



## Parental stress as a mediator between parents' emotion regulation and youth's psychological symptoms during the COVID-19 lockdown: a cross-sectional study

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### KEYWORDS

Emotion regulation  
Cognitive reappraisal  
Expressive suppression  
Parental stress  
Psychological symptoms

### ABSTRACT

Mental health in families has been affected by COVID-19 stressors. Parental stress and emotion regulation can moderate the emotional effects on their children. This study analyzes the role of parental stress as a mediating variable between parents' emotion regulation and children's symptoms. Participants were 214 parents of youth aged 3–17 years, who completed an online survey providing information about parental variables and symptoms in their children. The results show that parental stress mediates the relationship between parental emotion regulation and children's psychological symptoms. Thus, parents who used cognitive reappraisal strategy less frequently reported more psychological symptoms in their children and higher parental stress. Parents who used expressive suppression more frequently also reported more psychological symptoms in their children and higher parental stress. The present study provides novel information by relating parental psychological variables with psychological variables in youth during a period characterized by the most significant psychological impact of the COVID-19 pandemic.

### El estrés parental como mediador entre la regulación emocional parental y los síntomas psicológicos en niños durante la pandemia por COVID-19: un estudio transversal

### PALABRAS CLAVE

Regulación emocional  
Reevaluación cognitiva  
Supresión expresiva  
Estrés parental  
Síntomas psicológicos

### RESUMEN

La salud mental de las familias se ha visto afectada por los factores estresantes de la COVID-19. El estrés y la regulación emocional de los progenitores pueden moderar los efectos emocionales en sus hijos. Este estudio analiza el papel del estrés parental como variable mediadora entre la regulación emocional de los progenitores y los síntomas de menores. Los participantes fueron 214 progenitores de jóvenes entre 3 y 17 años, que completaron una encuesta *online* que proporcionó información sobre variables parentales y los síntomas de sus hijos. Los resultados muestran que el estrés parental media la relación entre la regulación emocional de los progenitores y los síntomas psicológicos de los menores. Por lo tanto, los padres que utilizaron la estrategia de reevaluación cognitiva con menos frecuencia informaron más síntomas psicológicos en sus hijos/as y un mayor estrés parental. Los progenitores que usaron la supresión expresiva con mayor frecuencia también informaron más síntomas psicológicos en sus hijos/as y un mayor estrés parental. El presente estudio proporciona información novedosa al relacionar variables psicológicas de los progenitores con variables psicológicas de los niños y adolescentes durante un período caracterizado por el impacto psicológico más significativo de la pandemia de COVID-19.

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The mental health of adults (González-Sanguino et al., 2021) and youth (Erades & Morales, 2020; Francisco et al., 2020; Orgilés, Espada et al., 2021) has worsened during the COVID-19 pandemic. Parents' depression, anxiety, and burnout increased during the pandemic outbreak, affecting their negative emotions (Kerr et al., 2021). Parental stress is determined by COVID-19-related events, including more symptoms of anxiety and depression (Brown et al., 2020). Parental emotion regulation can moderate the relationship between emotional contagion and concern about COVID-19, according to previous studies (Prihaidko et al., 2020).

Studies conducted during the pandemic showed that youth with an emotion-oriented coping style had more anxious symptoms and a higher level of behavioral, mood, sleep, and cognitive alterations. However, youth with task-oriented and avoidance-oriented styles were better adapted psychologically (Orgilés, Morales et al., 2021). On the other hand, parents reported more emotional problems in their children when family coexistence during the quarantine was more difficult, the situation was more serious, and the level of stress was higher (Orgilés et al., 2020).

Differences have been found in the psychological symptoms caused by the pandemic according to the children's gender. Hen et al. (2022) reported an increase in emotion regulation problems in boys and an increase in emotional and behavioral problems in girls. The increase in emotion regulation problems may be due to the general stress perceived by families at the beginning of the pandemic and the change in daily routines. Furthermore, several studies have concluded the existence of a relationship between youth's emotional problems and parental and family variables. Higher levels of parental stress (Orgilés et al., 2020) and lower parental resilience (Andrés-Romero et al., 2021) were associated with children's and adolescents' greater emotional problems. Shorer and Leibovich (2022) found that parental emotion regulation plays a key role in children's psychological symptoms, with a significant relationship between children's stress reactions, difficulties in parental emotion regulation, and the level of exposure to stressful situations. They concluded that parental emotion regulation is a mediating variable between children's stress exposure and stress reactions.

Thus, there is evidence that difficulties in parental emotion regulation and parental stress are related to youth's emotional problems. Consequently, studies such as that of Francisco et al. (2020) highlight the need to explore possible mediating variables related to parents or the family environment (e.g., parental stress) that may reduce the psychological symptomatology of children and adolescents in pandemic situations. Camisasca et al. (2022) found that parental stress and negative co-parenting act as mediating variables between parental emotion dysregulation and child adjustment. Also, these authors suggest that higher levels of parental stress could create a negative emotional environment for children.

Emotion regulation processes encompass five groups of strategies depending on the emotion generation stage in which people first act (McRae & Gross, 2020): situation selection (includes avoidance), situation modification (with a direct request), attentional deployment (comprises distraction and rumination), cognitive change (contains cognitive reappraisal and acceptance), and response modulation (which encompasses expressive suppression

and physiological intervention). Cognitive reappraisal and expressive suppression stand out among emotion regulation strategies. Cognitive reappraisal refers to the interpretation of a situation to modify its emotional impact, and expressive suppression alludes to the elimination of external emotional expression (McRae & Gross, 2020). Many studies have focused on reappraisal, as this strategy is effective and adaptive. In contrast, expressive suppression does not produce large changes, or produces opposite changes, in negative emotion (Kaloerinos et al., 2015).

This study has two objectives. Firstly, to study the relationship between parental emotion regulation, perceived parental stress, and children's psychological symptoms (anxiety symptoms, mood alterations, sleep problems, behavioral problems, alterations in eating, and cognitive alterations). Secondly, to examine the role of perceived parental stress as a mediating variable between parents' emotion regulation (cognitive reappraisal and expressive suppression) and their children's psychological symptoms.

## Method

### Participants

Participants were 214 parents with a mean age of 41.1 years ( $SD = 5.79$ ), of whom 87.9% were women. The predominant educational level in the sample is graduate (41.1%). Most were married (86.4%), with a predominant socioeconomic income level between 2,000 and 2,999 euros per month (29.7%). The children were aged between 3 and 17 years ( $M = 7.78$ ,  $SD = 3.78$ ), and 46.3% were girls (Table 1). The age of children

**Table 1**  
*Description of the sample (N = 214)*

Parents	
Female, <i>N</i> (%)	188 (87.9)
Age, <i>M</i> ( <i>SD</i> )	41.1 (5.79)
Education level, <i>N</i> (%)	
PhD or Master	70 (32.7)
Graduate	88 (41.1)
Secondary education	44 (20.6)
Primary education	12 (5.6)
Marital status, <i>N</i> (%)	
Married	185 (86.4)
Bachelor	28 (13.1)
Other	1 (0.5)
Socioeconomic status, <i>N</i> (%)	
Up to 999	14 (7.2)
Between 1,000 and 1,999	56 (28.7)
Between 2,000 and 2,999	58 (29.7)
Between 3,000 and 4,999	54 (27.7)
5,000 or more	13 (6.7)
Children	
Girl, <i>N</i> (%)	99 (46.3)
Age, <i>M</i> ( <i>SD</i> )	7.78 (3.78)

showed the following quartile distribution: Q1 = 4.0 (years), Q2 = 7.0 (years), Q3 = 10.0 (years).

### Instruments

Participants completed an online survey that included the parents' and their children's sociodemographic variables, the parents' level of emotion regulation (cognitive reappraisal and expressive suppression), perceived parental stress, and their children's psychological symptoms associated with the COVID-19 pandemic (anxiety, mood alterations, sleep problems, behavioral problems, eating alterations, and cognitive alterations). The fieldwork was conducted in April 2020.

The sociodemographic variables were the respondent's (father or mother) age and gender, educational level, marital status, socioeconomic level, and the age and gender of the child or adolescent.

Parents' emotion regulation was assessed using the *Emotion Regulation Questionnaire* (ERQ; Gross & John, 2003; Spanish adaptation by Cabello et al., 2012). This 10-item scale evaluates the tendency to regulate emotions through two subscales: (1) Cognitive reappraisal with 6 items (McDonald's  $\omega = .87$ ) and (2) Expressive suppression with 4 items (McDonald's  $\omega = .76$ ). Items are rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). In this study, the reliability index was adequate (McDonald's  $\omega = .81$ ).

Parental stress was assessed using the *Perceived Stress Scale* (PSS; Cohen et al., 1983; Spanish adaptation by Remor et al., 2006). A short 10-item version with a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*) was used, based on the item pool of the full version of the PSS. This version includes Items 1, 2, 3, 6, 7, 8, 9, 10, 11, and 14. The higher the score, the greater the perceived stress. In this study, the reliability index for the total scale was adequate (McDonald's  $\omega = .71$ ).

Children's psychological symptoms were assessed with the *COVID-19 Psychological Impact Scale and confinement in children and adolescents* (COVID-19 Escala de impacto psicológico y confinamiento en niños y adolescentes, Orgilés, Morales et al., 2021). The instrument presents evidence of validity with measures of anxiety (SCAS-P) and depression (SMFQ-P) (Francisco et al., 2020). The stem statement reads: "During the last few days, compared to before the lockdown, to what extent have you noticed that your child...". It includes 10 items related to anxiety (e.g., "is worried" and "fears catching COVID-19") (McDonald's  $\omega = .84$ ), 6 mood-related items (e.g., "is sad") (McDonald's  $\omega = .85$ ), 5 items related to sleep disturbances (e.g., "is afraid to sleep alone") (McDonald's  $\omega = .83$ ), 6 items related to behavioral disturbances (e.g., "discusses with the rest of the family") (McDonald's  $\omega = .88$ ), 2 items related to eating disorders (e.g., "eats a lot") (McDonald's  $\omega = .16$ ), and 2 items related to cognitive impairments (e.g., "has difficulty concentrating") (McDonald's  $\omega = .58$ ). The response scale ranged from 1 (*much less than before quarantine*) to 5 (*much more than before quarantine*). Response options 4 and 5 indicated that the symptom had worsened during quarantine. Cases with values of 4 and 5 were assigned 1 (= worsening of the symptom

during quarantine) and the rest 0 (= no worsening of the symptom during quarantine). Then, a sum of the symptoms in which the child had worsened during quarantine was calculated considering all six areas: anxiety symptoms, mood disturbances, sleep problems, behavioral problems, eating alterations, and cognitive alterations. Each factor is the sum of the symptoms in which the child or adolescent worsened during the COVID-19 pandemic (e.g., a value of 6 on the Anxiety subscale indicates that the child worsened in six anxiety symptoms during the pandemic). In this study, the reliability index of the total scale was excellent (McDonald's  $\omega = .93$ ).

### Procedure

As the situation due to the COVID-19 pandemic did not allow face-to-face contact, to obtain the sample, participants were recruited via social networks (Twitter, Facebook, WhatsApp, Instagram). An online survey was created *ad hoc* using the Google Forms platform and was distributed through a snowball strategy. Before participants completed the survey, they were informed about the study's objectives, and their consent was obtained. The present study was approved by the University Miguel Hernández Office of Responsible Research (ref. DPS.MO.01S.17).

### Statistical analysis

Descriptive statistics were used to describe the characteristics of the sample:  $N$  (%) for categorical variables and  $M$  ( $SD$ ) for continuous variables. Due to the absence of normality in the data, nonparametric tests were applied. The relationship between the variables studied (parents' emotion regulation and perceived stress and children's psychological symptoms) was estimated using Spearman correlations. Jamovi 2.3.2 was used to calculate the reliability of the instruments with the study sample, namely McDonald's  $\omega$  (1999). Unlike Cronbach's alpha, McDonald's  $\omega$  uses factor loads and provides a more accurate estimate of reliability (Ventura-León & Caycho-Rodríguez, 2017).

The possible mediating role of parental stress in the relationship between parents' emotion regulation (cognitive reappraisal and expressive suppression) and their children's psychological symptoms during the COVID-19 pandemic was studied. There were 12 mediation models estimated, considering two possible predictors (cognitive reappraisal and expressive suppression) and the six psychological symptom factors as outcome variables (anxiety symptoms, mood disturbances, sleep problems, behavioral problems, eating alterations, and cognitive alterations). Perceived parental stress was the mediator ( $M$ ). Mediation models were estimated with the macro PROCESS v.4.0 (Hayes, 2013; Preacher & Hayes, 2008) for SPSS. The children's and parents' ages and the gender of the children and the reporting parent were included as covariates. The asymmetric confidence interval (CI) was based on the bootstrap method with 5,000 repetitions, and the significance criterion was  $p \leq .05$ . The  $\alpha$  path shows the relationship between parents' emotion regulation and perceived parental

stress. The  $\beta$  path shows the relationship between perceived parental stress and their children's psychological symptoms. When zero was not included in the CI of indirect effects, mediation was accepted. Data were analyzed with SPSS v2 7.00 for Windows.

## Results

### *Relationship between parents' emotion regulation, perceived parental stress, and children's psychological symptoms*

Table 2 shows the means, standard deviations, and correlations between the quantitative variables analyzed. The relationship between the two subscales of the ERQ, which evaluates emotion regulation, was positive and significant, although small ( $\rho = .20$ ), suggesting that the greater the cognitive reevaluation, the greater the expressive pressure. However, they are clearly independent factors.

Cognitive reappraisal was inversely and significantly related to perceived parental stress, such that the greater the use of cognitive reassessment, the lower the perceived parental stress. However, the relationship between expressive suppression and perceived parental stress was direct and significant, suggesting that the more use of expressive suppression, the greater the perceived stress. Positive reappraisal and expressive suppression were not statistically related to children's psychological symptoms, except for symptoms of anxiety and cognitive disturbances. Parents who used expressive suppression reported that their children had more symptoms of anxiety ( $\rho = .21$ ;  $p < .001$ ) and cognitive alterations ( $\rho = .16$ ;  $p < .05$ ), but these relationships were small, although they showed significance.

**Table 2**

*Means, standard deviations and correlations (confidence intervals) for the variables analyzed*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Positive reappraisal	29.59	7.71								
2. Expressive suppression	12.13	5.40	.20**							
			[.07, .32]							
3. Parental stress	19.73	4.14	-.20**	.20**						
			[-.32, -.07]	[.06, .32]						
4. Anxiety	3.61	2.74	.04	.21**	.41**					
			[-.10, .17]	[.08, .33]	[.29, .51]					
5. Mood	2.30	1.86	.02	.06	.33**	.62**				
			[-.12, .15]	[-.07, .20]	[.21, .45]	[.52, .69]				
6. Sleep disturbances	1.36	1.58	-.11	.07	.25**	.50**	.33**			
			[-.24, .03]	[-.06, .20]	[.12, .37]	[.39, .60]	[.21, .45]			
7. Behavioral alterations	2.30	1.81	.03	.08	.39**	.64**	.65**	.32**		
			[-.11, .16]	[-.05, .22]	[.27, .50]	[.56, .72]	[.56, .72]	[.20, .44]		
8. Eating disorders	0.40	0.58	.04	.10	.13	.22**	.16*	.18**	.24**	
			[-.10, .17]	[-.04, .23]	[-.00, .26]	[.09, .35]	[.03, .29]	[.05, .31]	[.11, .36]	
9. Cognitive alterations	0.66	0.72	.06	.16*	.26**	.57**	.45**	.37**	.42**	.16*
			[-.08, .19]	[.03, .29]	[.13, .38]	[.47, .65]	[.34, .55]	[.25, .48]	[.30, .52]	[.03, .29]

\* $p < .05$ . \*\* $p < .001$ .

### *Perceived parental stress as a mediator between parents' emotion regulation and their children's psychological symptoms*

Table 3 shows the results of the mediation models considering the two factors of emotion regulation (cognitive regulation and expressive suppression) as predictors and the six areas of psychological symptoms in children (symptoms of anxiety, mood, sleep disturbances, behavior, eating, and cognitive alterations). Overall, parental stress was revealed as a strong mediator of the relationship between parents' use of emotional regulation strategies (cognitive reappraisal and expressive suppression) and their children's psychological symptoms during the COVID-19 pandemic.

### *Models with cognitive reassessment as a predictor variable (X)*

Parents who used cognitive reassessment less frequently tended to report more psychological symptoms in their children during the pandemic. These results may be inversely associated with an increase in perceived parental stress.

Path  $\alpha$  found an inverse and significant relationship ( $p < .05$ ) between positive reassessment and perceived parental stress ( $\alpha = -.11$ ;  $EE = .03$ ; 95% CI [-0.18, -0.04],  $p = .001$ ). Thus, parents using cognitive reappraisal reported a lower level of perceived stress. Unlike fathers, mothers tended to have a higher level of perceived stress ( $\alpha = 2.24$ ;  $EE = .08$ ; 95% CI [0.50, 3.97],  $p = .01$ ). The ages of the child and the informant, and the child's gender, were not related to perceived stress.

In the  $\beta$  path, a direct and statistically significant relationship was observed between perceived parental stress and the

minors' psychological symptoms (in all the areas studied). This suggests that children and adolescents exposed to parents with a higher level of stress have more symptoms of anxiety, mood-related symptoms, sleep disturbances, and behavior, eating, and cognitive disorders. Younger children ( $\beta = -.10$ ;  $EE = .03$ ; 95% CI [-0.17, -0.04],  $p = .001$ ) and boys ( $\beta = -.66$ ;  $EE = .22$ ; 95% CI [-1.10, -0.22],  $p = .003$ ) had more behavioral problems than older children and girls. The covariates (child's age and gender and informant's age and gender) were not related to the presence of psychological symptoms in the children in the models analyzed.

#### *Models with expressive suppression as a predictor variable (X)*

Parents who used expressive suppression more frequently reported more psychological symptoms in their children (except for eating disturbances). These findings may be inversely associated with increased perceived parental stress.

Path  $\alpha$  found a direct and significant relationship ( $p < .05$ ) between expressive suppression and perceived parental stress ( $\alpha = .14$ ;  $EE = .05$ ; 95% CI [0.04, 0.24],  $p = .001$ ). Thus, parents who used expressive suppression reported having a higher level of perceived stress. Compared to fathers, mothers tended to have a higher level of perceived stress ( $\alpha = 1.87$ ;  $EE = .87$ ; 95% CI [0.14, 3.59],  $p = .03$ ). The ages of the child and informant, as well as the child's gender, were not related to perceived stress.

In the  $\beta$  path, a direct and statistically significant relationship was observed between perceived parental stress and minors' psychological symptoms in all the areas studied, except for eating disorders. This suggests that children and adolescents exposed to parents with a higher level of stress have more symptoms of anxiety, mood-related symptoms, sleep disturbances, and behavioral and cognitive disorders. Younger children ( $\beta = -.11$ ;  $EE = .03$ ; 95% CI [-0.17, -0.04],  $p = .001$ ) presented more behavioral problems than older children. The covariates (child's age and gender and informant's age and gender) were not related to the presence of psychological symptoms in the children in the models analyzed.

## Discussion

The present study aimed to examine the relationship between parental emotion regulation, parental stress, and children's psychological symptoms, as well as to analyze perceived parental stress as a mediating variable between parental emotion regulation and children's symptoms.

The outcomes showed that the more the cognitive reappraisal strategy was employed, the lower the perceived parental stress. On the other hand, the greater the use of the expressive suppression strategy, the higher the degree of stress. These findings are consistent with results from previous studies, which

**Table 3**

*Parental stress perceived as a mediator between parents' emotional regulation and their children's psychological symptoms*

		Effect of parental stress perceived as mediator (M) on the outcome variable (Y) <sup>a</sup>		Indirect effects of perceived parental stress on outcome variable (Y)
	path $\beta$ (EE)	95% CI	<i>p</i> value	Ind1 <sup>b</sup>
Cognitive reassessment (predictor)				
Model 1	.26 (.04)	.18, .35	< .001	-.08 (.03) [ -.16, -.02]
Model 2	.15 (.03)	.09, .21	< .001	-.07 (.03) [ -.14, -.01]
Model 3	.07 (.02)	.02, .12	.004	-.04 (.02) [ -.09, -.006]
Model 4	.17 (.02)	.11, .22	< .001	-.08 (.03) [ -.16, -.02]
Model 5	.02 (.01)	.002, .04	.02	-.03 (.02) [ -.08, -.001]
Model 6	.04 (.01)	.02, .07	< .001	-.06 (.02) [ -.12, -.01]
Expressive suppression (predictor)				
Model 1	.23 (.04)	.14, .31	< .001	.06 (.02) [ -.01, -.12]
Model 2	.14 (.03)	.08, .20	< .001	.05 (.02) [ .01, .10]
Model 3	.08 (.02)	.02, .13	.002	.04 (.01) [ .008, .08]
Model 4	.15 (.02)	.10, .21	< .001	.06 (.02) [ .01, .12]
Model 5	.01 (.01)	-.001, .03	.07	.02 (.01) [ -.001, .05]
Model 6	.04 (.01)	.01, .06	< .001	.04 (.02) [ .009, .09]

Note. CI = Confidence interval; EE = standard error. Path  $\beta$  is the effect of perceived parental stress on children's psychological symptoms (anxiety, mood, sleep, eating, behavioral, and cognitive alterations). <sup>b</sup>Ind 1 =  $X - M1 - Y$ . Asymmetric confidence interval based on the Bootstrap method with 5000 replicas.

Model 1: Anxiety; Model 2: Mood; Model 3: Sleep disturbances; Model 4: Behavioral alterations; Model 5: Eating disorders; Model 6: Cognitive alterations.

found that parents with higher levels of depression, anxiety, and stress used the expressive suppression strategy more frequently and the cognitive reappraisal less frequently (Bertie et al., 2021). However, in this study, cognitive reappraisal and expressive suppression were not statistically related to the children's psychological symptoms, although a slight association was observed between expressive suppression and more anxiety symptoms and cognitive alterations in the children.

Children and adolescents whose parents had higher stress levels showed more anxiety and mood-related symptoms, as well as sleep, behavior, eating, and cognitive alterations. Parental stress could affect the interaction between parents and children's mental health, since this last depends on the quality of the interaction children's have with their parents (Negrini, 2020). Similarly, our findings suggest that parental stress could affect negatively to children's symptomatology due to the effect of negative family environment, since there is evidence that negative co-parenting and conflict increase the probability of children's to develop internalizing and externalizing problems and insecure attachment (McHale, 2007). These findings show that parental stress is directly associated to negative symptomatology in their children. These results are consistent with previous studies suggesting that higher levels of parental stress are associated with more emotional problems in children and adolescents (Orgilés et al., 2020; Romero et al., 2020). Along these lines, several studies indicated that parental stress is related to children's mood and anxiety problems (Melero et al., 2021; Orgilés, Francisco et al., 2021) and their depression and anxiety (Orgilés, Espada et al., 2021).

Thus, the results obtained in this study confirm that during the pandemic outbreak, parental stress has acted as a mediating variable between positive parental reappraisal and the children's psychological symptoms. Parents who used cognitive reappraisal less frequently reported a greater number of psychological symptoms in their children and greater parental stress. However, parents who used expressive suppression more frequently reported more psychological symptoms in their children (except for alterations in eating) and increased parental stress. These findings could be explained because those parents who use expressive suppression do not reassess their interpretation of the situations and they eliminate their external emotional expression, which could affect negatively to their own stress, as well as to children's psychological symptoms. These results coincide with studies suggesting that difficulties in parental emotion regulation, specifically with higher levels of stress, are related to greater emotional problems in children (Shorer & Leibovich, 2022).

This study highlights the role of parental stress as a mediating variable between the parents' emotion regulation and the children's psychological symptoms. This findings support the results from other studies that found that parental stress and negative co-parenting could act as mediating variables between parental emotion dysregulation and child adjustment (Cami-sasca et al., 2022).

It should be noted that in models with cognitive reappraisal as a predictor variable, an inverse and significant relationship

was found between positive reappraisal and perceived parental stress. Moreover, differences were found in these relationships according to the parents' gender. Fathers using cognitive reappraisal reported having a lower level of stress, while mothers using cognitive reappraisal had a higher level of stress. These results could be explained due to mothers spending more time raising their children, so they have higher levels of baseline stress than fathers. According to the last data published by the National Statistics Institute (*Instituto Nacional de Estadística* [INE], 2016), the percentage of women who take care of their children at least several days per week is higher than the percentage of men (95% and 76%, respectively). In a more recent research, Alcañiz et al. (2022) found that in 2021, in the Valencian autonomous region, women spent more time carrying out direct care tasks related to their children than men (30.6% and 12.6%, respectively). For this reason, the cognitive reappraisal strategy could be considered insufficient to cope with the high levels of stress that mothers present. These findings are consistent with previous studies that confirm that fathers have more positive well-being outcomes than mothers (Nelson-Coffey et al., 2019).

### *Limitations and practical implications*

Among the limitations of this study, it should be noted that it is a cross-sectional study that does not allow establishing causal relationships. Also, the sample was limited by its size and the recruiting procedure. The data –internalized symptoms– were reported by the parents, which means that no children's reports are available. Furthermore, reliability in the subscales “eating disorders” and “cognitive alterations” was lower than desirable. The small number of items that compose them could explain these results. Finally, the sample is very biased, as it has a predominance of mothers, graduates, and medium-high socioeconomic level. For this reason, it would be interesting to have more participation of fathers and more balanced age ranges of children ages in future research.

Despite these limitations, the present study presents the strength of novelty in considering parental stress as a mediating variable between parental emotion regulation and children's psychological symptoms. It also allows establishing the role of parental stress as a mediating variable, in line with previous studies, but this time, in contextual conditions determined by the health alarm due to the COVID-19 pandemic.

As practical implications, it would be relevant to include parental emotion regulation as a component in parental skills programs. This would be interesting as the results show that those parents with positive emotion regulation strategies reported less psychological symptoms in their children.

### **Conclusion**

In summary, the results of this study indicate that parental stress acted as a mediator between parents' emotion regulation and their children's psychological symptoms during the COVID-19 pandemic. These results highlight the importance

of developing new research that examines the relationship of parental and youth psychological variables. Likewise, these results underline the relevance of promoting adequate emotion regulation and stress management skills among parents to maintain the psychological welfare of youth.

### Conflict of interest

The authors have no conflicts of interest to declare.

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