

RESEARCH ARTICLE

Children's anxiety and parenting self-efficacy during the COVID-19-related home confinement

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Abstract

Background: The COVID-19 crisis influenced the lives of families and preschoolers, worldwide. School closures and restriction measures introduced distance learning for preschoolers and remote working for parents. Social distancing narrowed opportunities to meet with peers and enjoy leisure activities. Additionally, social and mental services closures limited young children's accessibility to mental, speech and occupational health services. The aim of the current study was to investigate how home confinement during the third wave of the COVID-19 pandemic affected parenting self-efficacy and preschoolers' anxiety.

Method: An online survey based on a convenience sample took place on April 2021 to evaluate how home confinement to halt the third wave of COVID-19 pandemic influenced children's anxiety and parenting self-efficacy (PSE). Parents of 146 children (65 girls [44.5%] and 81 boys [55.5%]; aged 2–6 years old) were enrolled and completed a demographics form, the Preschool Anxiety Scale (PAS) and the Tool to Measure Parenting Self-efficacy (TOPSE).

Results: Most of the participants reported that the relationship with their child was positively affected from staying at home. TOPSE mean scores reflected average parenting self-efficacy. PSE was negatively correlated with children's anxiety. COVID-19-related variables 'Parent's vaccine hesitancy' and 'Death of a loved one' had a clear effect on preschoolers' anxiety, whereas the latter also on PSE.

Conclusion: Findings highlight the necessity of implementing public health strategies to strengthen families and support parents and their children during the ongoing health crisis.

KEYWORDS

children's stress, COVID-19 lockdown, parenting self-efficacy, PAS scale, preschoolers' anxiety, TOPSE scale

1 | INTRODUCTION

Since the emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the declaration of the coronavirus disease 2019 (COVID-19) pandemic (Eurosurveillance Editorial Team, 2020), almost 2 years ago, the COVID-19 pandemic has

been perceived as a major threat to health and economy worldwide (Jiao et al., 2020). Whilst children appear to be less vulnerable than adults to the virus and experience milder symptoms, better prognosis and lower mortality of COVID-19 infection (Ludvigsson, 2020), the widespread economic and societal disruption resulting from the pandemic crisis constitutes a

substantial risk for negative outcomes in children and their families (Fry-Bowers, 2020).

In Greece, the COVID-19 epidemic started on 26 February 2020 (Parlapani et al., 2020) and has been rolling out in waves: a first wave during March–April 2020 (Anastasiou & Duquenne, 2021), a second wave during September–November 2020 (Kondilis et al., 2021) and a third wave during January–February 2021 (Maltezou et al., 2022). Several European countries extended or reintroduced lockdown measures to respond to new coronavirus variants (European Centre for Disease Prevention and Control, 2020). In Greece, nationwide social distancing measures due to the COVID-19 pandemic have greatly influenced preschoolers' daily life, as they had to receive online schooling under the guidance of their parents or carers. Intermittent daycare and school closures compelled children to stay at home while parents balanced caretaking, supervision of education and entertainment and potential telecommuting responsibilities. Additionally, social and mental services closures impacted young children's ability to receive other therapeutic services, like mental, speech and occupational health therapies.

The repercussions of the COVID-19 pandemic and confinement measures on preschoolers alert the attention of the emerging literature (Loades et al., 2020; López-Bueno et al., 2020). Children may experience major changes regarding the sudden loss of caregivers, teachers and grandparents due to social distancing or to traumatic bereavements; disruptions in routines; distance learning; missed life events (birthday, vacation, births and funerals); and developmental, social, emotional and mental challenges, which may be distressing for young children with potential long-term consequences (Loades et al., 2020; Singh et al., 2020; Spitzer, 2021). In addition, isolation and safety restrictions may have been significantly disrupting, confusing and frightening for children (Vessey & Betz, 2020). The description of children's responses during pandemics has been expanding, highlighting their vulnerability and the developmental milestones as factors of major importance. As children grow into early childhood with play as their main way of learning and developing (Winnicott, 1971), they become more independent and begin to focus more on children and adults outside of their family. Through relationships, children learn if their world is safe and secure and develop their communication and social skills. During the COVID-19 pandemic, young children experienced significant changes, possibly affecting their well-being. The most severe symptoms of mental difficulties in young children reported to be clinging and separation anxiety, fear, inattention and irritability (Jiao et al., 2020), symptoms that increased the children's need to feel safe and secure.

Parenting self-efficacy (PSE) is the belief and expectation caregivers hold of their own role and ability to parent successfully, as a personal subjective estimation (Bandura, 1977; Coleman & Karraker, 2003; Jones & Prinz, 2005) that may influence child behaviour both directly and indirectly. PSE is also associated with higher satisfaction with the parenting role, lower parental depression, better coping and lower levels of stress (Jones & Prinz, 2005). Contextual factors, including environmental circumstances, may trigger parents with higher PSE to take more proactive steps to decrease potential

Key Messages

- The study is one of a few in Greece indicating that the COVID-19 pandemic has had a psychological impact on children and their caretakers' parenting self-efficacy.
- The findings feature the necessity of providing researches and also implementing public health actions and strategies to strengthen families and support parents and their children during a lockdown period and afterwards, to improve children's development, health and well-being.
- Targeted prevention programs are needed for families who have children with special needs. It is important to ensure that children receive continuity of health care, including developmental assessment and vaccination, continuing mental, speech and occupational health therapies.

negative impact of environmental risk on their children's health and development. Nevertheless, difficult circumstances may lead to feelings of helplessness and lack of control that may provoke parental fatigue. Many factors may influence parenting, including parent's psychological well-being and health, as well as environmental influences of stress and loss of support (Bloomfield & Kendall, 2012). Furthermore, children temperament and behaviour, family factors and parents' interpretations of their parenting and child response may also influence parents' evaluation of their performance and self-efficacy (Jones & Prinz, 2005).

In the course of COVID-19-related lockdowns, the loss of usual, supportive and trusted caregivers (e.g., grandparents, babysitters and teachers) due to social distancing disrupted family's routines and burdened parents with caretaking, educational, entertainment and job responsibilities. A recent study demonstrated a significant lower PSE during the lockdown phases (Xue et al., 2021) compared with the situation before or after, especially for the new parents, whereas another highlighted the mediating role of PSE on the relationship between parents' psychological distress and children's emotional regulation (Morelli et al., 2020).

The current study aimed to explore how lockdown measures during the third wave of the COVID-19 pandemic affected parenting self-efficacy and preschoolers' anxiety.

2 | METHODS

2.1 | Participants and procedure

An online survey, which involved parents and their children nationwide, was administered from 3 April to 10 April 2021. Participants were recruited through research-related websites and social media

groups. Inclusion criteria were (a) being at least 18 years old, (b) being parent/primary caretaker of a toddler or preschooler and (c) being fluent in Greek. Ethical approval was obtained from the Papageorgiou General Hospital Scientific Board (105/339/19.02.21) and the Ethics Board of the Research Committee of the Aristotle University of Thessaloniki (6.401/6/23.03.2021) prior to data collection. The final sample consisted of 146 parents reporting on 146 preschoolers.

2.2 | Measures

Participants completed the survey that included a demographics form and the following questionnaires:

Tool to Measure Parenting Self-efficacy (TOPSE; Bloomfield & Kendall, 2012; Karakosta, 2016). TOPSE is a self-reported multi-dimensional instrument capturing parents' perceived ability to manage their children (Kendall & Bloomfield, 2005). The present study utilized the brief version, which consists of 48 items (e.g., item 'I am able to explain things patiently to my child'), arranged in eight 6-item subscales, that is, emotion and affection, play and enjoyment, empathy and understanding control, discipline and boundary setting, pressures of parenting, self-acceptance and learning and knowledge. TOPSE was originally developed to assess the impact of parenting programs, but it can also provide useful information regarding the distinct parenting domains that are being assessed. Parents indicate their level of agreement using an 11-point Likert-type scale, from 0 (*completely disagree*) to 10 (*completely agree*). Items are summed to create a total score; scores in the lower third of the scale reflected low efficacy. Scores in the middle third of the scale reflected average efficacy, and scores in the upper third of the scale reflected high efficacy. In this study, TOPSE demonstrated an overall Cronbach's alpha of .89.

Preschool Anxiety Scale (PAS; Mellon & Moutavelis, 2007; Spence et al., 2001). The PAS is a 28-item parent-reported scale assessing severity of anxiety symptoms in preschool children (e.g., item 'Has difficulty stopping him/herself from worrying'). Each item is rated on a 5-point Likert-type scale from 0 (*not at all*) to 4 (*very often true*). Six subscales are calculated within the final score, namely, generalized anxiety, social anxiety, obsessive compulsive disorder, physical injury fears and separation anxiety. Higher scores represent greater severity of reported symptoms. The scale also includes a non-scored item relating to the child's potential traumatic experience followed by five additional items indicative of post-traumatic stress reactions, not applicable for this study. In this study, PAS demonstrated an overall Cronbach's alpha of .88.

Five additional close-ended questions (yes/no response) were applied asking for information regarding potential infection with SARS-CoV-2 (i.e., *Have you gotten sick with COVID-19? [C19S]*, *Has your child gotten sick with COVID-19? [C19CS]* and *Has any member of your family gotten sick with COVID-19? [C19CF]*), COVID-19 related deaths within the family (*Has anybody in your near family died from COVID-19? [C19D]*) as well as planning/willingness to get the vaccination against COVID-19, if not already vaccinated (*Have you been vaccinated against COVID-19? [C19V]*).

2.3 | Statistical analysis

Descriptive statistics (i.e., mean and standard deviation) were computed for the eight subscales of the TOPSE and the five subscales of the PAS. A test of normality of distribution and equality of variance between groups using the Shapiro-Wilk test and Levene's test were used to check the assumptions. Multivariate general linear model (GLM) was used to depict significant differences among dependent variables (TOPSE and PAS) and independent COVID-19-related variables. Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 26.0.

3 | RESULTS

Data were collected from 146 children, 81 boys (55.5%) and 65 girls (44.5%), aged 3.93; $SD = 1.6$, age range: 1–9 years old. Most of the respondents (93.1%) were biological parents, females (89%), lived in urban areas (80.8%) and were mainly recruited from Makedonia (80.8%). The majority of the participants (95.2%) completed the survey in reference to a pre-school aged child. The sample was evenly balanced in terms of child gender. The majority of parents reported that their child did not have any health issues or disabilities (98.4%). Only small numbers reported physical, intellectual or mental health difficulty (2.1%).

Regarding the pandemic-related work changes, a statistically significant difference was found in PAS total mean score, $F(4, 119) = 2.720$, $p = .033$, and in the 'Physical Injury Fear' subscale, $F(4, 119) = 4.213$, $p = .003$, with participants on a 'hybrid schedule' (a combination of remote with office work schedule) reporting the highest mean ($M = 32.67$, $SD = 20.11$; $M = 9.00$, $SD = 6.32$). On the other hand, statistically significant differences were found in the TOPSE subscales 'Emotion and Affection', $F(4, 119) = 2.911$, $p = .024$, and 'Play and Enjoyment', $F(4, 119) = 4.936$, $p = .001$, with participants on a 'limited work schedule' reporting the lowest mean ($M = 46.47$, $SD = 12.90$; $M = 53.59$, $SD = 4.13$). More detailed results are presented in Table 1.

Most of the participants reported that the relationship with their child was positively affected (39%) from staying at home. A subtotal of 24.7% reported a negative impact, and only 36.3% declared that the relationship has not been affected. In addition, a subtotal of 32.9% mentioned deterioration of child's health. More detailed results are presented in Table 2.

Gender comparisons did not reveal any statistically significant differences in regard to TOPSE total and PAS total ($p > .05$). Play and enjoyments TOPSE subscale mean scores found to be statistically significant higher, $t(125.27) = -3.04$, $p = .003$, in females ($M = 55.38$, $SD = 4.74$) than males ($M = 51.81$, $SD = 9.11$).

In addition, generalized anxiety PAS subscale mean scores found to be statistically significant higher, $t(144) = -2.00$, $p = .047$, in males ($M = 5.44$, $SD = 4.23$) than females ($M = 4.10$, $SD = 3.67$). More detailed results are presented in Table 3.

Correlational analysis revealed a negative statistically significant relationship between PAS and TOPSE ($r = -.187$, $p = .038$). The same

TABLE 1 Participants' sociodemographic characteristics

Characteristics	Count	%
Parent's gender		
Male	81	55.5
Female	65	44.5
Total	146	100.0
Respondent's gender		
Female	130	89.0
Male	16	11.0
Total	146	100.0
Parental status		
Biological parent	136	93.1
Foster parent	5	3.4
Step parent	3	2.1
Adoptive parent	2	1.4
Total	146	100.0
Employment status		
No change	43	29.5
Remote work	47	32.2
Limited work schedule	17	11.6
Work suspension	11	7.5
Hybrid schedule	6	4.1
Total	124	84.9
Region		
Macedonia	118	80.8
Thessaly	5	3.4
Sterea Ellada	12	8.2
Peloponnesse	3	2.1
Ionian Islands	2	1.4
Aegean Islands	3	2.1
Crete	1	0.6
Total	144	98.6
Missing	2	1.4
Residence		
Urban area	118	80.8
Suburban area	12	8.2
Rural area	15	10.3
Total	145	99.3
Missing	1	0.7

pattern was presented when correlating PAS with TOPSE subscales. Specifically, PAS was negatively correlated with 'Emotion and Affection' ($r = -.195, p = .030$), 'Empathy and understanding' ($r = -.233, p = .009$) and 'Control' ($r = -.219, p = .014$).

A multivariate linear model was conducted to explore the relations between COVID-19-related factors. In testing the hypotheses through GLM modelling, TOPSE and PAS were not found to be significantly associated with the dependent variables tested ($p > .001$) in all but one case. The main effect for C19D

TABLE 2 Self-reported pandemic-related information

Variables	Count	%
Do you believe that the relationship with your child:		
Has not been affected	53	36.3
Has been negatively affected	36	24.7
Has been positively affected	57	39.0
Total	146	100.0
Do you believe that you child's health:		
Has not changed	91	62.3
Has improved	7	4.8
Has deteriorated	48	32.9
Total	146	100.0
Have you got sick with COVID-19?		
Yes	18	12.3
No	128	87.7
Total	146	100.0
Has your child got sick with COVID-19?		
Yes	14	9.6
No	132	90.4
Total	146	100.0
Has any member of your family got sick with COVID-19?		
Yes	30	20.5
No	116	79.5
Total	146	100.0
Has anybody in your near family died from COVID-19?		
Yes	16	11.0
No	130	89.0
Total	146	100.0
Have you been vaccinated against COVID-19?		
Yes	16	11.0
No	47	32.2
No, and I do not want to get vaccinated	13	8.9
No, but I want to get vaccinated	70	47.9
Total	146	100.0

(*Has anybody in your near family died from COVID-19*) was significant, $F(3, 989) = 0.398, p = .021, \eta^2 = .05$, indicating a significant association (Tables 4 and 5).

4 | DISCUSSION

The present study assessed the effects of home confinement during the third wave of the COVID-19 pandemic on PSE and preschoolers' anxiety.

Despite the challenges following the health crisis, most of the participants reported that the relationship with their child was positively affected from staying at home, a result in line with recent research based on data by 5500 parents (Benzeval et al., 2020) that

TABLE 3 Gender comparisons

Scales	Child's gender	N	Mean	SD	Statistic	Cohen's <i>d</i>
Total TOPSE	Male	81	389.91	37.31	NS	-
	Female	65	399.30	34.79		
Emotion and affection	Male	81	55.17	3.52	NS	-
	Female	65	55.81	3.48		
Play and enjoyment	Male	81	51.81	9.11	$t(125.27) = -3.04, p = .003$	0.49
	Female	65	55.38	4.74		
Empathy and understanding	Male	81	52.69	5.74	NS	-
	Female	65	53.23	5.19		
Control	Male	81	43.24	7.47	NS	-
	Female	65	44.24	7.62		
Discipline and setting boundaries	Male	81	46.86	8.63	NS	-
	Female	65	48.49	7.65		
Pressures	Male	81	38.04	6.80	NS	-
	Female	65	39.73	6.50		
Self-acceptance	Male	81	50.12	5.88	NS	-
	Female	65	49.70	7.06		
Learning and knowledge	Male	81	52.59	5.56	NS	-
	Female	65	52.69	6.02		
Total PAS	Male	81	23.38	15.59	NS	-
	Female	65	22.13	13.70		
Generalized anxiety	Male	81	5.44	4.23	$t(144) = -2.00, p = .047$	0.33
	Female	65	4.10	3.67		
Social anxiety	Male	81	4.70	4.84	NS	-
	Female	65	4.24	4.13		
Obsessive compulsive disorder	Male	81	2.37	2.78	NS	-
	Female	65	2.27	2.76		
Physical injury fear	Male	81	6.27	4.74	NS	-
	Female	65	6.63	4.12		
Separation anxiety	Male	81	4.59	3.41	NS	-
	Female	65	4.87	3.79		

TABLE 4 Linear associations between psychological factors and COVID-19-related factors

Effect	Pillai's trace	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>	η^2
Intercept ^a	.99	7316.66 ^b	2.000	140.000	.000	
C19S ^a	.00	0.27 ^b	2.000	140.000	.763	.004
C19CS ^a	.00	0.41 ^b	2.000	140.000	.664	.006
C19FS ^a	.00	0.14 ^b	2.000	140.000	.863	.002
C19D ^a	.05	3.98 ^b	2.000	140.000	.021	.054
C19V ^a	.03	2.19 ^b	2.000	139.000	.116	.031

Abbreviations: C19CS, Has your child got sick with COVID-19?; C19D, Has anybody in your near family died from COVID-19?; C19FS, Has any member of your family got sick with COVID-19?; C19S, Have you got sick with COVID-19?; C19V, Have you been vaccinated against COVID-19?.

^aDesign: Intercept + C19S + C19CS + C19FS + C19D + C19V.

^bExact statistic.

reported on how the coronavirus crisis has strengthened parent-child relationships in the United Kingdom. Similar results were reported in a Canadian study (Paradis et al., 2021) describing how the lockdown

period has been mostly beneficial for parents, who reported improvement in their parenting experience during the pandemic era. Specifically, 90% of parents reported spending more quality time with their

TABLE 5 Between subjects effects

Source	Dependent variable	SS	df	Mean square	F	p	η^2
Corrected model	TOPSE	5108.64 ^a	5	1021.72	0.76	.576	.027
	PAS	1978.25 ^b	5	395.65	1.87	.103	.063
Intercept	TOPSE	7 197 106.54	1	7 197 106.54	5390.22	.000	.975
	PAS	30 662.63	1	30 662.63	145.20	.000	.509
C19S	TOPSE	478.12	1	478.12	0.35	.551	.003
	PAS	0.43	1	0.43	0.00	.964	.000
C19CS	TOPSE	917.60	1	917.60	0.68	.409	.005
	PAS	20.02	1	20.02	0.09	.759	.001
C19FS	TOPSE	295.52	1	295.52	0.22	.639	.002
	PAS	0.00	1	0.00	0.00	.996	.000
C19D	TOPSE	2841.40	1	2841.40	2.12	.147	.015
	PAS	733.11	1	733.11	3.47	.065	.024
C19V	TOPSE	8.65	1	8.65	0.00	.936	.000
	PAS	884.75	1	884.75	4.19	.043	.029

Abbreviations: C19CS, *Has your child got sick with COVID-19?*; C19D, *Has anybody in your near family died from COVID-19?*; C19FS, *Has any member of your family got sick with COVID-19?*; C19S, *Have you got sick with COVID-19?*; C19V, *Have you been vaccinated against COVID-19?*; PAS, Preschool Anxiety Scale; TOPSE, Tool to Measure Parenting Self-efficacy.

^a $R^2 = .027$ (adjusted $R^2 = -.008$).

^b $R^2 = .063$ (adjusted $R^2 = .029$).

child since the beginning of the pandemic, and 85% reported feeling more invested in their parental role. In the current sample, TOPSE mean scores found to be in the middle third of the scale reflecting average efficacy. This result indicates that, during the third COVID-19 wave, parents managed to mobilize positive coping strategies to address parental challenges caused by the repeated lockdowns and felt able to carry out their parental role.

Gender comparisons revealed differences in regard to play and enjoyment favouring girls, pointing out that the majority of the participants were females/mothers that may have enjoyed more playing with their daughters, therefore felt more efficient. In addition, greater levels of 'Generalized Anxiety' were reported in boys, whereas no other significant differences were found regarding PAS and its subscales. Moreover, parents reported higher levels of anxiety in boys, in all PAS subscales, with the exception of the subscale 'Fear for Physical Injury'. This trend is contradictory with previous research (Lewinsohn et al., 1998; Paulus et al., 2015) that reported that at age 6, females are already twice as likely to have experienced an anxiety disorder as are males. The developers of PAS (Spence et al., 2001) using the scale in a large community sample of preschoolers aged 2.5 to 6.5 years found no significant differences in the prevalence of anxiety symptoms across genders. In the same study, mean scores for the subscales 'Generalized Anxiety' (males: $M = 2.34$, $SD = 2.86$; females: $M = 2.06$, $SD = 2.24$), 'Obsessive Compulsive Disorder' (males: $M = 1.29$, $SD = 2.16$; females: $M = 1.17$, $SD = 1.99$), and 'Separation Anxiety' (males: $M = 2.73$, $SD = 2.89$; females: $M = 2.73$, $SD = 2.81$) were lower of the mean scores in the present study 'Generalized anxiety' (males: $M = 5.44$, $SD = 4.23$; females: $M = 4.10$, $SD = 3.67$), 'Obsessive Compulsive Disorder'

(males: $M = 4.59$, $SD = 3.41$; females: $M = 4.87$, $SD = 3.79$) and 'Separation Anxiety' (males: $M = 2.34$, $SD = 2.86$; females: $M = 2.06$, $SD = 2.24$), indicating that preschoolers' levels of anxiety remain high amidst the third wave of COVID-19, a result in accordance with recent studies (Schmidt et al., 2021; Vasileva et al., 2021).

Furthermore, the findings clearly suggest a relationship between PSE and children's anxiety; parents who felt less efficacious reported that their children experienced higher levels of stress, whereas greater PSE was related to less children's stress. According to the field research, parents with high level of self-efficacy manage more effective adversity and parenting problems, show reduced levels of stress and depression, experience greater satisfaction and joy in their relationship with their children, influence their children's self-efficacy, participate actively and are more often involved in their education and in activities that promote the social, emotional and cognitive development of their children (Bloomfield & Kendall, 2012).

The death of a loved one had a clear effect on PSE and preschoolers' anxiety highlighting the connection between caregivers' grief, fear and anxiety and preschoolers' emotional challenges in accordance with previous studies (Pinar Senkalfa et al., 2020; Remmerswaal & Muris, 2011). In addition, parent's vaccine hesitancy had an impact on preschoolers' anxiety. Vaccine hesitancy is the 'delay in acceptance or refusal of vaccines despite availability of vaccine services' (WHO, 2014), and it is categorized within the top 10 threats to global health. Parents may overwhelm their children with their own fears due to the uncertainty and psychological challenges that may face during the COVID-19 pandemic, concerning their health status, the possible vaccine side effects or the consequences if they refuse to get vaccinated. Unfortunately,

non-compliance to routine vaccinations could worsen the ongoing COVID-19 health crisis and strain the health care system (Holeva et al., 2021; Olusanya et al., 2021).

The majority of the respondents in this study was highly educated, and as previous studies indicate, the guardians' education level affects their children anxiety levels (Arroyo-Borrell et al., 2017; Garcia de Avila et al., 2020), as an association has been found between parental education and parent-reported child mental health for children aged 4–11 years old (Sonego et al., 2013). Guardians with higher education may support their children in several ways inviting them to speak about COVID-19, providing further information and explaining young children's misunderstandings and promoting immunization. They may also create a safe environment where emotions are freely expressed and pay attention to their children's anxiety levels by providing, accompanying and participating in pleasant activities with them (Garcia de Avila et al., 2020). Consequentially, discussing with young children about their feelings using age-appropriate language, as well as parental sensitivity, honesty, empathy and care, comprises significant protective factors that support their sense of security (Dalton et al., 2020; Hunt, 2020).

4.1 | Limitations

The findings of this study extend the current literature by assessing parental self-efficacy amidst the COVID-19 lockdown, but still there are some limitations. Results need to be interpreted taking into account the potential reporter-effect as data were collected using parent-reports for children. This study was based on an online survey to allow rapid data collection during the pandemic and to avoid person-to-person contact, resulting in possible sampling bias. In addition, the cross-sectional design does not allow for making a causal inference, despite the effort to provide data on changes experienced during the COVID-19 pandemic. Longitudinal data over at least a full year would be more informative regarding potential causal relationships.

5 | CONCLUSION

Findings indicate that the COVID-19 pandemic has had a psychological impact on children and their caretakers' parenting self-efficacy. These findings feature the necessity of providing researches and also implementing public health actions and strategies to strengthen families and support parents and their children during a lockdown period and afterwards, to improve children's development, health and well-being. Additional social resources are needed for families who have children with special needs. It is important to ensure that children receive continuity of health care, including developmental assessment and vaccination, continuing mental, speech and occupational health therapies. Health and national helplines during the COVID-19 crisis may provide emergency options for emotional and mental health support.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

ETHICS STATEMENT

Ethical approval was granted before the initiation of the study from the Papageorgiou General Hospital Review Board (105/339/19.02.21) and the Ethics Board of the Research Committee of the Aristotle University of Thessaloniki (6.401/6/23.03.2021). Informed consent prior to survey enrolment was a prerequisite for study inclusion. Confidentiality was assured, and participants were able to withdraw consent or discontinue participation at any time.

DATA AVAILABILITY STATEMENT

The data that support the outcomes of the present study are available on demand from the corresponding author.

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