



# Back to school after the pandemic: Adjustment of Spanish children and adolescents

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**Título:** La vuelta al colegio tras la pandemia: Adaptación de los niños y adolescentes españoles.

**Resumen:** Para frenar la propagación del COVID-19, el gobierno español aplicó medidas restrictivas, como el cierre escolar. Aunque los efectos de la pandemia en el bienestar emocional de los niños han sido estudiados, faltan estudios que examinen la adaptación escolar tras la pandemia y el papel que la infección ha tenido en el proceso de adaptación. El objetivo es analizar la relación entre los eventos estresantes relacionados con la escuela y la adaptación escolar después del confinamiento, incluyendo la ansiedad como mediadora. Los participantes fueron 219 padres de niños y adolescentes españoles de entre 3 y 18 años que completaron encuestas sobre la ansiedad de sus hijos (Spanish Brief Child Version of the Spence Children's Anxiety Scale), los eventos estresantes vividos relacionados con la escuela (Stressful Eventos relacionados con el Inventario de Pandemia), y la adaptación escolar (Escala de Ajuste de los Niños después del Cierre Escolar de la Pandemia). Los resultados mostraron mayor prevalencia en el evento estresante distancia social (87%). Tener COVID-19 y sufrir acoso escolar se relacionó directamente con una mayor ansiedad. Los niños que disminuyeron el contacto social y sufrieron acoso escolar mostraron peor adaptación escolar, siendo la ansiedad un mediador indirecto. Los hallazgos destacan la importancia de supervisar la adaptación escolar y promover estrategias para prevenir problemas emocionales en jóvenes expuestos a situaciones estresantes.

**Palabras clave:** Niños y adolescentes. COVID-19. Cierre de centros educativos. Ansiedad. Eventos estresantes.

**Abstract:** Aiming to mitigate the COVID-19 spread, the government of Spain applied restrictive measures, like schools' closure. Although the effects of the pandemic on children's emotional well-being have been studied, there is a lack of studies examining school adjustment following the pandemic and the role that the infection has played in the adjustment process. The objective is to analyze the relationship between stressful events related to school experienced by children and their adjustment to school after the home confinement, including anxiety as a mediator variable. Participants were the parents of 219 Spanish children and adolescents aged 3 and 18 years who completed a survey about their children's anxiety (Spanish Brief Child Version of the Spence Children's Anxiety Scale), the stressful events experienced related to school (Stressful Events related to Pandemic Inventory), and the adjustment to school (Adjustment of Children after Pandemic School Closure Scale). Results showed that social distance was the most reported stressful event (87%). Having COVID-19 and experiencing bullying were directly related to a high level of anxiety. Children's who decreased social contact and experienced bullying showed a worse adjustment to school. Anxiety was an indirect mediator of this relationship. Findings highlight the importance of supervising school adaptation and promoting strategies to prevent emotional problems when the youths are exposed to stressful situations.

**Keywords:** Children and adolescents. COVID-19. School closure. Anxiety. Stressful events.

## Introduction

COVID-19, an infectious disease caused by the SARS-CoV-2 virus, was first detected in the city of Wuhan (China) at the end of December 2019, spreading rapidly throughout the world. On January 30, 2020, the World Health Organization considered the outbreak a "public health emergency of international importance" and five weeks later declared it a pandemic, reporting more than a hundred countries with more than 100,000 infected cases (Fernández-Ballesteros & Sánchez-Izquierdo, 2020).

Spain was one of the most affected countries in Europe, becoming a major focus of the pandemic (European Centre for Disease Prevention and Control, 2020). To stop the spread of the virus and reduce the health emergency, the Spanish government decreed a state of alarm throughout the national territory on March 14, 2020, establishing mandatory home confinement, which ended on May 11, 2020, when a de-escalation process began that ended on June 21, with a "new normality" phase. The confinement in Spain entailed severe preventive measures based on limiting social contact

and only allowing essential activities (attending health centers or purchasing food/medicine). Home isolation, the closure of educational and commercial centers, limitations on citizens' freedom of movement, and social distancing were measures applied during the state of alarm.

The COVID-19 pandemic negatively influenced youth's mental health, and most international studies reported an increase in emotional and behavioral symptoms (e.g., Creswell et al., 2021; Pearcey et al., 2020). Negative effects on psychological welfare have also been reported in studies with Spanish population (Amorós-Reche et al., 2022). Specifically, the most frequent symptoms noted were behavioral and peer problems (Gómez-Becerra et al., 2020), hyperactivity and prosociality problems (Andrés-Romero et al., 2021), anxiety (García-Adasme et al., 2021; Lavigne-Cerván et al., 2021; Orgilés et al., 2021), sadness and anger (Berasategi Sancho et al., 2021), and a worse self-concept (González-Valero et al., 2020), among others. Emotional problems were reported more frequently in older children and adolescents (García-Adasme et al., 2021; Lavigne-Cerván et al., 2021) and more in girls than in boys (Castillo-Martínez et al., 2022; Tamarit et al., 2020). Some variables were examined in an attempt to explain the increase in emotional problems in youth during the pandemic. In that line, parental stress was related to worse psychological well-being in children in some studies (Melero et al., 2021; Romero et al., 2020), as well as changes in routines (Andrés-Romero et al., 2021).

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During the first stages of a pandemic, numerous stressful events, such as the uncontrollability of the situation, fear of contagion, and concern about relatives' health or social distance, had to be faced (Sandín & Chorot., 2017). Children and adolescents experienced some specific stressors, highlighting the school closure as the main one. School closure implied a change in their health habits, with a decrease in physical activity, as compulsory exercise was not allowed, and an increase in screen-use time, as the restrictions promoted sedentary activities (Rundle et al., 2020). Also, the educational system changed to an online format, which increased the youth's workload (Tzankova et al., 2022) and implied technical resources that may not be accessible to low-income students (Goudeau et al., 2021; Sharfstein & Morpew, 2020). A decrease in social and extracurricular activities, such as sports, birthdays, or friends' visits, could increase the feeling of loneliness that used to be linked to worse emotional well-being (Cooper et al., 2021).

Despite the diversity of studies examining the consequences of the COVID-19 pandemic on psychological well-being, to our knowledge, there is no research on the adjustment of Spanish children and adolescents when they returned to school six months after its closure as a measure to curb contagion. Therefore, this study aims to: a) analyze the prevalence of some stressful events related to school and peers that children and adolescents experienced during the COVID-19 pandemic; b) study the relationship between stressful events, childhood anxiety, and the level of school adjustment; c) analyze childhood anxiety as a mediator between stressful events and school adjustment. It is hypothesized that the adjustment of children and adolescents to school will be influenced by the stressful events experienced during the crisis caused by COVID-19 and mediated by anxiety.

## Method

### Participants

Participants were 219 parents of Spanish children and adolescents aged between 3 and 18 years ( $M = 8.68$ ,  $SD = 3.69$ ), 45% girls. Most of the parents were female ( $n = 188$ ; 85.9%), married ( $n = 198$ ; 90.6%), with a mean age of 42.11 years ( $SD = 5.22$ ). Regarding educational level, most participants had undergraduate studies ( $n = 81$ , 36.9%), although all educational levels were represented. The characteristics of the sample are described in Table 1.

The inclusion criteria for parents' participation in the study were having children and adolescents aged between 3 and 18 years and giving their informed consent. Children and adolescents who were receiving psychological or pharmacological treatment were excluded.

## Procedure

The study was approved by the Ethics Committee of the authors' institution. The sample was recruited through social networks (Facebook, Twitter, and Instagram) because confinement precluded direct contact with the participants. An ad hoc survey was created and distributed through the Google Forms application, using the non-probabilistic snowball method. Information was obtained on sociodemographic variables, stressful events experienced during the COVID-19 pandemic, symptoms of childhood anxiety, and the school adjustment of children and adolescents during the last trimester of 2020, that is, six months after the end of confinement and the school's closure. Before completing the survey, parents were informed about the content and objectives of the study, and their informed consent was obtained. Data were collected over a period of 15 days.

**Table 1**  
*Characteristics of the sample (N = 219)*

Parents	
Female, N (%)	188 (85.9)
Age, M (SD)	42.11 (5.22)
Educational level, N (%)	
Doctor or master's degree	59 (26.8)
Grade studies	81 (36.9)
Secondary studies	56 (25.5)
Primary studies	23 (10.7)
Civil status, N (%)	
Married	198 (90.6)
Single	21 (9.6)
Socioeconomic level, N (%)	
Up to 999€	11 (5.4)
Between 1000 and 1999€	72 (33.1)
Between 2000 and 2999€	66 (30)
Between 3000 and 4999€	61 (27.7)
5000€ or more	9 (3.8)
Children	
Girls, N (%)	98 (45)
Boys, N (%)	121 (55)
Age, M (SD)	8.68 (3.69)

## Instruments

*Stressful Events related to Pandemic Inventory* (Orgilés et al., 2020). The 25-item inventory collects information about stressful events related to the pandemic. Parents participating in this study completed the subscale "Stressful events related to school and peers." The inventory includes six items with a dichotomic response (yes/no) about six events related to school or relationships with peers: "My child has fallen ill with COVID-19," "My child's class has been confined," "My child has changed schools," "My child has begun Compulsory Education," "My child has suffered problems of bullying at school," and "My child has reduced social contact (e.g., not attending extracurricular activities or children's birthday parties)."

*Brief Spanish Version of the Spence Children's Anxiety Scale* (SCAS-C-8; Rodríguez-Menchón et al., 2021). The SCAS-C-

8 assesses anxiety symptoms with eight items about the most frequent anxiety symptoms in children and adolescents, rated on a four-point Likert-type scale ranging from 0 (*never*) to 3 (*always*). It has adequate internal consistency (ordinal  $\alpha = .75$ ), and a reliability of .89 in the present study sample.

*Adjustment of Children to School after their Closure for the Pandemic Scale* (Orgilés et al., 2021). Children and adolescents' adjustment to school when it reopened after closure due to the pandemic was evaluated through an ad hoc scale. The scale has eight items: "It has been difficult for my child to return to school," "It has been difficult for my child to follow face-to-face classes," "My child's grades have worsened compared to last year," "My child shows more rejection when doing homework at home," "My child needs school support to reach the level of his/her class," "My child has problems relating to his/her classmates," "My child is more dependent on electronic devices (such as mobile phones, iPads or computers)" and "My child has been afraid to go to school (for fear of being infected or of infecting a family member)." The items are rated on a four-point Likert-type scale ranging from 0 (*not at all*) to 3 (*a lot*). The total score ranges between 0 and 24 points, with higher scores indicating worse school adjustment. The reliability of the scale for the study was .90.

### Statistical analyses

Data were analyzed using the SPSS v28.00 program. Descriptive statistics were used to analyze the sample characteristics:  $N$  (%) for categorical variables and  $M$  ( $SD$ ) for continuous variables. As the sample distribution was not normal, non-parametric procedures were applied. First, Spearman correlations were calculated to study the relationship between the variables of childhood anxiety and school adjustment. Subsequently, the Mann-Whitney  $U$  test was applied to explore the relationship between stressful events (assessed as having been exposed to the event or not) and continuous variables (childhood anxiety and school adjustment). Additionally, considering the ordinal nature of the instruments, the ordinal alpha of the scales used was calculated using the statistical analyses of R Studio Version 1.4.1717.

Based on the mediation models estimated with the macro PROCESS v.4.0 (Hayes, 2013; Preacher & Hayes, 2008) for SPSS, we explored the possible mediating role of childhood anxiety in the relationship between exposure (or no exposure) to specific stressful events and the level of school adjustment. Therefore, the predictor variable ( $X$ ) was the stressful event (having been exposed or not), the proposed mediator ( $M$ ) was childhood anxiety, and the outcome ( $Y$ ) was the children's school adjustment.

Lastly, the asymmetric confidence interval was based on the bootstrap method with 5,000 repetitions and a significance criterion of  $p \leq .05$ . Path  $\alpha$  shows the relationship between the stressful event (yes/no) and child anxiety. Path  $\beta$  shows the relationship between childhood anxiety and school adjustment. Therefore, mediation was considered to

be present when zero was not included in the confidence interval for indirect effects.

## Results

### Stressful events during the COVID-19 pandemic, child anxiety, and school adjustment

Table 2 shows the prevalence of the stressful events studied. The frequency ranged from 8.7% (having been a victim of bullying) to 87.2% (reduced social relationships of the child).

**Table 2**  
Frequency and percentage of stressful events related to school and friends ( $N = 219$ )

Stressful event	$N$ (%)
1. My child has fallen ill with COVID-19	23 (10.5)
2. My child's class has been confined	39 (17.8)
3. My child has changed schools	22 (10)
4. My child has begun Compulsory Education	31 (14.2)
5. My child has suffered from bullying problems at school	19 (8.7)
6. My child has reduced social contact	191 (87.2)

Low scores were obtained in child anxiety ( $M = 8.73$ ,  $SD = 6.90$ ; range = 0-31) and school adjustment ( $M = 5.09$ ,  $SD = 4.79$ ; range = 0-21), indicating that the presence of anxiety in children and adolescents was low, and their level of school adjustment was good. Furthermore, correlation between childhood anxiety and school adjustment was also moderate ( $\rho = .49$ ;  $p < .001$ ).

Likewise, using the Mann-Whitney  $U$  test, we explored differences in child anxiety and school adjustment scores between children who had been exposed to each stressful event and those who had not. However, according to the results of this test, no differences were found except for the events "My child has fallen ill with COVID-19" and "My child has suffered from bullying problems at school." Therefore, children and adolescents who had had COVID-19, compared to those who had not, presented higher anxiety scores ( $M = 13$ ,  $SD = 8.87$  vs.  $M = 8.23$ ,  $SD = 6.48$ ; Mann-Whitney  $U = 1527.50$ ,  $Z = -2.50$ ,  $p = .01$ ,  $r = .16$ ) and worse school adaptation ( $M = 7.87$ ,  $SD = 5.43$  vs.  $M = 4.76$ ,  $SD = 4.61$ ; Mann-Whitney  $U = 1500$ ,  $Z = -2.63$ ,  $p = .008$ ,  $r = .17$ ). Participants who had experienced bullying problems at school had higher anxiety scores ( $M = 16.68$ ,  $SD = 8.40$  vs.  $M = 7.97$ ,  $SD = 6.26$ ; Mann-Whitney  $U = 758.50$ ,  $Z = -4.31$ ,  $p < .001$ ,  $r = .29$ ) and a worse school adjustment ( $M = 8.89$ ,  $SD = 5.01$  vs.  $M = 4.73$ ,  $SD = 4.62$ ; Mann-Whitney  $U = 981$ ,  $Z = -3.50$ ,  $p < .001$ ,  $r = .23$ ) than those who had not suffered these experiences of bullying.

### Child anxiety as a mediator between stressful events and children's school adjustment

Table 3 shows the results of the statistically significant mediation models. Two steps were carried out: Step 1 (without controlling for the sex and age of the children and ado-

lescents) and Step 2 (controlling for the sex and age of the children and adolescents).

### Step 1

In the first step, childhood anxiety was revealed as a mediating variable of the relationship between three stressful events (having COVID-19, having suffered bullying, and children's reduced social contact) and the level of school adjustment. Therefore, children and adolescents who had been exposed to the aforementioned stressful events showed poorer school adjustment, suggesting that these results may be indirectly associated with an increased level of anxiety in these children and adolescents. The rest of the models, in which the other stressful events were included, were not statistically significant.

In the  $\alpha$ -path, a direct and significant relationship ( $p < .05$ ) was found between two of the stressful events (having COVID-19 and having suffered bullying problems at school) and childhood anxiety. In addition, the relationship between "children's reduced social contact" and child anxiety was marginally significant ( $p = .06$ ). Therefore, children exposed to the above-mentioned stressful events were more likely to have higher anxiety scores than those who had not had these experiences. In the  $\beta$ -path, a direct and statistically significant relationship was observed between the level of childhood anxiety and school adjustment. This suggests that children and adolescents with higher anxiety had poorer school adjustment.

### Step 2

In the second step, controlling for the children and adolescents' age and sex, the mediation results of Step 1 were maintained, except for the model that included the stressful event "having COVID-19," which was nonsignificant. Therefore, children who had been exposed to bullying problems and had reduced social contact showed poorer school adjustment, suggesting that this result may be indirectly associated with an increased level of anxiety. The rest of the models, in which the other stressful events were included, were not statistically significant.

We observed that the results obtained in Step 1 were maintained in the  $\alpha$ -path. There was a direct and significant relationship between two of the events (having COVID-19 and having suffered bullying problems at school) and anxiety. The relationship between the stressful event "children's reduced social contact" and child anxiety was marginally significant ( $p = .057$ ). Therefore, children exposed to these stressful events were more likely to present higher anxiety scores compared to the group of children and adolescents without these stressful experiences.

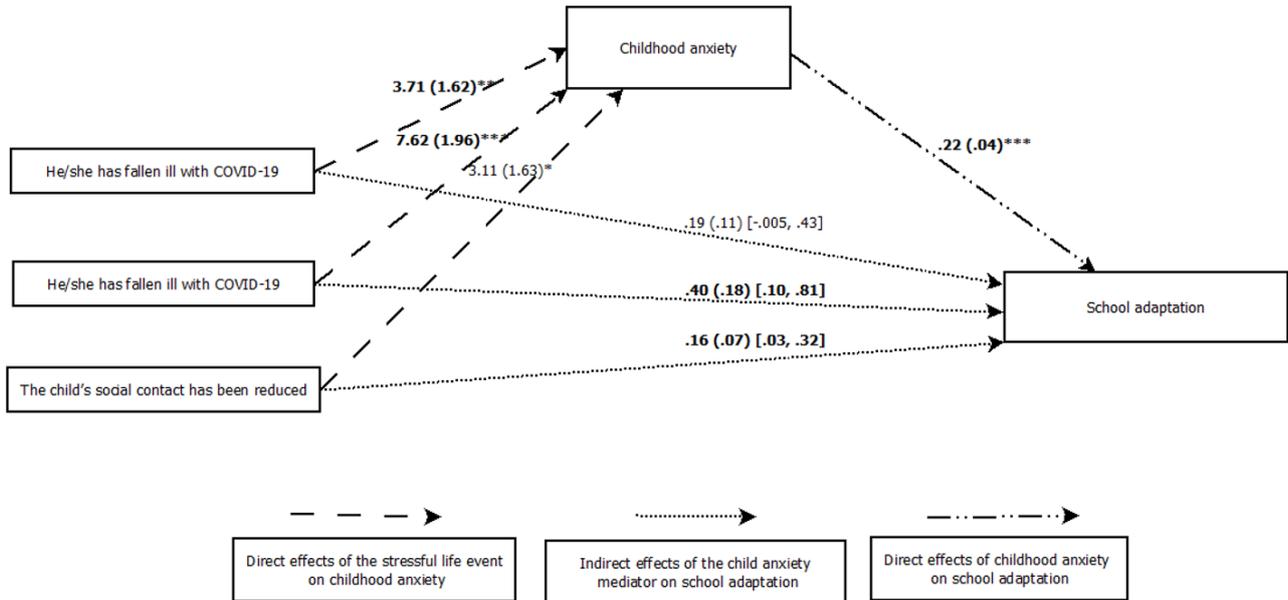
The results of Step 1 were maintained in the  $\beta$ -path, that is, there was a direct and statistically significant relationship between the level of childhood anxiety and school adjustment. This finding suggests that children with higher anxiety had poorer school adjustment.

**Table 3**  
*Childhood anxiety as a mediator between stressful events and school adjustment*

Stressful events	Effect of stressful event on child anxiety			Effect of anxiety on school adjustment			Indirect effects of the potential mediator (anxiety) on school adjustment Ind1 <sup>c</sup>
	Path $\alpha$ (SE)	95% CI	$p$ value	Path $\beta$ (SE)	95% CI	$p$ value	
<b>Step 1:</b>							
My child has fallen ill with COVID-19	4.76 (1.49)	1.82, 7.70	<b>.001</b>	.33 (.04)	.25, .41	<b>&lt;.001</b>	<b>.33 (.33) [.07, .58]</b>
My child has suffered problems of bullying at school	8.70 (1.55)	.64, 11.77	<b>&lt;.001</b>	.32 (.04)	.24, .41	<b>&lt;.001</b>	<b>.59 (.15) [.33, .92]</b>
My child has reduced social contact	2.56 (1.39)	-.17, 5.30	<b>.06</b>	.34 (.04)	.26, .42	<b>&lt;.001</b>	<b>.18 (.08) [.03, .34]</b>
<b>Step 2:</b>							
My child has fallen ill with COVID-19	3.71 (1.62)	.50, 6.93	<b>.02</b>	.21 (.04)	.13, .30	<b>&lt;.001</b>	<b>.19 (.11) [-.005, .43]</b>
My child has suffered problems of bullying at school	7.67 (1.96)	-.78, 11.50	<b>.001</b>	.22 (.04)	.13, .30	<b>&lt;.001</b>	<b>.40 (.18) [.10, .81]</b>
My child has reduced social contact	3.11 (1.63)	-.10, 6.34	<b>.057</b>	.22 (.04)	.14, .30	<b>&lt;.001</b>	<b>.16 (.07) [.03, .32]</b>

CI = Confidence interval; SE = standard error. <sup>a</sup>Path  $\alpha$  is the effect of the stressful event on child anxiety. <sup>b</sup>Path  $\beta$  is the effect of childhood anxiety on school adjustment. <sup>c</sup>Ind 1 =  $X - M1 - Y$ . <sup>d</sup>Asymmetric CI based on the Bootstrap method with 5000 replications. Step 1: Estimated models without controlling for children and adolescents' sex and age. Step 2: Mediation analyses were adjusted for the children and adolescents' sex and age.

**Figure 1**  
Anxiety as a mediator between stressful events and adaptation to school



## Discussion

This study aimed to analyze the prevalence of specific stressful events related to school and friends during the COVID-19 pandemic and to examine their relationship with the level of adaptation when returning to school after six months of absence due to closure, including anxiety as a mediator.

The study results indicate that the most prevalent stressful event was the reduction of social contact, reported by 87% of the parents, which implied the limitation of activities such as attending extracurricular activities or peers' birthday parties. Suffering from bullying problems at school was the least reported event, with 8.7%. When examining the variation of anxiety and adjustment to school vary between children who have or have not experienced each stressful event, we found that children who had been ill with COVID-19 and who had suffered bullying at school had more anxiety and worse adjustment to school than children who had not experienced such situations. Getting infected with COVID-19 and being bullied at school were directly related to anxiety. Previous studies (García-Adasme et al., 2021; Lavigne-Cerván et al., 2021; Orgilés et al., 2021) have shown that the pandemic has led to a higher level of anxiety symptoms in children and adolescents because it is an unexpected and uncontrollable event with a lack of information on contagion, which involved a considerable number of deaths in the early stages of the pandemic. It is not surprising, therefore, that children infected with the COVID-19 virus had higher anxiety levels. The return to school after six months of closure implied a worse adjustment for children who had had the disease. One of the most prevalent symptoms in previous studies (Samji et al., 2022) was COVID-19-related fear.

Thus, although further research is needed, children who had the disease and had experienced its symptoms would probably show a high fear of returning to school, as they could perceive it as a place with social contact and a high probability of re-infection. Also, in agreement with the results of our study, bullying was related to a high level of anxiety in previous studies (Kowalski & Limber, 2013; Zych et al., 2015), as well as a worse adjustment to school because that is where the bullying occurs.

From the mediation models, we observe that children who suffered bullying and reduced their social activity showed worse adjustment to school, with anxiety as an indirect mediator. The study's results agree with previous studies that show negative psychosocial and academic outcomes of children who suffered bullying, including poorer school performance and peer rejection (Halliday et al., 2021). Thus, these children show a worse adjustment to school. Besides, reducing social contact can sometimes favor a worse adjustment to school because, for months, the children had no contact with their peers. As a result, it could be difficult for them to restore their social activity or carry out academic activities at school, especially when there is a risk factor that makes them more vulnerable, such as shyness or social anxiety (Espada et al., 2020). In fact, although the relationship was marginally significant, limiting social contact was associated with higher anxiety, in line with previous studies (Fruehwirth et al., 2021; Marroquín et al., 2020).

## Conclusions

This study has some limitations and strengths. The main limitation is that it is a cross-sectional study, so we cannot de-

termine a cause-and-effect relationship between the variables. Also, the small sample size could limit the interpretation and generalization of some of the results. Furthermore, the questionnaires used to evaluate exposure to stressful events and the level of school adjustment were created ad hoc because no validated measures were available to evaluate these constructs concerning the COVID-19 pandemic. In addition, the evaluation was carried out online and completed only by the parents because the confinement prevented direct contact with the participants. However, although it would have been better to apply these evaluation instruments to the child and adolescent population, the procedure used is considered adequate and has been widely used in research carried out during the pandemic (Spinelli et al., 2020).

Despite the limitations, the present study addresses an objective about which information is still lacking. Numerous studies have confirmed the impact of the pandemic on the psychological well-being of children and adolescents. Still, few researchers have tried to determine how children adjusted to returning to school after its closure and what stressors affected them. The results indicate that having had COVID-

19 and having suffered bullying are two significant events that increase anxiety and lead to children's worse adjustment to school. As clinical implications of this study, we highlight the need to monitor children and adolescents' emotional well-being at school, taking advantage of the school as a field of detection and prevention of emotional problems. This could be carried out by implementing intervention programs (Orgilés et al., 2020) that provide the necessary skills for people to develop emotional resilience and successfully face stressful events. Also, reducing the level of anxiety related to stressful events may decrease school maladjustment. Stressful events are unpredictable and unexpected, but learning strategies to manage them may help children face them with a low level of anxiety, consequently enhancing their school adjustment.

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