress management scale has not shown significant differences.

### DISCUSSION

This study has revealed a reduction in EI and intrapersonal, interpersonal, and adaptability scales. This pandemic situation is having a negative impact on children’s emotions (Berasategi et al., 2020; Kontoangelos et al., 2020; Liu, Huang, Shi, & Lu, 2020) and this study shows that this, in turn, negatively impacts on children’s EI. Because children are more vulnerable to negative effects in adverse situations, it could explain the observed reduction (Yan Jiao et al., 2020). Therefore, these authors highlight that the prolonged situation they have had to deal with during the lockdown has increased negative emotions, favoring the reduction of EI. In contrast to previous studies (Berasategi et al., 2020; Kontoangelos et al., 2020; Liang et al., 2020; Wang et al., 2020a; Wang et al., 2020b), stress management has shown a slight improvement but no significant difference. These results could indicate that children have had to assess the stressful situation and make a cognitive effort to try to minimize its emotional impact (Echavarría, 2012).

Low levels of EI decrease well-being and academic performance (Extremera-Pacheco & Fernández-Berrocal, 2004), which highlights the need to enhance EI development in all children affected by this pandemic situation. Therefore, it is necessary to develop personal resources and transversal skills that allow for an effective confrontation of this situation (Alloola et al., 2020). The school represents a key in this process, because in addition to promoting academic development, it also influences the socioemotional development of students (Wang et al., 2020a; Wang et al., 2020b).

The main limitations of the study are the small sample size and that EQ-i:YV was applied under different conditions (because of the lockdown). Therefore, the results can only be generalized to children aged 9–10 years, so for future studies, it would be convenient to study other age
Table 2
Descriptive and Comparative Data of the Study Variables

|                          | M     | SD   | 95% CI          | t     | p     | d    |
|--------------------------|-------|------|-----------------|-------|-------|------|
| **Intrapersonal**        |       |      |                 |       |       |      |
| Evaluation 1             | 101.47| 10.39| [97.85–105.10]  | 3.388 | .002  | .58  |
| Evaluation 2             | 90.18 | 16.63| [84.37–95.98]   |       |       |      |
| **Interpersonal**        |       |      |                 |       |       |      |
| Evaluation 1             | 103.00| 13.50| [98.23–107.71]  | 3.181 | .003  | .55  |
| Evaluation 2             | 89.35 | 19.33| [82.61–96.10]   |       |       |      |
| **Adaptability**         |       |      |                 |       |       |      |
| Evaluation 1             | 99.59 | 14.83| [94.41–104.76]  | 3.141 | .004  | .54  |
| Evaluation 2             | 87.79 | 14.15| [82.86–92.73]   |       |       |      |
| **Stress management**    |       |      |                 |       |       |      |
| Evaluation 1             | 100.85| 11.57| [96.82–104.89]  | −1.652| .108  | −.28 |
| Evaluation 2             | 104.74| 12.76| [100.28–109.19] |       |       |      |
| **Emotional intelligence**|      |      |                 |       |       |      |
| Evaluation 1             | 102.53| 13.16| [97.94–107.12]  | 3.666 | .001  | .63  |
| Evaluation 2             | 90.06 | 16.40| [84.33–95.78]   |       |       |      |

Note: n = 34.

The study concludes by highlighting a decrease in children’s (aged 9–10) EI and its scales (intrapersonal, interpersonal, and adaptability) after the lockdown by COVID-19. The pandemic situation, in addition to cognitive and academic aspects, is also affecting student’s EI, so it would be advisable to enhance its development at school. Thus, the possible consequences that low levels of EI may have on cognitive, psychological, or academic processes could be mitigated.

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