Emotion Regulation During the COVID-19 Pandemic:

Risk and Resilience Factors for Parental Burnout (IIPB)

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Abstract

The COVID-19 pandemic has impacted families' lives around the world. The measures used to contain transmission have led to increased stress and put parents at increased risk for parental burnout (PB). The aim of the current study was to examine the association between COVID-related parental stress and PB, and to test whether emotion regulation (ER) moderated this association. We hypothesized that rumination, which is a generally maladaptive ER strategy, would act as a risk factor. In comparison, we hypothesized that reappraisal, which is a generally adaptive ER strategy, would act as a resilience factor. We assessed 8,225 parents from 22 countries using an on-line survey, and focused on general stress and parenting stress. These stressors were associated with greater PB. Importantly, parental ER moderated these associations; rumination strengthened the link between stress-related variables and PB, whereas reappraisal weakened it. This study emphasizes the negative effect COVID-19 has on parents and highlights key ER risk and resilience factors.

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The COVID-19 pandemic has impacted parenting and family dynamics worldwide, particularly among families that have faced lockdowns, social distancing, and the threat (and reality) of sickness. These stressors, combined with reduced levels of support, have put parents at risk of parental burnout (PB) (Griffith, 2020). However, it is unclear why some individuals exposed to these stressors are more resistant to negative outcomes, while others are less resistant. The present study examines the role of different emotion regulation (ER) strategies in moderating the impact of stress on PB during the pandemic.

Stress and Parental Burnout

Parents are responsible for every aspect of their children's lives, and this can be stressful (Deater-Deckard, 2008; Raphael, Zhang, Liu, & Giardino, 2010), especially when they cannot take a "day off" from their parenting role. While most parents can cope with this parenting-related stress, some parents experience PB, defined as "a state of intense exhaustion related to one's parental role, in which one becomes emotionally detached from one's children and doubtful of one's capacity to be a good parent" (Mikolajczak, Gross, & Roskam, 2019). A recent world-wide study of more than 17,000 participants from 42 countries showed that between 0.1% and 10% of parents experience PB (Roskam et al., 2021).

PB can have clinical implications for both parents and children; PB can lead to increased parents' sleep problems as well as escape and suicidal ideations (Mikolajczak, Brianda, Avalosse, & Roskam, 2018), and it can also put children at risk for abusive and neglectful behaviors (Mikolajczak et al., 2018, 2019). Previous studies have shown that parents are at greater risk of developing PB when they lack emotional or practical support from their social

network (Aunola, Sorkkila, & Tolvanen, 2020; Séjourné, Leboullenger, & Callahan, 2018), or

work part-time or are stay-at-home parents (Lebert-charron, Dorard, Boujut, & Wendland, 2018).

Unfortunately, many of these factors are directly related to COVID-19 restrictions.

There is a growing appreciation of the degree to which governmental efforts to contain

the transmission of COVID-19 (i.e., lockdowns, social distancing, closing of schools,

playgrounds, and businesses; Gostin & Wiley, 2020) have resulted in unintended consequences,

increasing parents' caregiving responsibilities while decreasing their social support (Hawkley &

Cacioppo, 2010). These efforts, made to reduce the spread of COVID-19 – while often necessary

-- were bound to influence parental stress and resources, increasing the risk of PB. As PB

influences both parents and their children, it is important to clarify factors that may mitigate (or

exacerbate) the harmful impact of unavoidable stress associated with COVID-19.

The Moderating Effect of ER Strategies

COVID-19 related stressors differ across families, but even when stressors are equal, not

all parents react the same way to these stressors. Some parents are at greater risk for negative

outcomes in the face of ongoing stress, while others are more resilient. Why is this?

One reason may be that the ability to regulate one's emotion plays an important part in

determining resilience in the face of considerable stress (Troy & Mauss, 2011). Research on the

importance of ER in adjustment to stress has mainly targeted the associations between stress and

other aspects of mental health such as depression and psychopathology (Levy-gigi et al., 2016;

Millgram, Joormann, Huppert, Lampert, & Tamir, 2019). We propose that the way parents

regulate their negative emotions in the parenting context influences their ability to cope with

stressful situations (Hajal & Paley, 2020), and consequently influences their risk for PB.

In particular, greater use of a generally maladaptive form of ER, such as rumination, should predict greater risk for burnout, since ruminating (i.e., focusing one's attention) on one's negative emotions is related to decreased resilience (Kircanski, Thompson, Sorenson, Sherdell, & Gotlib, 2015; Troy & Mauss, 2011). In contrast, greater use of a generally adaptive form of ER in high-stress contexts, such as cognitive reappraisal, should predict lower risk, as evidence suggests that cognitive reappraisal (i.e., changing the initial meaning given to the situation to a more positive interpretation) is an effective strategy to reduce negative emotion, with long lasting effects on individuals' well-being (Gross & John, 2003). Thus, parents may be at greater risk for PB when they lack adaptive ER abilities.

The Current Study

The goal of the current study was to examine the extent to which COVID-related parental stress related to PB, and to assess whether ER moderated this link. We focused on general COVID-19 cumulative stress (e.g., financial change due to the pandemic) and parenting related stress (e.g., home-schooling). We hypothesized that PB would be more strongly related to parenting related stress than to general stress. We further hypothesized that rumination would act as a risk factor and cognitive reappraisal would act as a protective factor for PB. We also examined a third form of ER – distraction – that is associated with a mixed pattern of outcomes, and for which we had no specific hypotheses.

Method

Participants

Participants were part of the International Investigation of Parental Burnout (IIPB). A total of 9,964 parents (75.4 % mothers) from 25 countries completed an online survey. Of these, 1,739 (17.5%) were not included in the analyses for the following reasons: (a) 1,182 because

they did not complete the ER section, (b) 520 because all their children were older than 18, and (c) 37 because we questioned the validity of their answers (e.g., they failed to answer the attention check items correctly). The final sample included 8,225 participants world-wide. The countries' distribution is presented in the supplementary materials (Table S1). Of the participants included in the data analyses, 6,229 (75.7%) were mothers.

Parents' mean age was 39.17 ($SD = 6.83$, range = 16 - 77), and their mean years of education was 16.42 ($SD = 3.75$). The majority of participants were from a two-parent household (80.4%). Approximately 81% of parents still worked in some capacity during COVID-19, with 56.7% of parents working from home. Parents' average financial situation was relatively good ($M = 2.61$, $SD = 1.11$, on a scale ranging from 1 [*very good*] to 5 [*poor*]). Most parents (93.8%) reported that their country adopted lock-down measures, and the average number of lockdown days was 38.31 days ($SD = 24.61$).

Procedure

The survey was distributed through social networks, websites, and word of mouth, and was part of a larger project on responses to COVID-19. Participants were not given incentives for participation. Parents were eligible to participate only if they had (at least) one child still living at home. They were invited to complete the survey online after giving their informed consent, which allowed them to withdraw at any stage. They were also assured that data would remain anonymous. Data collection was conducted between April and August of 2020.

Measures

Sociodemographic. Participants were asked about their age, sex, number of children, children age range and sex, family type (e.g., two-parent, single parent), years of education,

country of residence, financial situation (before and after COVID-19), and current employment status.

General stress-related variables. Items were dichotomously coded to indicate whether stressors in that category occurred (0 = no, 1 = yes), and subsequently summed to create a COVID-19 general stress score (Brown et al., 2020). Parents were asked to indicate whether their country adopted lockdown measures (0 = no, 1 = yes), whether their family's financial situation changed since the governmental measures regarding the coronavirus (0 = no/they don't know yet, 1 = yes, a major/minor decrease in income), how negative/hopeless they were feeling about the COVID-19 situation (0 = not feeling negative/hopeless, 1= feeling negative/hopeless), and whether a family member living in their house was infected by the coronavirus (0 = no, 1 = yes).

Parenting stress-related variables. Parenting-related variables were also dichotomously coded and summed to create a parenting-related stress score. Participants were asked to indicate whether their child(ren) require home schooling (0 = no, 1 = yes), whether childcare services stopped during the lockdown/COVID-19 (0 = no, 0.5 = partially, 1 = yes), whether the child had an outdoor field or garden to play in during the pandemic (0 = yes, 1 = no), whether they shared parenting duties with their partner (0 = yes, 1 = no), whether they feel that there has been a negative impact on their parenthood and parenting behavior towards your child(ren) (0 = no, 1 = yes), and the extent to which they feel that there has been a change in the frequency in situations in which your child's behavior evoked intense negative emotions from you (0 = decreased/stayed the same, 1 = increased).

PB assessment. The parental burnout assessment (PBA; Roskam, Brianda, & Mikolajczak, 2018) is a 23-item questionnaire consisting of four subscales: exhaustion in one's

parental role (nine items), contrast with previous parental self (6 items), being saturated of the

parental role (5 items) and emotional distancing from one's child (3 items). Items are rated on a

7-point Likert scale (0 = *never*, 1 = *a few times a year or less*, 2 = *once a month or less*, 3 = *a few*

times a month, 4 = *once a week*, 5 = *a few times a week*, 6 = *every day*). A global score is

computed by summing the item scores so that higher scores indicate greater burnout. In the

current study the PBA demonstrate excellent internal consistency, with Cronbach's alpha

reliabilities ranging between 0.76 and 0.94 for the four subscales, and the one-factor model

showed acceptable factorial validity ($\chi^2(224) = 15,125.11$, RMSEA = 0.09, CFI = 0.90, SRMR

= 0.05, TLI = 0.89).

ER. Parents' ER was assessed using strategy-specific questions, which asked participants

"in situations in which you experience intense <u>negative situations</u> with your child, to what extent

do you try to control (that is, regulate and manage) yourself in the following ways?" .Parents

were asked to indicate the extent to which they used cognitive reappraisal ("I change my

perspective or the way I was thinking about the situation), rumination ("I ruminate or dwell on

the situation or my emotions"), and distraction ("I distract myself from the situation or my

emotions"), on a scale from 1 (*very unlikely*) to 7 (*very likely*).

Statistical Approach

We first assessed the associations among the study's variables using Pearson's

correlations. Then, we mean centered the predicting variables and conducted one moderation

model in which we examined the associations between the stress-related variables and PB, and

the moderating roles of the three regulation strategies. We controlled for parents' age, gender,

education level, number of children living in the house, and the number of the days they were in

lockdown. We used mixed-effect models and treated the country of origin as a random intercept. We used the 'lme4' package in R (Bates, Mächler, Bolker, & Walker, 2015).

Results

The proportion of parents' answers on the different stressors is provided in Table 1. The mean scores of general stress was 1.83 (SD = 0.79), of parental stress was 2.61 (SD = 1.30), and of parental burnout was 29.14 (SD = 28.72). Regarding ER strategies, the mean scores of rumination was 4.38 (SD = 1.78), of cognitive reappraisal was 4.98 (SD = 1.50), and of distraction was 4.53 (SD = 1.68). To address our first hypothesis, we observed the Pearson's correlations between the variables, which indeed showed that PB was more strongly associated with parenting stress (r = .38), than with general stress (r = .22, Fisher's z = 11.86, p < .0001). PB was positively associated with rumination (r = .19), negatively associated with reappraisal (r = -.13), and was not associated with distraction (r = .02).

To address our second hypothesis, we conducted one moderation model, that included all variables and present the results in Table 2. Rumination significantly increased the associations between both stressors and parental burnout, while reappraisal significantly decreased the associations between parental stress and parental burnout. Distraction did not moderate these associations. With the exception of lockdown days, all the control variables were significant predictors of PB; mothers reported more burnout than fathers; parents' age was negatively associated with PB, while education and the number of children at the house were positively associated with PB.

Discussion

The COVID-19 pandemic has influenced families around the globe (Cluver et al., 2020; Prime, Wade, & Browne, 2020). In the current study we focused on the impact of the pandemic

on PB. Findings indicate that accumulating stress during the COVID-19 pandemic, both general and parenting-related, have increased the likelihood of PB. However, parents' ER strategies moderated the association between these stress-related variables and PB, and acted as risk or resilience factors, depending on the emotional regulation strategy parents use.

Rumination showed robustness in acting as a risk factor for both stressors. This underscores the negative impact of rumination to parents' well-being as well as to parenting abilities, especially in times of stress. Parents' preoccupation with their negative emotions or the negative situation may impair their abilities to appropriately process their child(ren) needs (DeJong, Fox, & Stein, 2016), affecting their relationship with their children, and increasing their feelings of parental inadequacy and burnout. In contrast, cognitive reappraisal acted as a protective factor for PB against parenting stress. Thus, changing the way in which one perceives parenting stress is an adaptive way to protect the self against negative outcomes, as was previously found regarding cognitive reappraisal (Gruber, Hay, & Gross, 2014). Distraction was not a significant moderator of the association between parenting stress and PB.

Parents' gender, age and the number of children living at the house during the pandemic were significant contributors to parental burnout in both models. In line with previous findings (Roskam et al., 2018; Roskam & Mikolajczak, 2020), mothers reported more parental burnout than fathers, as well as experiencing more stress. This could be partly explained by differences in childcare involvement. In the current study 54.2% of the mothers reported that most, if not all, childcare was their responsibility during the pandemic, compared to 21.6% of the fathers. Thus, compared to the mothers, parenting duties were less of a stressor for fathers, possibly due to gender role expectations (Roskam & Mikolajczak, 2020). In addition, younger parents reported more parental burnout than older parents. It is likely that younger parents have also younger

children, who require more parental attention and caregiving, thus increasing the likelihood for

parental burnout. Finally, the more children at the house also increased the likelihood for parental

burnout. This is to be expected as more children require greater attention and resources from

parents.

The strengths of the current study lie in its large sample size, the diversity of participants,

and the ability to study the three ER strategies within the same model. However, several

limitations should be noted. First, we relied on parents' self-reports, which are subject to social

desirability bias. Notably, the focus of the study was PB, a characteristic not lightly admitted by

parents, which may suggest that the results of this study may under-represent the extent of this

phenomena in society. Second, we collected data at one time point, which did not enable us to

assess changes in the studied variables. Although we tested the direction of effects in which

stress is predictive of PB, we cannot rule out the possibility that PB could also be predictive of

stress and future research will be required to assess direction of effects. However, the data was

collected at a sensitive time point during the global pandemic, which did allow us to better

understand the effects the pandemic has had on the lives of thousands of families around the

world. Finally, we studied parents' ER strategies only in the context of their child(ren), using one

target question. This approach was adopted to reduce participant burden and enhance feasibility.

Future studies should focus on additional contexts and use additional measures to assess ER.

In sum, the current study showed the toll the COVID-19 pandemic is taking on parents

and highlighted the important roles played by ER in handling stressful ongoing situations.

Maladaptive ER strategies, in this case rumination, can put parents at greater risk for negative

outcomes, thus endangering parents' well-being and children's safety. In comparison, adaptive

ER strategies, in this case cognitive reappraisal, can protect parents from negative outcomes such

as PB. This study suggests that support programs for parents should focus on helping them to

reappraise (and not ruminate upon) their emotions in stressful and uncertain situations.

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Table 1. Proportions of parents' stressors

Characteristic	N (%)
General stressors	
Country used lockdown	7743 (93.8%)
Financial situation decreased	3643 (44.19%)
Hopelessness about COVID-19	3297 (39.99%)
Family member (living in the house) infected by the coronavirus	292 (3.6%)
Parenting-related stressors	
Child requires homeschooling	5761 (74%)
Childcare services stopped	3700 (65.8%)
No outdoor available for the child(ren) to play during the lockdown	2409 (32.2%)
Non shared parental responsibilities	3787 (53.3%)
Negative impact of COVID-19 on parenting	3276 (39.8%)
Increase in negative situations with the child(ren)	3438 (42.8%)

Table 2. Moderation Analysis of the Associations between Stress and Parental Burnout

	Parental Burnout		
Predictors	*Estimates (CI)*	*Standardized Beta*	*p*
Intercept	31.98 (25.37 – 38.65)		<0.0001
Age	-0.37 (-0.47 - -0.27)	-0.09	<0.0001
Gender	1.85 (0.21 – 3.49)	0.03	0.03
Education	0.37 (0.17 – 0.56)	0.05	0.0002
Number of children	0.83 (0.32 – 1.33)	0.04	0.0013
Lockdown days	0.11 (-0.01 – 0.04)	0.01	0.389
General Stress	4.88 (3.98 – 5.78)	0.13	<0.0001
Parental stress	7.88 (7.32 – 8.44)	0.34	<0.0001
Rumination	2.33 (1.93 – 2.72)	0.14	<0.0001
Cognitive Reappraisal	-3.08 (-3.57 – -2.58)	-0.16	<0.0001
Distraction	0.79 (0.35 – 1.23)	0.04	0.0005
General Stress X Rumination	0.60 (0.11 – 1.10)	0.03	0.017
General Stress X Reappraisal	0.20 (-0.43 – 0.84)	-0.008	0.503

General Stress X Distraction	-0.40 (-0.98 – 0.17)	-0.02	0.167
Parental Stress X Rumination	0.64 (0.34 – 0.94)	0.05	<0.0001
Parental Stress X Reappraisal	-1.17 (-1.56 – -0.79)	-0.07	<0.0001
Parental Stress X Distraction	0.24 (-0.10 – 0.58)	0.02	0.174

Note. CI = confidence interval