

## Parental burnout and coparental cooperation in Chile during lockdown for COVID-19

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### KEYWORDS

Parental burnout  
COVID-19  
Lockdown  
Coparenting cooperation

### ABSTRACT

Under usual circumstances, without a global pandemic, numerous parents might encounter stress associated with their roles as caregivers. However, with the added impact of the health crisis and the widespread adoption of lockdown measures, family routines were disrupted as many parents found themselves spending more time at home. Most caregivers had to juggle remote work while simultaneously providing care for their children. This situation has raised concerns about the potential for parental burnout. The objective of this study was to describe parental burnout in mothers and fathers during the COVID-19 lockdowns in Chile and analyze its relationship with possible risk factors such as days in quarantine, perceived impact of COVID-19 on parenting, hours dedicated to weekly paid work, and caregivers' perception of the need for care of their children. Furthermore, we sought to describe the relationship between parental burnout and coparental cooperation, evaluating the latter as a possible protective factor. An online cross-sectional survey design was used. The sample consisted of 599 people (78.5% mothers) over 18 years old who live in Chile with at least one child. Through a quantitative methodology and using R, multiple regression models were performed with predictive modeling to contrast the hypotheses. The results indicate that the variables related to lockdown, such as days in quarantine and level of involvement of fathers and mothers in parenting due to the pandemic, predict parental burnout. Caregivers' perception of the need for care of their children also has a significant impact on this phenomenon. In addition, mothers have higher levels of exhaustion than fathers. The number of hours of paid work does not predict parental burnout. Coparenting cooperation in this context can represent a protective factor against chronic stress.

### *Burnout parental y cooperación coparental en Chile durante el confinamiento por COVID-19*

### PALABRAS CLAVE

*Burnout* parental  
COVID-19  
Confinamiento  
Cooperación coparental

### RESUMEN

Bajo circunstancias habituales, sin una pandemia global, numerosos padres pueden experimentar estrés asociado con sus roles como cuidadores. Sin embargo, con el impacto adicional de la crisis sanitaria de COVID-19 y la adopción generalizada de medidas de confinamiento, las rutinas familiares se vieron interrumpidas al encontrarse muchos progenitores pasando más tiempo en casa. La mayoría de los cuidadores tuvieron que equilibrar el trabajo remoto mientras proporcionaban cuidado a sus descendientes simultáneamente. Esta situación ha generado preocupaciones sobre el potencial de *burnout* parental. El objetivo de este estudio fue describir el *burnout* parental en madres y padres durante los confinamientos por COVID-19 en Chile y analizar su relación con posibles factores de riesgo como días en cuarentena, impacto percibido de COVID-19 en la crianza, horas dedicadas al trabajo remunerado semanalmente y percepción de los cuidadores sobre la necesidad de cuidado de sus descendientes. Además, se buscó describir la relación entre el *burnout* parental y la cooperación coparental, evaluando esta última como un posible factor protector. Se utilizó un diseño de encuesta transversal en línea. La muestra consistió en 599 personas (78.5% madres) mayores de 18 años que viven en Chile con al menos un descendiente. A través de una metodología cuantitativa y utilizando R, se realizaron modelos de regresión múltiple con modelado predictivo para contrastar las hipótesis. Los resultados indican que las variables relacionadas con el confinamiento, como los días en cuarentena y el nivel de implicación de padres y madres en la crianza debido a la pandemia, predicen el *burnout* parental. La percepción de los cuidadores sobre la necesidad de cuidado de sus descendientes también tiene un impacto significativo en este fenómeno. Además, las madres presentan niveles más altos de agotamiento que los padres. El número de horas de trabajo remunerado no predice el *burnout* parental. La cooperación coparental en este contexto puede representar un factor protector contra el estrés crónico.

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In the absence of a global pandemic, many parents may experience stress directly related to their roles as caregivers. However, the COVID-19 pandemic and the mandated lockdown placed families in challenging circumstances. Everyday family life experienced substantial alterations in its customary norms, traditions, and routines (Prime et al., 2020). Numerous caregivers were obliged to work remotely while simultaneously tending to their children, all without the usual support system they relied upon, as childcare, school, and social support. In this context, certain families might have been more impacted than others, especially in terms of financial situation and the emergence of mental health issues, which, in turn, could have had significant consequences for the well-being of parents and children during that period (Prime et al., 2020).

In Chile, months before the emergence of the COVID-19 health crisis (March 2020), a social crisis took place (October 2019). In this period, medical leaves for mental health rose by 20%, leading to additional referrals to specialists and an increase in the use of drugs such as antidepressants and tranquilizers (Ministry of Health of Chile, 2019). The pandemic interrupted the social unrest through lockdowns; however, it only compounded an already complex mental health situation in Chile.

Parental burnout is a phenomenon that has been widely described in recent years though only one study has been carried out at a global level (Roskam et al., 2021). In Chile, only one measurement was made prior to the health crisis (Pérez-Díaz & Oyarce, 2020). Studying parental burnout assists in recognizing the factors that can have adverse effects on parents' mental and emotional well-being, as well as understanding how parental stress can impact children's well-being and development. In the context of extraordinary circumstances for families, parenting became a subject of concern as many parents found themselves spending more time with their children. Although this transition resulted in positive experiences for some, it presented significant challenges for others, especially those who had to work from home while their children constantly demanded their attention (Mikolajczak & Roskam, 2020b).

Understanding how these circumstances affected parental burnout provided valuable insights into the adaptability and resilience of parents in the face of unusual scenarios. It also helps to identify the challenges and coping mechanisms related to work-life balance during this period, how family members supported each other, and how they could better navigate future crises. In summary, studying parental burnout is important for the well-being of parents, children, and families as a whole and, in particular, studying parental burnout during lockdowns was essential to gain a comprehensive understanding of how extreme circumstances can impact parents and families. The insights gained from this research can inform future preparedness, support systems, and policies to better assist parents during crises and challenging times. It also has implications for public health, policy development, and the improvement of support systems for parents facing these challenges.

### *Parental burnout*

Parental burnout is a state of intense exhaustion related to the parental role. Caregivers affected by it become emotionally distant from their children, lose pleasure, and doubt their parental capacity; they feel that they are not the good parents that they used to be, as their previous self-clashes with the current one (Hubert & Aujoulat, 2018; Mikolajczak et al., 2019; Roskam et al., 2017; Roskam et al., 2018).

A recent study (Roskam et al., 2021) on the global prevalence of parental burnout indicated that it ranges from 0 to 8%, with the rate in Chile being 3.8% prior to the health crisis. It results from a chronic imbalance of demands or risk factors relative to resources or protective factors in the parental domain. Risk factors include caregiver personality types, stress management skills, coparenting, and parenting standards and practices, among others (Mikolajczak & Roskam, 2018).

Parental burnout can lead to an increase in flight/escape ideas and suicidal ideation, as well as neglect and violence towards children (Mikolajczak et al., 2019). Ideas of escape can manifest through alcohol consumption (Mikolajczak et al., 2018a), with recent studies showing dysregulations in the hypothalamic-pituitary-adrenal axis caused by parental exhaustion (Brianda et al., 2020a; Brianda et al., 2020b). Mikolajczak and Roskam (2020b) point out that these findings could explain possible somatic difficulties and sleep disorders, while the increase in cortisol could explain the potential increase in parental violence.

### *Coparenting and parenting support*

Coparenting has been identified as a protective factor against parental exhaustion (Mikolajczak & Roskam, 2018). It refers to the collaboration between two or more parental figures who share the responsibilities of raising at least one child. This collaboration is a shared task that is triadic by nature, involving both caregivers and the child (Feinberg, 2003), and can take many forms, such as mother-father or mother-grandmother (Richardson et al., 2018). Coparenting consists of parental agreement and support, division of labor, undermined coparenting –or conflicts between caregivers– (Van Egeren & Hawkins, 2004), children's exposure to conflict, closeness, and the validation of the other in their parental role (Feinberg et al., 2012). Cooperation between both caregivers is one of the dimensions of coparenting and includes the exchange of information about the child, support and respect between the parents, and communication in a climate of mutual loyalty towards the child (Margolin et al., 2001).

Mikolajczak and Roskam (2018) found that coparenting is a predictor of parental burnout. The same authors (Roskam & Mikolajczak, 2020) warn that mothers spend significantly more time with their children than fathers and that they oversee duties such as housework, discipline, care, and recreation, all of which represents a possible source of stress for mothers. The experience of parenting varies between mothers and

fathers according to the cultural context and traditional gender roles: while fathers can choose to share child-rearing responsibilities with mothers, mothers who choose to have a paid job cannot shirk their parenting duties. Therefore, women will continue to be the main caregiver in charge of their children's lives, being more exposed to the stress of parenting tasks, and consequently exhibit higher levels of parental burnout (Roskam & Mikolajczak, 2020). In this context, mothers are likely to need more support. Support and the use of networks can represent a protective factor against stress, since parents with less support and low ability to ask for help show more parental burnout than those who have support networks available (Lindström et al., 2011).

### *Health crisis and family situation*

The Economic Commission for Latin America and the Caribbean (CEPAL, 2020) has pointed out that Latin American women during the pandemic have dedicated three times as much time as men to housework and caring for others, which has increased the impact for this population (Bahn et al., 2020). Studies conducted during lockdown show that caregiving tasks have been carried out mainly by women (Nash & Churchill, 2020; Hennekam & Shymko, 2020). A qualitative study about coping strategies conducted in France (Hennekam & Shymko, 2020) shows how differences in gender roles influence the balance between working from home and domestic chores. This study found that, for women, the professional obligations of mother and spouse overlap and can lead to feelings of inadequacy and failure. In addition, women tend to neglect their own needs when adapting to lockdown in contrast to their male partners, who seek to reduce the impact of the COVID-19 crisis on their work. This study also determined that women prioritize the needs of others over their own. These findings are in line with previous research on teleworking (Sullivan & Lewis, 2001), which indicates that working from home reinforces traditional gender roles and that, although the participation of men may be growing in some areas of domestic work, the responsibility still falls mainly on women.

### *The present study*

This study seeks to describe parental burnout in Chilean parents during the COVID-19 lockdowns and analyze its relationship with possible risk factors. Furthermore, it seeks to describe the relationship between parental burnout and coparental cooperation as a possible protective factor against this phenomenon. The following is hypothesized: 1) Low coparental cooperation during the COVID-19 pandemic is expected to be linked to higher parental burnout in mothers and fathers; 2) A longer time in quarantine, a greater impact caused by COVID-19, more hours dedicated to a paid work activity, and children who require more care are associated with greater parental burnout and lead to gender-based differences between parents' perceptions about their children's need for care, being greater in mothers; and 3) Coparenting cooperation is expected to moderate the relationship

between parents' perception of their children's greater need for care, and parental burnout in mothers and fathers.

## **Method**

### *Participants*

The inclusion criteria set for this study were: being a mother or father, being over 18 years of age, living with at least one child, and residing in Chile. Participants from single-parent families were excluded because one of the scales used in this study requires the participation of another adult in raising the children. The analyzed sample comprises 599 participants, mainly mothers (78.5%). The average age of the sample of mothers and fathers was 40.39 years ( $SD = 7.77$ ), 30.8 ( $SD = 18.48$ ) hours of paid work, and 1.96 ( $SD = 0.91$ ) children on average. Regarding the educational level of the sample, most participants were highly educated. Specifically, 86.7% had a university or postgraduate degree, 7.8% had a technical degree, 3.5% had secondary education, and 1.7% had primary or no formal education.

### *Procedure*

This study is part of the International Investigation of Parental Burnout (IIPB) Consortium and its second data collection process around the world. An online cross-sectional survey design was used. The protocol was translated into Spanish and adapted for Chilean culture following the recommendations of the World Health Organization (2007) for instrument translation and adaptation. A pre-test was carried out in which 18 fathers and mothers in total participated. This procedure was aimed at evaluating the understandability of the full questionnaire and the response time of the participants.

Caregivers were invited to participate in the study through an online invitation disseminated through online platforms and social media profiles of Pontificia Universidad Católica de Chile, the Millennium Institute for Research on Depression and Personality (MIDAP), Universidad Adolfo Ibáñez, Universidad Santo Tomás, and press articles published in a Chilean newspaper. The data were collected through a self-report questionnaire completed online through Google Forms during the lockdown period between June and August 2020.

### *Ethical considerations*

This study was approved by the ethics committees of Pontificia Universidad Católica de Chile (200425001), Universidad Adolfo Ibáñez (23/2020), and University of Tilburg in the Netherlands (EC-2018.13).

Participants filled out an informed consent that contained a summary of the study, data confidentiality, and anonymity of the participants. In the written consent, the participants were made aware of two contact channels: a telephone and an online helpline to obtain professional help from psychologists based in Chile. No financial compensation or other incentives were given to participate in the study.

## Measures

**Sociodemographic data.** Participants completed a survey that included sociodemographic data such as age, type of family, level of education, number of hours of paid work, and number of children, among other elements. In addition, questions about lockdown situation and COVID-19 were incorporated, such as the perception of impact of COVID-19 on parenting.

**Parental burnout.** The *Parental Burnout Assessment (PBA)* (Roskam et al., 2018) is a 23-item abbreviated self-report instrument that evaluates the following dimensions: emotional exhaustion (e.g., “I feel completely run down by my role as a parent”), contrast with the parent who one used to be (e.g., “I’m ashamed of the parent that I’ve become”), loss of pleasure in the parental role (e.g., “I don’t enjoy being with my child(ren)”), and increasing emotional distance from the child (e.g., “I’m no longer able to show my child(ren) how much I love them”). Range of responses are scored on a Likert scale from 0 to 6, where 0 = *Never* and 6 = *Every day*. This scale exhibited high internal consistency in its first validation (Roskam et al., 2018) and internationally maintains a Cronbach’s alpha between .85 and .97 (Roskam et al., 2021). In Chile, a study revealed adequate psychometric properties ( $\alpha = .96$ ) (Pérez-Díaz & Oyarce, 2020), which is consistent with the results obtained in this study ( $\alpha = .97$  with 95% confidence intervals). All the items of this instrument exhibited positive correlations (over .65) with the overall scale; furthermore, it was observed that all the items discriminate at all levels of the construct (Field et al., 2013). This indicates that the instrument is reliable enough to evaluate parental burnout.

**Coparental cooperation.** This instrument evaluated the degree of support and psychological cooperation that participants received from their partner or other people who live in their home and who participate in raising their children. The cooperation (COP) dimension of the *Coparenting Inventory of Teubert and Pinguart* (2011) consists of 4 items (e.g., “My partner and I raise our child(ren) together”), the score on this scale ranges from 1 to 5, where 1 = *Completely false* and 5 = *Completely true*, and was validated by the authors in a study that included the participation of adolescents and their caregivers in Europe. In this sample, the scale showed good internal consistency ( $\alpha = .89$ ) with 95% confidence intervals. It also presented correlations over .70 between each item and the overall scale and it was observed that all items discriminate at all levels of the instrument construct (Field et al., 2013).

## Analysis strategy

For all statistical analyses, R Studio version 1.3.1073 (RStudio Team, 2020) was used. To test the hypotheses, multiple regression models were generated with forced introduction of predictors with the global score of parental exhaustion as the dependent variable. The multiple linear regression models included the following variables as predictors and controls, according to the proposed hypotheses: 1) days in quarantine, 2) weekly hours of paid work, 3) perception of children’s need

for care, 4) perception of the impact of COVID-19 on parenting, and 5) being a mother or father (gender).

To test the first hypothesis, which assumed that low coparental cooperation is related to higher levels of parental burnout in caregivers, a multiple linear regression model was performed between the study scales and the following control variables: days in quarantine, weekly hours of paid work, perception of childcare, and perception of the negative impact of COVID-19 on parenting. To test the second hypothesis, two models were generated. This hypothesis posited that the variables related to the pandemic (days in quarantine and perceived impact of COVID-19 on parenting), together with sociodemographic variables, would result in a greater burden of stressors in the lockdown situation (weekly hours of paid work and perception of the care needed by children), increasing levels of parental burnout differentially for fathers and mothers. The first regression model includes the predictors gender, days in quarantine, weekly hours of paid work, perceived negative impact of COVID-19 on parenting, and perception of the children’s need for care for the average scores of parental exhaustion. The second regression model included the interaction between the perception of the children’s need for care and gender, using the rest of the variables as controls. For the third hypothesis, in which coparenting cooperation was expected to have a moderating effect on the relationship between the perception of greater need for care in children and parental burnout in mothers and fathers, we calculated the interaction between the perception of the children’s need for care and the global score of the coparental cooperation scale, using the rest of the variables as controls. In each of the models, an analysis of assumptions was carried out (Cohen et al., 2002). Significant levels were considered those less than .05 while partially significant or quasi-significant were considered those between  $.1 < p > .05$  (Olsson-Collentine et al., 2019).

## Results

### Descriptive statistics

The descriptive results for the *Parental Exhaustion Scale (PBA)* showed average scores of 33.8 for the total sample ( $SD = 32.9$ ), with scores ranging from 0 to 138, while the *Coparental Cooperation Scale (COP)* displayed average scores of 17.4 ( $SD = 3.6$ ), ranging from 4 to 20. Regarding the COVID-19 variables, days in quarantine reached an average of 91.7 ( $SD = 46.6$ ), ranging from 0 to 174 days, while the effect of COVID-19 on parenting exhibited an average of 2.4 ( $SD = 1.01$ ), ranging from 1 (no negative impact) to 5 (very negative impact). The variable weekly hours of paid work reached a mean of 30.8 ( $SD = 18.3$ ), fluctuating between 0 and 84. Parents’ perception of their children’s need for care ranged from the minimum (1, quite independent children) to the maximum (4, my children are constantly requesting my attention), reaching a mean of 3.1 ( $SD = 1.1$ ).

### Main analysis

The regression model for the first hypothesis showed a significant negative correlation ( $p < .001$ ) between the mean of

parental exhaustion and the mean predictor of the coparental cooperation scale when controlling for the variables days in quarantine, perceived impact of COVID-19 on parenting, weekly hours of paid work, and parents' perception of their children's need for care. The results show that, for each one-unit decrease in the average score of the coparental cooperation scale, parental exhaustion increases 1.45 on average. The  $R^2$  of this multiple regression analysis indicates that this model explains 32% of the variance in parental burnout, a percentage that is significant ( $p < .001$ ). The regression model coefficients for this hypothesis are found in Table 1 and 3, model 1.

The second hypothesis was tested using two models. The results of the first model (Table 3, model 2) indicate highly significant correlations ( $p < .001$ ) between the global parental exhaustion score and being a mother, a higher perceived impact of COVID-19 on parenting, and a higher perceived level of children's need for care. Mothers exhibit 11.73 more units of average parental exhaustion than fathers. Likewise, for each one-unit increase in the perceived negative impact of COVID-19 on parenting, parental exhaustion increases by an average of 14.11 units; also, for each one-unit increase in the perception of children's need for care, the Scale of Parental Exhaustion increases by 11.73 units. The predictor days in quarantine displays a significant correlation ( $p < .05$ ) with parental exhaustion, that is, for each day in quarantine, parental exhaustion increases by .05. The predictor hours of paid work per week did not show any correlation with parental burnout. The  $R^2$  value of this multiple regression analysis indicates that this model explains 30% of the variance, a percentage that is significant ( $p < .001$ ). The

regression model 2 coefficients for this hypothesis are found in Table 3.

The second regression model for the second hypothesis (Table 2 and 3, model 3) included the interaction between gender and the parents' perception of their children's need for care, using the rest of the variables as controls. The results of this interaction indicate that this relationship is partially significant ( $p < .1$ ). In other words, the correlation between parents' perception of their children's need for care and the average parental burnout score partially depends on whether they are a mother or father. Figure 1 shows this interaction, revealing differences between mothers' and fathers' perception of their children's need for care and parental exhaustion scores. Thus, higher parental exhaustion values are observed in mothers who perceive that their children require a great amount of care compared to those who report that their children require little care. In contrast, no total significant differences are observed in fathers' parental exhaustion scores, regardless of the amount of care that they perceive that their children require. The above would explain why this interaction appears to be partially significant when both groups are included, since this difference is less significant for the fathers' scores than for those of the mothers. The  $R^2$  of this multiple regression analysis indicates that this model explains 31% of the variance, a percentage that is significant ( $p < .001$ ). The regression model coefficients for this hypothesis are found in Table 3, model 3.

The regression model for the third hypothesis consisted of the interaction between parents' perception of their children's need for care and the overall score on the coparental coopera-

**Table 1**

*Results of hypothesis 1 Regression Model 1*

Coefficients	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	19.53	5.89	3.318	0.000968	***
C. Coparental	-1.46	0.33	-4.45	1.04E-05	***
Days in quarantine	0.05	0.03	1.844	0.06574	.
Weekly hours of paid work	0.02	0.06	0.278	0.781283	
Impact of COVID	14.03	1.26	11.133	<2e-16	***
Childcare	13.08	2.84	4.601	5.21E-06	***

. $p < .1$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\*  $p < .001$ .

**Table 2**

*Results of hypothesis 2 Regression Model 3*

Coefficients	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	-4.61	5.93	-0.777	0.437	
Gender	3.69	5.67	0.652	0.515	
Days in quarantine	0.06	0.03	2.372	0.018	*
Weekly hours of paid work	0.04	0.07	0.679	0.498	
Impact of COVID	14.17	1.23	11.479	<2e-16	***
Childcare	3.08	5.92	0.521	0.602	
Childcare: Gender	10.84	6.52	1.662	0.097	.

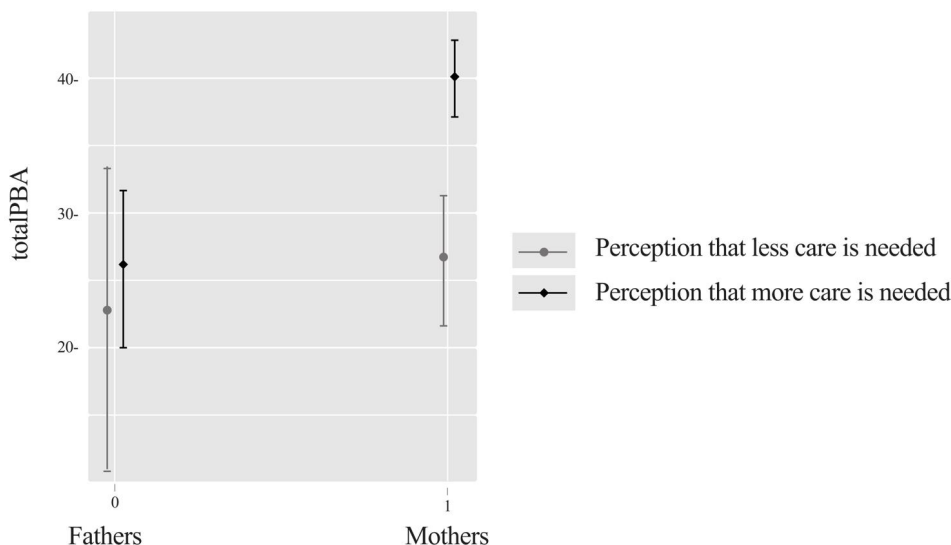
. $p < .1$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\*  $p < .001$ .

**Table 3**  
Linear regression models

Coefficients	Model 1			Model 2			Model 3		Model 4			
	Estimate	S.E.		Estimate	S.E.		Estimate	S.E.	Estimate	S.E.		
(Intercept)	19.52	5.89	***	-10.41	4.79	*	-4.61	5.93	8.55	8.45		
C. Coparental	-1.46	0.3	***						-0.64	0.56		
Gender				11.73	2.98	***	3.69	5.67				
Days in quarantine	0.05	0.0	.	0.06	0.03	*	0.06	0.03	*	0.05	0.03	.
Weekly hours of paid work	0.02	0.06		0.04	0.07		0.04	0.07		0.02	0.06	
Impact of COVID	14.03	1.26	***	14.11	1.24	***	14.17	1.23	***	14.09	1.26	***
Childcare	13.08	2.84	***	11.73	2.82	***	3.08	5.92		29.11	9.32	**
Childcare*Gender							10.84	6.52	.			
Childcare*Coparental c.										-1.22	0.67	.
R <sup>2</sup>	0.32			0.31			0.31		0.33			

.p < .1; \*p < .05; \*\*p < .01; \*\*\* p < .001.

**Figure 1**  
Parental burnout according to the parents’ perception of their children’s need for care



tion scale, using the rest of the variables as controls. The results of this interaction indicate that this relationship is partially significant ( $p < .1$ ). Thus, the link between parents’ perception of their children’s need for care and the average score on the parental exhaustion scale partially depends on the overall scores on the coparental cooperation scale, with parents’ perception that their children need more care being the variable that decreases the most when coparental cooperation is higher (Figure 1). The  $R^2$  of this multiple regression analysis indicates that this model explains 32% of the variance, a percentage that is significant ( $p < .001$ ). The regression model coefficients for this hypothesis are found in Table 3, model 4.

**Discussion**

This study brought to light the COVID-19 pandemic as a significant risk factor for parental exhaustion, impacting both

mothers and fathers. The prolonged periods of confinement during the 2020 lockdown measures acted as a sort of “natural” setting, magnifying the challenges confronted by parents and intensifying the experience of parental exhaustion. Furthermore, our study has identified a statistically significant correlation: as parents perceived a more adverse impact of COVID-19 on their parenting responsibilities, their levels of parental exhaustion increased. These findings align with existing global literature that acknowledges the multifaceted consequences of lockdown measures implemented in response to the pandemic, which extend to various aspects of individuals’ lives, including their experiences of parenthood (Mikolajczak & Roskam, 2020b).

The health crisis triggered by the COVID-19 pandemic represents an unprecedented phenomenon in recent history with the potential for immediate as well as long-lasting effects on family dynamics (Prime et al., 2020). These insights will prove

invaluable for navigating similar challenges in various contexts, even beyond the immediate impact of the pandemic.

In this context, parents were potentially less available to resolve conflicts or manage stressful situations related to their role as caregivers. In this regard, Mikolajczak and Roskam (2018) emphasized that factors at the exosystem and macrosystem levels, as outlined in Bronfenbrenner's ecological systems theory (1979), could act as remote influences that either exacerbated or alleviated parental stress by influencing parents' responsibilities and thought processes. During the lockdown, parents might have found themselves with reduced availability to effectively address conflicts or handle stressful situations associated with their caregiving roles. Consequently, the impact of the COVID-19 situation on parenting could have been indirect, as exemplified in our study by considering the number of days spent in quarantine and parents' perceptions of how the pandemic negatively affected their roles as parents.

In this study, parental burnout did not show a significant positive association with the weekly number of hours of paid work, although it should be noted that the survey used did not ask whether this "paid work" was performed face-to-face or remotely, the specific industry of employment, the work circumstances, or the nature of the job. However, these findings warranted our attention because the situation of remote work could have posed a risk factor for parental burnout. According to Panesso et al. (2022), parental burnout increased in families with at least one child under the age of four and one partner working remotely. This was due to the fact that many parents were compelled to work from home, and this presented challenges in maintaining productivity while simultaneously taking care of their children, who were also at home due to school closures or the unavailability of childcare services. As schools and childcare facilities either closed or operated with limited capacity, parents encountered difficulties in arranging suitable childcare options. This often resulted in them having to juggle their work responsibilities with caregiving duties. Additionally, parents had to take on an educational role to support their children's remote learning, effectively becoming homeschool teachers in some cases. Managing work tasks alongside childcare responsibilities became increasingly challenging, potentially leading to issues with time management and heightened stress levels among parents.

Studies on parental stress carried out in Chile have shown that having a job can be a protective factor against parental stress in mothers (Pérez & Santelices, 2017). However, it is worth exploring if these results are comparable to those obtained in lockdown conditions, as doing weekly paid work prior to the health crisis, in addition to greater economic independence, could also grant caregivers opportunities to socialize with other people and alternate the family context with other spaces, enabling them to have experiences different from parenting. This could explain why, in research prior to the pandemic, paid work activity had been established as a protective factor against parental stress. Nevertheless, the results of this study are in line those reported by Mikolajczak et al. (2018b) in their study on the risk factors for parental burnout. These authors point out that

sociodemographic factors, despite playing a role and possibly amplifying other risk factors for parental exhaustion, are less influential than parental characteristics, parenting factors, and family functioning.

A relevant finding of this study was that, during the previous lockdown situation, parents' perception of their children's need for care was a factor that was significantly associated with parental exhaustion. This finding aligned with a study on postpartum depression and mental health in early childhood, which had revealed that the emotional, social, and economic demands of this developmental stage strained the parental role (McLennan & Offord, 2001). Lockdowns and social distancing measures further restricted parents' access to support from extended family, friends, or community resources, intensifying the weight of caregiving responsibilities. Although this study did not explore whether parents' perception of their children's need for care was related to the age of their children, it would have been interesting for future research to explore these data.

Our analyses indicate that mothers' parental exhaustion level differs depending on the amount of attention that they perceive that their children require from them, with more parental exhaustion being reported when children need more care. On the other hand, fathers' exhaustion scores do not exhibit significant differences in connection with the need for care that they perceive in their children. In addition, the results obtained indicate that mothers' parental exhaustion levels are higher than those of fathers. This is relevant because it is consistent with the differences in gender roles present in a traditional society such as Chile. In this regard, a study carried out in the country prior to the pandemic found that mothers have higher average levels of global parental exhaustion than fathers (Pérez-Díaz & Oyarce, 2020). The same results were obtained in previous studies on parental stress carried out in Chile with a sample of socially vulnerable families with a low educational level and with preschool age children, which revealed that mothers experienced higher levels of parental stress (Pérez & Santelices, 2016, 2017).

In the same vein, Roskam and Mikolajczak (2020) point out that mothers share more time with their children than fathers. Hennekam and Shymko (2020), studying the coping strategies employed by the population during the quarantine in France, reported that women prioritize the needs of others over their own and that they also neglect their needs when stay-at-home orders are in force. Other conclusions associated with parental stress have been described at the national level. For instance, Pérez and Santelices (2017) report that higher educational levels may constitute a protective factor against stress in fathers, but not in mothers. Again, this leads us to consider the gender roles associated with parenthood, since mothers' perception of their children's need for care may be a relevant factor for predicting parental exhaustion, whereas for fathers it could be a predictor of other variables associated with traditional gender roles, such as concerns about how to provide financially for their family or secure better job opportunities.

The coparental cooperation scale that measured the degree of support, respect, and communication between both caregivers showed high average levels in the sample, with the instrument

exhibiting a significant negative relationship with parental exhaustion. It is possible to regard coparenting cooperation as a possible protective factor against the phenomenon of parental exhaustion. Mikolajczak and Roskam (2018) reported similar results, pointing out that coparenting –in broader terms– may be a predictor of parental exhaustion. The results obtained by these authors suggest that aspects such as agreements, conflicts, support between caregivers, a negative attitude, and approval of the other caregiver have medium-to long-term effects on parental exhaustion.

In relation to the last hypothesis –that coparenting cooperation moderates the relationship between parents' perception of their children's need for care and parental burnout in mothers and fathers–, the association was found to be only partially significant. These findings allow us to hypothesize that coparenting cooperation may be a more relevant mediator between parental exhaustion and other variables. This model could be replicated by including variables such as specific parenting tasks (e.g., how many hours of the day each caregiver dedicates to parenting during lockdown, how many tasks are shared with the other caregiver, or whether others contribute to this task), as well as personal variables of the caregiver (such as handling stressful situations). Variables of this type can be hypothesized to yield more significant evidence in support of the role of co-parenting as a protective factor against parental exhaustion.

Understanding parental burnout is essential for recognizing the factors that can detrimentally affect parents' mental and emotional well-being. This understanding serves as a foundation for devising strategies and interventions aimed at assisting parents in effectively managing stress and achieving a healthier work-life balance. Furthermore, research in this field can pave the way for the development of proactive measures and support programs that empower parents to identify and cope with stress before it escalates into debilitating burnout.

By pinpointing the risk factors associated with parental burnout, we gain valuable insights that can inform the creation of robust social support systems and policies designed to provide assistance to parents facing challenging circumstances. The lockdowns and the accompanying stressors had a profound impact on the mental health of individuals. Delving into the realm of parental burnout helps us comprehend how these stressors specifically affected the psychological well-being of parents, thereby contributing to the formulation of mental health interventions and support systems tailored to their unique needs.

Research on parental burnout not only enriches our academic and clinical understanding of mental health and family well-being but also lays the groundwork for evidence-based interventions and therapeutic approaches. The evidence from the study conducted during the lockdown period highlights the urgent need to implement supportive policies and programs to help parents in crisis. This research holds the potential to influence the development of family-friendly workplace policies and comprehensive mental health support systems. Through the exploration of parental burnout, we have the opportunity to raise awareness about the formidable challenges parents encounter, while simultaneously diminishing the stigma associated with seeking assistance for mental health issues linked to parenting.

The findings of this study provide fresh insights into the phenomenon of parental burnout within the context of a pandemic, focusing on mothers and fathers residing in Chile. Nevertheless, it is imperative to conduct further investigations in Chile, delving deeper into the predictors that may contribute to parental exhaustion. This expanded understanding will enable the formulation of targeted interventions aimed at both preventing and mitigating the prevalence of parental burnout and its potential repercussions on children and families.

Regarding the limitations of this study, it is pertinent to point out that the sample was of a purposive type, collected with snowball sampling (i.e., disseminated by the research team and in academic contexts). Probably, this is why most of the participants were people with undergraduate and postgraduate degrees who earn above the national average (INE, 2020). Also, the fact that the survey could only be answered using an online platform may be considered a limitation, since not all families in the country can access the internet or a device to complete the instrument. Thus, the sample may be over-representing fathers and mothers who are more involved in parenting and parenting issues, which might explain their lower average levels of parental exhaustion and their higher averages on the *Coparental Cooperation Scale*. The latter is relevant, because nationwide studies have shown moderate to severe levels of parental stress in populations from lower socioeconomic backgrounds before the adoption of lockdown measures (Pérez & Santelices, 2017).

### Author contributions

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Conceptualization: P.A.

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Investigation: P.A.

Methodology: P.A.

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Writing – review and editing: M.P.S, D.O, J.E, H.V.

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### Declaration of interests

The authors declare that there are no conflicts of interest.

### Data availability statement

The data that support the findings of this study are available on request from the corresponding author.



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