

## **Pandemic Parenting: Predictors of Quality of Parental Pandemic Practices during COVID–19 Lockdown in Serbia\***

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The aim of our study was to explore relations between parents' and children's fear of COVID–19, parents' dispositions (emotion regulation, self-efficacy, the anxiety trait) and their distress (due to the pandemic, the national state of emergency [NSE] and curfews) and how these variables have been affecting the quality of parental pandemic practices during the COVID–19 NSE in Serbia. Our online questionnaire was filled in by 376 parents and one of their children aged 7 to 19 years. Path analysis was used to analyze data. Higher levels of cognitive reappraisal and self-efficacy directly contribute to a higher quality of parental pandemic practices during NSE. Indirectly, parents' fear, pandemic distress, and parents' cognitive anxiety symptoms increase children's fear, consequently raising the quality of parental pandemic practices. Pointing out protective and risk factors that may affect pandemic parenting during NSE as well as mechanisms of their contributions, our findings draw attention to the importance of parents' negative emotions regulation and the effects of children's emotions on the quality of parental pandemic practices during an ongoing pandemic.

*Keywords:* quality of parental pandemic practices, fear of COVID–19, pandemic distress, emotion regulation, parental sense of self-efficacy

### **Highlights:**

- Children's age, parent's fear of COVID–19, their sense of self-efficacy, and quality of parental pandemic practices during ongoing pandemic predict children's fear of COVID–19. Indirectly, pandemic distress and parents'

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cognitive anxiety symptoms affect children's fear of COVID-19 through parents' fear of COVID-19.

- Predictors of parents' fear of COVID-19 are distress due to the pandemic, distress due to the national state of emergency and parental cognitive anxiety.
- Children's fear of COVID-19 is moderately and positively correlated with parents' fear of COVID-19.
- During the pandemic and the national state of emergency, the quality of parental pandemic practices was directly associated with parents' sense of self-efficacy and their ability to regulate their emotions.
- Children's fear positively predicts the quality of parental pandemic practices; if children were more afraid of COVID-19, the quality of parenting practices related to pandemic would increase.

The new crisis related to the COVID-19 pandemic is affecting both physical and mental health worldwide. It appears that children are as susceptible to COVID-19 as adults, yet clinical manifestations of COVID-19 are relatively milder in children than in adults (Hong et al., 2020; Zheng et al., 2020). Although children are less prone to having severe health problems related to COVID-19, they are not spared of psychological consequences arising from this pandemic. Jiao and colleagues (2020) described the results of an unpublished study conducted in one of the provinces in China, showing that the most common psychological and behavioral problems among children and adolescents are clinginess, distraction, irritability, and fear of asking questions about the pandemic. Studies conducted in the United States, Spain, and Italy (Brown et al., 2020; Francisco et al., 2020; Pisano et al., 2020) also showed that parents observed various changes in children's emotional or behavioral state during COVID-19 quarantine. In situations like this, parents' role is especially important for children's wellbeing, as parents are the first ones on the front line. Although children need additional attention during this pandemic, parents also face pressures in different contexts. Parents need to deal with personal problems, fears, and instabilities concerning this disease, keep their jobs, prepare for the potential economic crisis, maintain social relationships despite the isolation, take care of their parents, and, above all, try to maintain a good quality of parenting and flexibility in developing new routines, rituals, and rules to help their children cope with the pandemic distress (Fiese et al., 2002). There are increasing demands regarding parent-child negotiation about topics that were not problematic before the pandemic (social distancing, wearing face masks, etc.) (Prime et al., 2020).

On March 11<sup>th</sup>, 2020, the World Health Organization (WHO) declared the COVID-19 pandemic. On March 15<sup>th</sup>, 2020, a state of national emergency was declared in the Republic of Serbia. In the days that followed, nurseries, preschools,

schools, universities, and state borders were closed, and frequent curfews were introduced along with many other measures taken to slow down the spreading of the COVID–19. Children spent days mainly in the family circle, while school classes were broadcasted on national TV channels. This situation required more intensive parental involvement, supervision, and generally raised society's expectations from parents. In many countries worldwide, government, private institutions, and organizations such as WHO, UNICEF, and CDC collaborated, and they still do to provide freely accessible parenting resources during the COVID–19 crisis. Researchers and practitioners have recognized parenting as an essential process that may protect children from adverse outcomes in a crisis. Therefore, our study aimed to explore the quality of parental pandemic practices that parents displayed during the COVID–19 pandemic and reveal factors that contributed to the quality of parental practices related to the pandemic during the national state of emergency in Serbia.

Good parenting practices are known to be an essential protective factor in various aspects of the development of children and youth (DeVore & Ginsburg, 2005). On the other hand, as explained in the family stress model, when parents are faced with highly elevated levels of stress, their mental and emotional resources are drained, making the task of positive parenting especially challenging (Coger & Elder, 1994). Research about the importance of parenting in the context of disasters showed that parents' distress might disrupt their effective parenting practices, which consequently can increase the risk of adverse psychological effects for children (Gewitz et al., 2008). Since the COVID–19 pandemic started a few months ago, few studies have examined correlates of parenting quality during the pandemic. Romero et al. (2020) researched specific parental practices (soothing, structuring, avoidant, focused) during the COVID–19 pandemic and showed these parental behaviors might affect children's outcomes. Brown et al. (2020) conducted a study during the COVID–19 pandemic, which showed that higher emotional and social support that parents received and parents' perceived control over the COVID–19 pandemic decreased their perceptions of stress and risk of child abuse potential as well. Exploring the negative effects of quarantine, Hiraoka and Tomoda (2020) showed a significant increase in parenting stress after school closure. Research conducted in Singapore during the COVID–19 pandemic showed that parents' poorer work-family balance was correlated with higher parenting stress (Chung et al., 2020). Furthermore, it is demonstrated that parenting stress mediates the relationship between parents' perceived impact of COVID–19 and parents' relationship with children (closeness) and harsh parenting (Chung et al., 2020).

A review of quarantine's psychological impact showed that fears of infection are one of many stressors during quarantine (Brooks et al., 2020). Remmerswaal and Muris (2011) conducted a study about children's reactions to the 2009 Swine Flu pandemic, which showed that parents' fear of Swine Flu is positively correlated with children's fear of this disease.

Furthermore, this relation is mediated by parents' transmission of threat information. In addition to the fear of a still unknown disease, such as COVID-19, it is also uncertain when and how this pandemic will end. In unpredictable situations, people experiencing anxiety problems are particularly affected. Their relationship with children and other family members may exacerbate during a pandemic. Parents' anxiety problems can impact not only family functioning but parental behavior as well. Previous studies showed that parents with social anxiety disorder display less warmth and more criticism and doubt of child competency (Budinger et al., 2013), compared to parents with other anxiety disorders.

Furthermore, Möller et al. (2015) examined relations of five different anxiety disorders with parenting behaviors and showed that mothers' general anxiety disorder is negatively correlated with challenging parenting behavior and positively correlated with overinvolvement. For fathers, the same pattern is found in the case of the social anxiety disorder. Whether expressed as a trait (Pereira et al., 2014) or as a disorder, parents' anxiety is a risk factor for children's well-being and may impact many different child outcomes, including children anxiety problems (see Bögels & Brechman-Toussaint, 2006). The study mentioned above by Romero and colleagues (2020) confirmed that parents' anxiety and depression-related problems are correlated with specific parenting practices displayed during the COVID-19 pandemic. Higher levels of anxiety are correlated with less structuring and more soothing and avoidant parental practices, while higher levels of depression are correlated with less focused and structured parental practices. Positive parenting practices can help children learn how to control their emotions (Eisenberg et al., 2005). This is particularly important in situations of intense fear, like the COVID-19 pandemic. When parents are upset or frightened due to the virus and pandemic, it is crucial for children whether and to what extent they are able to control these negative emotions. When parents can control their own negative emotions, they may respond more adequately to children's negative emotions as well. Previous studies showed that poor maternal emotion control is positively correlated with distress parenting responses (Mazursky-Horowitz et al., 2015). What seems to be relevant to both parents' and children's psychological well-being is a parental sense of personal efficacy in the context of adverse life circumstances. Research suggests that when in stressful times, the psychological risk for children can be reduced when nurturing parents can maintain their sense of efficacy in the parental role (Elder, 1995). Although research on self-efficacy in the parenting domain is relatively sparse, the existing literature indicates that this variable is strongly correlated with the parental ability to foster a healthy, happy and nurturing environment for children (Coleman & Karakker, 1997). Self-efficacy has been associated with different adaptive parenting skills such as responsive and stimulating caretaking and the ability to understand child signals (Donovan

& Leavitt, 1989; Donovan et al., 1990). Finally, parenting is not a one-way process; it is a dynamic process in which parents and children actively participate (Kuczynski, 2003). In line with all the above, we examined whether the parental behavior during the national state of emergency, is associated with both parental dispositions and child's behavior.

This research aimed to explore the quality of parental pandemic practices during the COVID-19 pandemic and its relationships with parental characteristics and parents' fear of COVID-19, as well as children's fear of COVID-19. Starting from this main research goal, several research questions were defined: 1) Which parental characteristics contribute to their fear of COVID-19, and how do they contribute to children's fear of COVID-19? 2) How are parents' and children's fears of COVID-19 correlated? 3) Furthermore, how are these parental characteristics, their fear included, correlated with the quality of parental pandemic practices? 4) How are children's fear of COVID-19 and the quality of parental pandemic practices correlated?

Building on previous studies, we hypothesized that parental anxiety, their sense of self-efficacy and emotional regulation could contribute to children's fear and quality of parental pandemic practices (Donovan & Leavitt, 1989; Donovan et al., 1990; Coleman & Karakker, 1997; Romero et al., 2020). As in case of Swine Flu (Remmerswaal & Murriss, 2011), we assumed that if parents show a higher level of fear of COVID-19, then their children are more fearful of COVID-19 as well. Contrary to the above assumptions, examining the predictors of the quality of parental pandemic practices was mostly exploratory as current circumstances related to the new COVID-19 pandemic are completely new to all of us.

## Method

### Participants

The total sample size included 376 parents aged 27 to 67 years, with a mean age of 42.84 years ( $SD = 6.00$ ). Each parent participated in a study with one of their children ( $N = 376$ ; 59.6% female) aged 7 to 19 years with a mean age of 12.77 years ( $SD = 3.57$ ). More than half of parents (53.5%) have a bachelor's or master's degree, and 38.3% have finished secondary school only. About one-third of parents (34.3%) were unemployed during the national state of emergency, 35.1% of parents worked from home, while the rest of parents worked outside the home (17%), or sometimes worked from home, sometimes outside the home (13%). Around 16% of respondents reported they were single parents (see Appendix A).

### Procedure

Due to the COVID-19 pandemic, a state of national emergency was declared in Serbia, including lockdown, school closures, and frequent curfews. Therefore, the only way to collect data was online. For this purpose, we have used SoSci Survey (Leiner, 2020). The survey was available during the national state of emergency (from April 16<sup>th</sup> to May, 6<sup>th</sup> 2020) and took approximately 20 and 15 minutes for children and parents to complete, respectively. The study

was approved by the Institutional Review Board of the Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia. We distributed invitations for participation in the study via social networks. Research information was presented to parents requesting their consent for voluntary and anonymous participation in the study, together with one of their children. If they had more than one child aged 7 to 19 years, we asked them to participate in research with their younger child. If parents agreed to participate, children were the first to complete questionnaires.

## Instruments

### *Parents*

Pandemic Parenting Scale was constructed for the present study to assess the quality of parental pandemic practices during the COVID-19 lockdown. It is important to note that we assessed only those parental practices with children which are related to the pandemic situation, not the overall quality of parenting. In addition to generally known guidelines concerning the quality of parenting, items for this scale were constructed based on suggestions for parents made by organizations and institutions engaged in public health, such as the World Health Organization (WHO, 2020), Centers for Disease Control and Prevention (CDC, 2020) and UNICEF (UNICEF, 2020). Items are related to maintaining routine (e.g., “I stick to a certain schedule of activities”), explaining the pandemic situation to children (e.g., “I talk with my child about coronavirus”), being a role model to child during pandemic (e.g., “I pay attention how I behave in the presence of my child”), being informed about parenting during pandemic (e.g., “To help my child cope, I am looking for new guidelines for parents”), and designing activities in which the child can participate (e.g., “I organize joint activities with my child”). In the beginning, this scale consisted of 24 items related to described aspects of parental practices that have to be answered on a 5-point Likert scale ranging from 1 = *never during the national state of emergency* to 5 = *every day during the national state of emergency*. Parents were asked to assess their behavior during the national state of emergency (from March 15<sup>th</sup> to May 6<sup>th</sup>). Based on the Exploratory factor analysis (EFA) results, 11 items were chosen for further analyses. The 11-items scale of Pandemic Parenting has satisfactory reliability (Cronbach’s alpha = .81) (see Appendix B). A mean score was computed ( $M = 3.97$ ), with a higher score indicating a higher quality of parenting during the pandemic.

The Fear of COVID-19 Questionnaire for Parents (FC19Q-P) was constructed as a modification of a questionnaire for children (described below) to measure parents’ fears about the COVID-19. This scale has 14 items which have to be answered on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Internal consistency of FC19Q-P is satisfactory (Cronbach’s alpha = .86).

Pandemic Distress Scale was constructed to measure parents’ distress related to pandemic situations (see Appendix C). It consists of 10 items that have to be answered on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Scale covered three domains of distress: distress due to the curfew (CF), due to the pandemic (PD), and due to the national state of emergency (NSE). The internal consistency of this scale is satisfactory (Cronbach’s alpha = .72) with a higher score indicating a higher level of distress.

Parental Self-Efficacy during Pandemic Scale was constructed as a modified version of items from similar scales (New General Self-Efficacy Scale; Chen et al., 2001; and Short Scale for Measuring General Self-Efficacy Beliefs; Beierlein et al., 2013). The scale consists of 5 items, two of them reversed (e.g., “Relying on myself and my abilities, I can solve all problems that recommended isolation measures bring”, “Faced with the difficult tasks that this situation brings, I am not sure that I can accomplish them”), which have to be answered

on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. A mean score (Cronbach's alpha = .64) was computed ( $M = 5.62$ ), with a higher score indicating a higher level of self-efficacy during the pandemic.

We used the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) to assess individual differences in usage of two emotion-regulation strategies: a *cognitive reappraisal* (CR) (6 items measuring attempts to reinterpret an emotion-eliciting situation in a way that alters its meaning and changes its emotional impact) and *expressive suppression* (ES) (4 items measuring efforts to hide, inhibit or reduce ongoing emotion-expressive behavior) (Gross & John, 2003). Participants responded to these ten items using a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Based on our data, Cronbach's alphas for cognitive reappraisal and expression suppression are .81 and .71, respectively.

The State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA) was developed by Ree et al. (2000) to measure state and trait anxiety. We used only the trait version of this scale (how often, in general, the statement is true for participants) to measure 10 cognitive (e.g., "I can't get some thought out of my mind") and 11 somatic (e.g., "My muscles are tense") symptoms of anxiety. Participants rated each item on a 4-point Likert scale ranging from 1 = *not at all* to 4 = *very much so*. Based on our data Cronbach's alphas for cognitive and somatic symptoms of anxiety are .87 and .89, respectively.

### **Children**

The Fear of COVID-19 Questionnaire for Children (FC19Q-C) was constructed for the present study to measure children's fears related to the COVID-19 (see Appendix D). The scale consists of 14 items related to fear of COVID-19 and 2 items related to the consequences of the pandemic (last two items of the scale). These two items are omitted in the version for parents, due to the overlap with items in *Pandemic Distress Scale*. Three of those items are modified items of Fear of Swine Flu Questionnaire (FSFQ), which was constructed to measure children's fear of Swine Flu during the 2009 Swine Flu Pandemic (Remmerswaal & Muris, 2011). Those items are the following: "I would be scared if I caught the Coronavirus", "Ever since this Coronavirus situation started, I'm more afraid of catching any disease in general" and "I would be scared if someone I knew caught the Coronavirus?". All items had to be answered using a 3-point Likert scale ranging from 1 = *false* to 3 = *true* for younger children and a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree* for adolescents 12 to 19 years old. To analyze the whole sample, answers on a 3-point scale were weighed and transposed on a 5-point scale. Mean FC19Q-C score was computed with a higher score indicating a higher level of fear related to COVID-19. Internal consistency of scale is satisfactory (Cronbach's alpha = .91).

Both children's and parental fear could be affected by the fact that children themselves or someone close to them has been infected with COVID-19. To control these effects, we measured children's direct experience with COVID-19 by a set of 7 questions (*yes or no answer*) regarding their knowledge of whether this disease infected them or somebody close (family member, friend) or distant (neighbor, family acquaintance).

## **Results**

Before discussing the main research questions, some descriptive results will be presented. Afterward, we will show the correlations and regression analyses as indicators of complex interrelations between the examined variables. Finally, we used path analysis to analyze data.

### Children’s Fear of COVID-19

Results show that children from our sample did not have much direct experience with COVID-19. Less than 4.5% of children reported knowing somebody infected by this disease (see Appendix A). Therefore, this variable is not included in further analyses. Children’s fear of COVID-19 has a low negative correlation with age ( $r(374) = -.15, p < .001$ ), with no significant gender differences, meaning that with age fear of COVID-19 declines. Children’s fear has moderate positive correlation with parents’ fear ( $r(374) = .49, p < .001$ ). According to linear regression results, predictors of children’s fear of COVID-19, besides parents’ fear, are children’s age, self-efficacy, and quality of parental pandemic practices. However, the percentage of explained variance is small ( $R^2 = .31, F(11, 361) = 15.023, p < .001$ ) (Table 1).

**Table 1**  
Multiple linear regressions predicting parents’ and children’s fear of COVID-19 from the set of predictors

	Criteria: Parents’ fear of COVID-19			Criteria: Children’s fear of COVID-19		
	$\beta$	95%CI	SE	$\beta$	95%CI	SE
Constant	1.027			.131		
Age_Children	.002	[-.01, .02]	.008	-.11*	[-.05, -.01]	.01
Distress NSE	-.14**	[-.16, -.05]	.03	.06	[-.03, .12]	.04
Distress CF	.04	[-.04, .13]	.04	-.07	[-.20, .02]	.06
Distress PD	.60**	[.41, .56]	.04	.17	[-.01, .22]	.06
SelfEF	.03	[-.04, .08]	.03	.11*	[.01, .17]	.04
ER_CR	.02	[-.04, .06]	.02	.01	[-.06, .07]	.03
ER_ES	-.04	[-.06, .02]	.02	.07	[-.02, .10]	.03
SomAnx	.08	[-.03, .27]	.08	.09	[-.06, .33]	.10
CogAnx	.12*	[.02, .28]	.07	-.12	[-.33, .01]	.09
CovFear_P	/	/	/	.43**	[.35, .61]	.07
PanParent	/	/	/	.12*	[.03, .29]	.07
R <sup>2</sup>	.475			.314		
Adj.	.462			.293		

\* $p < .05$ ; \*\* $p < .01$ .

Note. Age\_Children = Children’s age; Distress NSE = Parental distress due to the national state of emergency; Distress CF = Parental distress due to the curfew; Distress PD = Parental distress due to the pandemic; ER\_CR = Emotional regulation (cognitive reappraisal); ER\_ES = Emotional regulation (expressive suppression); SomAnx = Somatic anxiety; CogAnx = Cognitive anxiety; CovFear\_P = Parents’ Fear of COVID-19; SelfEF = Self efficacy; PanParent = Quality of parental pandemic practices.

### Parents’ Fear of COVID-19

On the side of parents, we examined several dimensions that can be associated with parental fear of COVID-19 and quality of their parenting practices related to pandemic. First, we introduced basic demographic variables (parental age, education, employment status) as correlates, but since they did not prove to be significant in either correlation or regression, they were excluded from further analyzes.



Descriptive statistics and correlations between parental distress regarding curfew, pandemic and national state of emergency, somatic and cognitive anxiety, emotional regulation, self-efficacy, and quality of parental practices related to pandemic as well as with children's fear of COVID-19 are shown in Table 2.

**Table 2**  
*Descriptive statistics and intercorrelations of variables in the study*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
Children													
1. CovFear_C	2.83	0.83											
2. Age_Children	12.78	3.57	-.15**										
Parents													
3. Distress NSE	2.76	1.00	.03	.04									
4. Distress CF	3.02	0.67	-.03	.05	.06								
5. Distress PD	2.68	0.92	.37**	.02	.21**	.07							
6. SelfEf	5.62	0.99	.10*	-.14**	-.18**	.11*	-.15**						
7. ER_CR	5.19	1.25	.10	-.07	-.19**	-.02	-.06	.32**					
8. ER_ES	3.36	1.40	.10*	-.04	-.18**	.03	.09	.00	.30**				
9. SomAnx	1.39	0.57	.19**	.08	.17**	.04	.40**	-.21**	-.09	.10			
10. CogAnx	1.70	0.63	.17**	.06	.21**	.07	.49**	-.22**	-.13*	.07	.70**		
11. CovFear_P	2.73	0.74	.49**	.03	.03	.08	.66**	-.07	-.02	.07	.37**	.44**	
12. PanParent	3.98	0.63	.24**	-.27**	-.04	-.02	.08	.24**	.34**	.03	.03	.04	.12*

\* $p < .05$ ; \*\* $p < .01$ .

*Note.* CovFear\_C = Children's Fear of COVID-19; Age\_Children = Children's age; Distress NSE = Parental distress due to the national state of emergency; Distress CF = Parental distress due to the curfew; Distress PD = Parental distress due to the pandemic; ER\_CR = Emotional regulation (cognitive reappraisal); ER\_ES = Emotional regulation (expressive suppression); SomAnx = Somatic anxiety; CogAnx = Cognitive anxiety; CovFear\_P = Parents' Fear of COVID-19; SelfEf = Self efficacy; PanParent = Quality of parental pandemic practices.

Parents showed mild fear regarding COVID-19 ( $M = 2.73$ ). Parents' fear of COVID-19, as mentioned, was moderately correlated with children's fear, but was not correlated with age or gender of children. As expected, parental fear of COVID-19 was correlated with their distress due to the pandemic ( $r(374) = .66, p < .001$ ), as well as with their anxiety, both somatic and cognitive ( $r(375) = .37$  and  $.44$ , respectively,  $p < .001$ ). In accordance with correlations, linear regression (Table 1) showed that significant predictors of parents' fear are distress due to the pandemic, distress due to the national state of emergency, and cognitive anxiety, altogether accounting for about 47.5% of the parental fear variance ( $R^2 = .47, F(9, 365) = 36.726, p < .001$ ).

### Quality of Parental Pandemic Practices during the Pandemic

To explore factors that affect the quality of parental pandemic practices during the ongoing pandemic, we conducted another linear regression analysis, with all parental characteristics, including parents' fear of COVID-19 and children's age, as predictors of quality of parental pandemic practices. As shown

in Table 3, around 21.9% of the variance in the quality of parental pandemic practices can be predicted based on children’s age, cognitive reappraisal emotion regulation strategies, and parents’ sense of self-efficacy during pandemic ( $R^2 = .22$ ,  $F(10, 364) = 10.181$ ,  $p < .001$ ). In subsequent regression analysis, when children’s fear of COVID-19 is introduced in regression along with parental characteristics, the percentage of explained variance increases. Overall, 23.1% of the variance in quality of parental pandemic practices can be explained by children’s age, cognitive reappraisal, parental self-efficacy during pandemic, and children’s fear ( $R^2 = .23$ ,  $F(11, 361) = 9.864$ ,  $p < .001$ ) (Table 3). These results indicate that the quality of parental pandemic practices is correlated with the level of children’s fear, and parental dispositions, such as the ability to regulate their emotions and sense of self-efficacy.

**Table 3**  
*Multiple linear regressions predicting quality of parental pandemic practices from the set of predictors*

	Criteria: PanParent			Criteria: PanParent		
	$\beta$	95%CI	SE	$\beta$	95%CI	SE
Constant	2.968			2.875		
Age_Children	-.24**	[-.06, -.03]	.01	-.22**	[-.05, -.02]	.01
Distress NSE	.02	[-.05, .07]	.03	-.01	[-.05, .07]	.03
Distress CF	-.03	[-.11, .06]	.05	-.02	[-.11, .07]	.05
Distress PD	.03	[-.07, .11]	.05	.01	[-.08, .10]	.05
ER_CR	.32**	[.11, .21]	.03	.31**	[.11, .21]	.03
ER_ES	-.08	[-.08, .01]	.02	-.09	[-.09, .01]	.04
SomAnx	.03	[-.12, .19]	.08	.02	[-.13, .17]	.08
CogAnx	.04	[-.09, .18]	.07	.06	[-.07, .20]	.07
CovFear_P	.92	[-.03, .18]	.05	.03	[-.08, .14]	.06
SelfEf	.14**	[.02, .15]	.03	.18*	[.01, .14]	.03
CovFear_C	/	/	/	.13*	[.02, .18]	.04
$R^2$	.219			.231		
Adj. $R^2$	.197			.208		

\* $p < .05$ ; \*\* $p < .01$ .

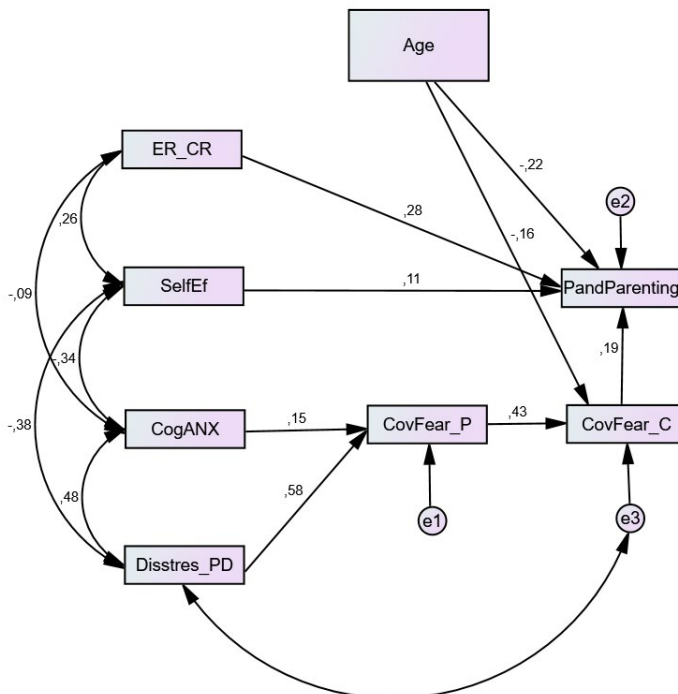
*Note.* Age\_Children = Children’s age; Distress NSE = Parental distress due to the national state of emergency; Distress CF = Parental distress due to the curfew; Distress PD = Parental distress due to the pandemic; ER\_CR = Emotional regulation (cognitive reappraisal); ER\_ES = Emotional regulation (expressive suppression); SomAnx = Somatic anxiety; CogAnx = Cognitive anxiety; CovFear P = Parents’ Fear of COVID-19; SelfEf = Self efficacy; CovFear\_C = Children’s Fear of COVID-19; PanParent = Quality of parental pandemic practices.

### Model Explaining Quality of Parental Pandemic Practices during the COVID-19 National State of Emergency

The main research aim of this exploratory study was to examine complex relations between parents’ dispositions, their distress related to the ongoing pandemic and the national state of emergency, parents’ and children’s fear of COVID-19, and how they are all related to the displayed parental pandemic practices. Based on the

multiple regressions, we have identified key predictors of parents’ and children’s fear, as well as parental pandemic practices. The next step in understanding the interrelationships between the variables that contribute to explaining variance in the quality of parental pandemic practices was to analyze a path model defined by correlations between these variables. Since this is an exploratory study, we entered all examined variables in the initial model, assuming that parental characteristics are associated with parents’ fear of COVID–19 and that this fear will consequently affect parental pandemic practices. Children’s age was defined as a covariate of both parents’ and children’s measures. It was introduced in the starting model, assuming its direct effect on the primary study variables. We also introduced children’s fear of COVID–19 as a variable correlated with parents’ fear, and the quality of parental pandemic practices. Starting from the initial model, all correlations which were not significant were successively excluded from the model. Figure 1 shows the regression weights of the final path model with only significant correlations included, providing an insight into the correlation between predictors and criteria.

**Figure 1**  
Standardized Model of Path Analysis



*Note.* Path model (Standardized regression weights); Age = Children’s age; ER\_CR = Emotional regulation (cognitive reappraisal); SelfEf = Parental sense of self-efficacy during pandemic; Distres PD = Parental distress due to the pandemic; CogAnx = Cognitive anxiety; CovFear\_P = Parents’ Fear of COVID–19; CovFear\_C = Children’s Fear of COVID–19; PandParenting = Quality of parental pandemic practices.

Model analysis shows that the model fits the empirical data ( $\chi^2(14) = 21.065, p > .05, \chi^2 / df = 1.505, RMSEA = .037, CFI = .989$ ). The regression weights of the predictors are shown in Appendix E. Cognitive reappraisal (CR), as one of the emotional regulation strategies included, and self-efficacy directly contribute to the quality of parental pandemic practices. Parental distress due to the pandemic has an indirect positive effect on children's fear of COVID-19 through parents' fear of COVID-19. Parental distress increases parents' fear, which increases children's fear, which consequently raises the quality of parental pandemic practices. We also tested the different correlations between children's fear and the quality of parental pandemic practices, assuming the opposite direction of influence, from parental pandemic practices to children's fear. Path analysis showed that such a model does not fit our data. These findings will be further discussed in the following section.

Similarly, like parental distress, parental cognitive anxiety also has the same indirect effect on quality of parental pandemic practices through parents' and children's fear of COVID-19. As can be seen from the model, parents' fear of COVID-19 may be a mechanism through which parents' distress due to the pandemic and parents' cognitive anxiety increases children's fear of COVID-19. This means that parents who were on average more anxious and more distressed about the pandemic were also more frightened of the COVID-19, which resulted in their children being more afraid of the COVID-19 on average. Children's fear of COVID-19 mediates the effect of parental characteristics (anxiety, distress, fear of COVID-19) on the quality of parental pandemic practices.

## Discussion

### Parents' and Children's Fear of COVID-19

The purpose of our study was to explore the quality of parental pandemic practices during the national state of emergency in Serbia. We aimed to determine correlations between parents' and children's fear of COVID-19, parents' distress related to COVID-19 pandemic and their personal characteristics, and how they affect their parental pandemic practices during the national state of emergency.

Children's cognitive and emotional ability is less developed than in adults, which makes children more at risk of being affected by adverse psychological outcomes of the COVID-19 pandemic. Parents play an essential role in creating children's experience of this crisis. In various ways, they can significantly shape children's strengths but also their fears. At the time of this paper's submission, the pandemic has been going on for several months with no reliable estimates of how long it will last in the future. Our results suggest the importance of continuous monitoring of children's behavior to prevent the consequences that intense fear in extended circumstances can leave on their development. Analysis of predictors of children's fear of COVID-19 may help us find a way to do that. Results showed fear of COVID-19 declines with children's age. These findings suggest that younger children are more intensely afraid of COVID-19 in this ongoing crisis. As mentioned before, for younger children, it may be more difficult to

understand different aspects of the current pandemic, which in turn may increase their fears. Results showed that higher levels of cognitive symptoms of parents' anxiety may serve as a risk factor for children's fear, while higher levels of parents' perceived self-efficacy and quality of parental pandemic practices may serve as protective factors. These results are in line with previous research, which showed that parents' problems with anxiety might contribute to children's mental health problems, including children's anxiety (e.g., Bögels & Brechman-Toussaint, 2006). Our model showed parents' fear mediates the correlation between children's fear on the one hand, and parents' anxiety and distress on the other. Many characteristics of this novel situation induce parents' concerns about their jobs, older family members, children's adjustment, and children may experience more negative emotions if they see their parents experiencing distress (Wilson et al., 2010). However, in stressful situations like pandemics, if parents can maintain their sense of efficacy in the parental role, risks for children's well-being can be reduced (Elder, 1995), which our results also confirm. The best predictor of children's fear of COVID-19 is parents' fear of this disease. Parents showed mild fear regarding COVID-19. The correlation found between parents' and children's fear of COVID-19 is moderate but also very consistent, none of the variables related to parents' dispositions, or specific parental practices related to pandemic we included in the research could mediate this correlation. Findings of the correlation between children's and parents' fears are in line with the results of Remmerswaal and Muris (2011). They showed a moderate correlation between children's and parents' fear of Swine Flu during the 2009 Swine Flu pandemic. Additionally, they showed that the correlation between parents' and children's fears of Swine Flu is mediated by threatening information parents transmit to their children. In future research, attention should be paid to variables that mediate the correlation between parental and child fears.

On the other hand, significant predictors of parents' fear are, as expected, parental distress due to the pandemic and the national state of emergency, as well as their cognitive anxiety, altogether accounting for about half of the variance of parental fear of COVID-19. Distress over the national state of emergency in our country, combined with uncertainty regarding the spread of the unknown disease for which currently there is no cure, obviously leads to an increase in many parents' fears, including fear of COVID-19.

### **Parenting during the COVID-19 Pandemic**

Unlike the hypotheses about the predictors of fear of parents and children, which we could formulate to some extent based on the findings of previous research, when it comes to parental practices related to pandemic, our search for predictors was largely exploratory. Our results showed that better quality of parental pandemic practices displayed during the pandemic is directly predicted by higher cognitive appraisal and higher sense of self-efficacy. The model also showed that parents' cognitive anxiety and pandemic distress contribute to their fear of COVID-19, which is correlated with children's fear of COVID-19. Finally, children's fear contributes positively to the higher quality of parental practices during the pandemic.

Unlike emotional suppression, which showed no prediction potential, cognitive reappraisal directly increases parental pandemic practices quality. It is showed that high reappraisal and low suppression might be the most adaptive combination of emotion regulation strategies (Betts et al., 2009; Eftekhari et al., 2009) and our results partially confirm that this emotional regulation pattern is also important during a health crisis. In line with our results, Romero and colleagues (2020) showed that anxiety increased parenting distress, directly affecting parental practices during the COVID-19 pandemic. Higher levels of parenting distress were related to less focused, less structured, and higher avoidant parenting. Above all parents-related variables, children's fear of COVID-19, which is affected by these variables, appeared to be an important predictor of quality of parental pandemic practices during the ongoing pandemic. Children's fear of COVID-19 mediates the correlation between parents' dispositions and their fear of COVID-19 on the one hand, and the quality of parental pandemic practices on the other. Interestingly, the prediction of parental practices related to pandemic by children's fear is stronger than the prediction of children's fear by parenting. Furthermore, path analysis showed that the model in which we predict children's fear by the quality of parental pandemic practices does not fit our data. Although we sometimes tend to neglect the reciprocal nature of correlations between parents and their children (for review read Loulis & Kuczynski, 1997), our findings remind us of how important it may be to understand this relationship as a dynamic one, within which a child also contributes significantly to parental practices. Prime and colleagues (2020) recently presented a systematic model of COVID-19 pandemic influence on family dynamics based on several theories of systems functioning, explaining "children's adjustment in a cascading fashion." They discuss COVID-19 related psychological distress in parents, which affects their relationships within all family subsystems. They also especially emphasize the mutual influence of family members and subsystems, which is in line with our findings of parents' dispositions affecting children's fear and children's fear directly affecting parents' behavior through their parental pandemic practices. Children's fear of COVID-19 represents a normative emotion in accordance with current pandemic circumstances. When the level of children's fear is low, there is no need for parents to initiate specific parenting practices which are related to careful communication and soothing messages about the virus. However, the more the child is afraid of the virus, the more intensely this fear manifests in their verbal and non-verbal behavior. We assume that parents, after noticing an increased level of child's fear, feel the need to react positively to this fear and try to alleviate it, changing and adapting their parental pandemic practices. Our finding of the role of children's fear also showed that level of fear is not always a negative outcome. During an ongoing pandemic, this fear may be adaptive for parents and children as well, causing greater caution and greater responsibility in complying with epidemiological measures to combat the spread of the virus. If the fear level is not too high to cause maladaptive behavior symptoms, it may be a driver of positive change in the relationship between the child and the caregiver and empowers responsible parenting.

In studies related to disaster experience, retrospective data were often used, and questions about children's emotions or behaviors are usually addressed to their parents. Collecting data during the state of national emergency enabled us to obtain data during the current crisis, making the data more valid. Furthermore, our data were collected from both parents and their children. We covered a wide range of variables related to parents' dispositions that could provide essential insights while targeting vulnerable groups of parents and creating prevention or intervention programs which may help those parents handle the COVID-19 situation better. However, it should be noted that the present study has various limitations. Some instruments were created ad hoc for purposes of this study. At the time data collection started, to our knowledge, no study was published that included any measure of parental pandemic practices that we could use for this research. Further analysis is needed to examine and improve this scale. Additionally, the study is cross-sectional, which disables causal conclusions. We suggest a longitudinal design aiming at changes in parental practices conditioned by children's emotions and behaviors in crisis related to public health.

### Conclusion

Although research about the potential consequences of COVID-19 related to childhood development, children relationships with parents, and parenting pandemic practices during the ongoing pandemic is still in its infancy, exploring these topics is an important step in expanding our knowledge about protective or risk mechanisms through which parents may influence outcomes of health crises. Our study confirms that quality of parental practices related to pandemic, although highly significant, may be very challenging. We should raise awareness about children's emotional needs during a pandemic and the importance of caregivers' behaviors toward them. For parents to be better prepared and less stressed in situations like this, child specialists should make additional efforts to educate parents and help them implement good parental practices during health crises. The effects of parental pandemic practices on various psychological aspects of children's functioning during the COVID-19 pandemic should be investigated in future studies.

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## Roditeljstvo u doba pandemije: Prediktori kvaliteta roditeljskih praksi koje se odnose na pandemiju COVID-19 tokom vanrednog stanja u Srbiji

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Cilj ovog istraživanja je bio da se ispituju odnosi između roditeljskog i dečijeg straha od COVID-19, roditeljskih dispozicija (emocionalne regulacije, samoeфикаsnosti, anksioznosti kao crte) i njihovog distresa (usled pandemije, vanrednog stanja i policijskog časa) i kako ove varijable doprinose kvalitetu roditeljskih praksi koje se odnose na pandemiju, tokom vanrednog stanja u Srbiji proglašenog zbog širenja COVID-19. Onlajn upitnike je popunilo 376 roditelja i po jedno njihovo dete uzrasta od 7 do 19 godina. Analiza puta je korišćena za analizu podataka. Viši nivo kognitivne preformulacije i doživljava samoeфикаsnosti roditelja direktno doprinose boljem kvalitetu roditeljskih praksi koje se odnose na pandemiju. Indirektno, roditeljski strah, distres usled pandemije i kognitivni simptomi anksioznosti kod roditelja podižu nivo kvaliteta roditeljskih praksi koje se odnose na pandemiju. Ukazujući kako na protektivne, tako i na faktore rizika koji mogu delovati na roditeljstvo tokom pandemije i vanrednog stanja, kao i na mehanizme njihovog delovanja, naši nalazi ukazuju na važnost sposobnosti roditelja da upravljaju negativnim emocijama i efekat koji strah dece može imati na kvalitet specifičnih roditeljskih praksi koje se odnose na pandemiju.

*Ključne reči:* kvalitet roditeljskih praksi koje se odnose na pandemiju, strah od COVID-19, distres tokom pandemije, emocionalna regulacija, doživljaj samoeфикаsnosti roditelja

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## Appendix A Descriptive Statistics

### *Descriptive statistics of participants: children*

Children gender	Frequency	Percent	Mean	SD
male	152	40.4		
female	224	59.6		
Children age				
7–12 years	154	41.0	12.77	3.572
12–19 years	222	59.0		

### Do you know somebody who has Coronavirus?

COVID–19 experience with:	yes %	no %	DK %
Neighbors	3.7	70.7	25.5
Friends	1.1	81.1	17.8
Cousins	4.5	90.2	5.3
Family member	1.6	97.6	0.8
Girlfriend/boyfriend	0.0	88.5	11.5
You	0.3	97.3	1.9

Note. DK = do not know.

### *Descriptive statistics of participants: parents*

	Frequency	Percent
Education		
primary school	13	3.5
secondary school	144	38.3
Bachelor's degree	118	31.4
Master's degree	83	22.1
PhD degree	18	4.8
Employment during NSE		
from home	132	35.1
outside of home	66	17.6
sometimes from home, sometimes outside	49	13.0
Unemployed	129	34.3
Total	376	100.0

**Appendix B**  
**Pandemic Parenting Scale**

Items	Factor Loading
I design new activities for my child	.725
In order to help my child cope, I am looking for new guidelines for parents	.698
I analyze my actions towards my child	.678
I organize joint activities with my child	.677
I exchange experiences related to children's reactions with other parents	.640
I take care of how I behave in the presence of a child	.559
I try to explain pandemic situation to my child in a language he/she understands	.586
I talk with my child about COVID-19	.541
I would turn to experts in order to help my child cope if I noticed that I could not help him/her	.492
When my child wants to talk about pandemic situation, I always take the time to do so	.472
I keep asking myself if I could have reacted better to some of my child's reactions	.378

### **Appendix C**

#### **Pandemic Distress Scale**

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Items

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I'm worried whether we will provide enough groceries and protective equipment for the family

Due to the ongoing COVID-19 pandemic, it is difficult for me to focus on my work

I was frightened by the declaration of a state of national emergency

I feel safer due to declaration of a state of national emergency

It upsets me that I am not allowed to move freely

I do not mind prohibition of public gatherings

It's difficult for me not to be around people I am accustomed to

Since the beginning of the pandemic, I have noticed that I am more afraid of death

When I think about a contagious disease, images of crowded hospitals and people left to themselves immediately run through my head

The fact that I cannot estimate the end of this situation in Serbia worries me

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**Appendix D**  
**Fear of COVID-19 Questionnaire for Children Scale (FC19Q-C)**

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Items
I would be scared if I caught the Coronavirus
I would be scared if someone I knew caught the Coronavirus
I am scared that if I caught the Coronavirus, I would get sick really bad
I am afraid that someone close to me might get really sick with the Coronavirus
If I get sick with the Coronavirus, I will recover quickly
It scares me that it might be very painful if I got sick with the Coronavirus
I am afraid I might transmit the Coronavirus to someone
It scares me that the Coronavirus is so tiny that it cannot be seen with the naked eye
It happens that I dream about me or someone close to me getting the Coronavirus
I keep thinking about whether or not I have the Coronavirus
When I hear someone coughing, I immediately get scared that he or she has the Coronavirus
I don't think I am going to be the one to get sick from the Coronavirus
It's nothing so scary to get the Coronavirus
Ever since this Coronavirus situation started, I'm more afraid of catching any disease in general
It scares me that I can't go where I want to, when I want to, because of the Coronavirus
It scares me that I can't hang out with friends because of the Coronavirus

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**Appendix E**  
**Standardized Regression Coefficient for Regression Model**

Relations		Standardized regression weights	<i>p</i>
Parental distress due to the pandemic	--->	Parents' fear of COVID 19 .585	***
Parental anxiety (cognitive)	--->	Parents' fear of COVID-19 .155	***
Parents' fear of COVID- 19	--->	Children's fear of COVID-19 .429	***
Children's fear of COVID- 19	--->	Quality of parental pandemic practices .186	***
Emotion regulation (cognitive reappraisal)	--->	Quality of parental pandemic practices .276	***
Self-efficacy	--->	Quality of parental pandemic practices .107	**
Children's Age	--->	Children's fear of COVID- 19 -.157	***
Children's Age	--->	Quality of parental pandemic practices -.218	***

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