



How Much can a Parent Bear? Cumulative Risk in Parental Burnout

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ABSTRACT

Parental burnout is a specific syndrome resulting from enduring exposure to chronic parenting stress. It encompasses three dimensions: an overwhelming exhaustion related to one's parental role, an emotional distancing with one's children and a sense of ineffectiveness in one's parental role. This study aims at testing the cumulative effect of risk across five domains, i. e. sociodemographics, particularities of the child, stable traits of the parent, parenting and family functioning, related to parental burnout on its intensity. In a community-sample of 1,540 French-speaking parents, we examined parental burnout alongside with two cumulative risk indexes, i.e. unweighted and weighted, based on a set of 37 risk factors across the five domains. The results show that the number of risk factors that a parent is exposed to linearly predicts parental burnout regardless of the nature of these factors. Clinically, this means that no factor should be underestimated, the relieving impact of removing a series of "negligible factors" should not be underestimated either. At the prevention level, the current results also suggest that interventions or public policies targeting one factor will be less efficient than those targeting several factors at once.

INTRODUCTION

Parenting has been shown to be a both complex and stressful job (for reviews, see Abidin, 1990; Crnic & Low, 2002; Deater-deckard, 2014). It has recently been shown that, inasmuch as enduring exposure to chronic job stress can lead to *job* burnout, enduring exposure to chronic parenting stress can lead to *parental* burnout (Moïra Mikolajczak, Gross, & Roskam, 2021; Roskam et al., 2021; Roskam, Brianda, & Mikolajczak, 2018). Like job burnout, parental burnout encompasses several dimensions. The first is overwhelming exhaustion related to one's parental role: parents feel that being a parent requires too much involvement; they feel tired when getting up in the morning and having to face another day with their children; they feel emotionally drained by the parental role to the extent that thinking about their role as parents makes them feel they have reached the end of their tether. The second dimension is an emotional distancing with their children: exhausted parents become less and less involved in the upbringing and the relationship with their children; they do the bare minimum for the children but no more. The third dimension is a sense of ineffectiveness in the parental role: parents feel that they cannot handle problems calmly and/or effectively, that they are not good parents anymore. All these dimensions/symptoms contrast with how the parent felt before about parenting. Parental burnout is a unique and context-specific syndrome, empirically distinct from job burnout, parental stress or depression (M. Mikolajczak, Gross, Stinghlamber, Lindahl Norberg, & Roskam, 2020)

Empirical research focusing on parental burnout has emerged just a decade ago, when Norberg (2007) realized that parents of childhood brain tumor survivors did not only experience anxiety,

depression or post-traumatic stress but also symptoms that resembled burnout (which was even more striking that a number of these parents were not working). She and her team then showed that parents exposed to the stress of having a chronically ill child had higher burnout scores than reference parents, and replicated these results in parents of children with Type 1 Diabetes Mellitus (Lindstrom, Aman, & Norberg, 2010; Lindström, Aman, & Norberg, 2011; Norberg, 2010), parents of children with Inflammatory Bowel Diseases (Lindstrom et al., 2010), and of children who had undergone and survived pediatric hematopoietic stem cell transplantation (Norberg, Mellgren, Winiarski, & Forinder, 2014). Interestingly, however, not all parents of ill children experienced burnout. In their studies, Norberg, Lindström and colleagues identified a number of predictors of burnout among these parents: the parents perception of the child's number and severity of health impairments (Norberg et al., 2014), the parents' perception of the influence of the disease on their everyday life (Norberg, 2010), financial concerns, lack of leisure time, low practical and emotional support, low marital satisfaction, a difficulty to ask for support, a high need for control and low self-esteem (Lindström et al., 2011). Obviously, a number of parents cumulated several risk factors. Interestingly, the sociodemographic or medical factors were no significant predictors (Norberg et al., 2014).

A study conducted in a community sample of 1723 parents confirmed these findings (M. Mikolajczak, Raes, Avalosse, & Roskam, 2018). This study examined the impact of 37 potential risk factors belonging to 5 categories: socio-demographics (e.g., being a single parent), particularities of the (e.g., child having a child with behavioral, emotional or learning disorders), stable traits of the parent (e.g. neuroticism), parenting cognitions and behaviors (e.g. inconsistent discipline), and family functioning (e.g. low marital satisfaction). The results showed that the strongest predictors of parental burnout were stable traits of the parent, parenting cognitions and behaviors and family functioning. The impact of sociodemographic factors and of the presence or absence of child medical or behavioral disorder was statistically negligible. Being a single parent or a blended family was not more predictive, neither was the number or age of children (for a recent meta-analysis, see M. Mikolajczak, Aunola, Sorkkila, & Roskam, under review). From a pure research point of view, these results are hardly questionable: they were properly obtained and replicated independently. Nonetheless, they were challenging our clinical observations: divorced moms who have to manage three young children, among whom one suffers from mental or physical disorder, are often exhausted. Thus, even if each of these factors alone weights less than 1% (M. Mikolajczak et al., 2018) their combination in a single individual seems to weight much more than 4% in real life. How can we account for that in empirical psychological science and statistical terms?

The most convincing way to conceptualize complex interactions among a wide list of risk factor is the cumulative risk model which posits that the accumulation of risk factors, regardless of their content, influences mental health outcomes (Cicchetti & Rogosch, 1996; Evans, Li, & Whipple, 2013). The cumulative risk approach is suitable for considering risk having negligible impact on the outcome except when accompanied by other risks. It also permits to consider risks across multiple domains since it is insensitive to risk collinearity. A cross-domain risk approach is of particular importance because cross-domain risk exposure may present more challenging adaptive demands than intra domain risk exposure (Evans et al., 2013). The cumulative model fits with theoretical models like the ecological model of human development (Bronfenbrenner, 1986), the allostatic model of chronic stress (McEwen, 1998), and the developmental evolutionary theory (Ellis, Figueredo, Brumbach, & Schlomer, 2009). The cumulative hypothesis has mainly been tested in developmental psychopathology by computing a cumulative index from a set of dichotomized risk factors (e.g. gender, 0 = no risk; 1 = risk) and then summing the dichotomous scores. The cumulative risk model is one of the most robust and parsimonious finding since a single variable used as predictor, i.e. the sum of dichotomized risk factors, was found to predict a broad range of outcomes like externalizing behavior (Greenberg, Speltz, DeKlyen, & Jones, 2001; Roskam, Meunier, Stievenart, & Noël, 2013), intellectual performance (Sameroff, Seifer, Baldwin, & Baldwin, 1987), and physical health

(Larson, Russ, Crall, & Halfon, 2008) in childhood and adolescence, and also issues like educational attainment, mental health, and criminal behavior in adulthood (Horan & Widom, 2015). Studies demonstrated that it was not a particular stressor that rendered the subject vulnerable to psychopathology, but rather the number of stressors (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Atkinson et al., 2015). In line with the study of M. Mikolajczak, Raes, and Roskam (in press), the current study aims at testing the cumulative effect of risk across five domains, i.e. sociodemographic, particularities of the child, stable traits of the parent, parenting and family functioning, related to parental burnout on its intensity in a community sample.

METHODOLOGY

A total of 1,723 French-speaking parents who had at least one child living at home completed the survey. A portion of the data collected within the framework of this study has already been published (M. Mikolajczak et al., 2018). The research question addressed in this paper is different, however, and so is the sample retained and the analyses. Answering the research question of the current study implied to keep only the participants for whom we were able to estimate the 37 risk factors across the five domains under consideration. The final analyses thus involved 1,540 parents (86.8% women) aged 20 to 75. 1,126 (73.1%) came from Belgium, 380 (24.7%) from other French-speaking European countries and 34 (2.2%) from outside Europe. The sociodemographic characteristics of the sample are summarized in Table 1.

Table 1. Summary of the 37 Risk Factors, Their Type, Measure, Range, Descriptive Statistics, Nature and Correlation with the PBI Score

Risk factors	Type	Measure	Range	Descriptive Statistics	Nature of the risk	Correlation with PBI
Sociodemographics						
Gender	Categorical	Mother or father	-	86.8% mothers	Being a mother	.062
Age	Ordinal	Age in year	20-75	$M=39.66$, $SD=8.32$	Being 30-to-39-year-old	.089
Number of Children	Ordinal	Children still living at home	1-7	$M=2.30$, $SD=1.09$	Having 2 or 3 children	.060
Having Young Children (< than 5 years old)	Categorical	Yes-No	-	547% Yes	Yes	.121
Single Parent	Categorical	Yes-No	-	16.4% Yes	Yes	.033
Blended Family	Categorical	Yes-No	-	11.1% Yes	Yes	.018
Low House Surface	Ordinal	Number of m ²	<40 m ² to >700m ²	$Mdn=100-200$ m ²	<100 m ²	.051
High Educational Level	Ordinal	Number of years from the 1 st grade	≤6 to ≥18	$Mdn=4$	>15 years	.077
High Net Household Income	Ordinal	Net monthly household	0 to >7000€	$Mdn=2500-4000$ €	>4000€	.027
Working Part-Time	Categorical	Full-time, part-time, no job	-	53.4%/33.8%/12.8%	Part-time	.085
Particularities of the child						
Having child(ren) with chronic illness, disability or behavioral problems	Categorical	Yes-No	-	11% Yes	Yes	.066
Having adopted or foster child(ren)	Categorical	Yes-No	-	3.2% Yes	Yes	.063

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Stable traits of the parent			<i>M (SD)</i>			
Attachment Anxiety	Continuous	ECR-R (Brennan, Clark, & Shaver, 1998; Fraley, Waller, & Brennan, 2000)	1.00-5.00	2.50 (1.11)	≥3.40	.314
Attachment Avoidance	Continuous		1.00-5.00	2.51 (.81)	≥3.00	.209
Personality: low Extraversion	Continuous	TIPI (Gosling, Rentfrow, & Swann, 2003)	1.00-7.00	4.22 (1.40)	≤3.00	.062
Personality: low Agreeableness	Continuous		1.50-7.00	5.11 (.97)	≤4.00	.229
Personality: low Conscientiousness	Continuous		2.00-7.00	5.57 (.97)	≤4.50	.202
Personality: Neuroticism	Continuous		1.00-7.00	4.23 (1.34)	≤3.00	.350
Personality: low Openness	Continuous		1.00-7.00	4.80 (1.19)	≤3.50	.099
Low Trait Emotional Intelligence	Continuous	TEIQue-SF (M. Mikolajczak, Menil, & Luminet, 2007)	2.30-6.70	4.93 (.69)	≤4.47	.445
Parenting factors						
Low Self-Efficacy Beliefs	Continuous	PSQ (Vermulst, Kroes, De Meyer, & Veerman, 2011)	1.00-4.00	3.12 (.47)	≤2.90	.630
Parenting Role Restriction	Continuous		1.00-4.00	2.06 (.75)	≥2.60	.432
Childrearing practices: low Autonomy Demands	Continuous	EPEP (Meunier & Roskam, 2007)	1.00-5.00	3.81 (.66)	≤3.00	.228
Childrearing practices: Discipline	Continuous		1.00-5.00	3.01 (.99)	≥3.75	.054
Childrearing practices: low Positive Parenting	Continuous		2.00-5.00	4.24 (.49)	≤3.88	.399
Childrearing practices: Harsh Punishment	Continuous		1.00-5.00	1.39 (.64)	≥1.67	.153
Childrearing practices: low Rules	Continuous		2.00-5.00	4.39 (.46)	≤4.00	.193
Childrearing practices: Ignoring	Continuous		1.00-5.00	1.73 (.78)	≥2.00	.187
Childrearing practices: Inconsistent Discipline	Continuous		1.00-5.00	2.39 (.90)	≥3.00	.159
Family functioning						
Low Marital Satisfaction	Continuous	ENRICH (Fowers & Olson, 1993)	1.00-5.00	3.54 (.81)	≥3.00	.410
Coparenting: low Agreement	Continuous		2.75-6.50	5.43 (.83)	≤4.75	.352
Coparenting: low Increased Closeness	Continuous	CPS (Feinberg, Brown, & Kan, 2012)	1.40-5.40	4.27 (.65)	≤3.80	.290
Coparenting: Exposure to Conflict	Continuous		1.00-4.00	1.29 (.40)	≥1.40	.367
Coparenting: low Active Support/Cooperation	Continuous		1.00-5.00	3.95 (.73)	≤3.40	.285
Coparenting: Competition/Undermining	Continuous		1.00-5.00	1.70 (.66)	≥2.00	.313
Coparenting: low Endorsement	Continuous		1.71-5.57	4.51 (.73)	≤4.00	.289

Family disorganization	Continuous	CHAOS (Matheny, Wachs, Ludwig, & Philips, 1995)	1.21- 3.64	2.19 (.37)	≥ 2.47	.474
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Procedure

The current study is part of the BParent research program conducted at the University of Louvain in Belgium (UCL) which received the approval of the Institutional Review Board. BParent is a recent research program focusing on the nature, causes and consequences of parental burnout. In the current study, participants completed a survey focusing on five categories of factors: sociodemographics, particularities of the child, stable traits of the parent, parenting and family functioning factors, including a total of 37 risk factors. Participants were informed about the survey through social networks, websites, schools, pediatricians or word of mouth. In order to avoid self-selection bias, participants were not informed that the study was about parental burnout. The study was presented as a study about “being a parent in the 21st century”. Parents were eligible to participate in the studies only if they had (at least) one child still living at home. Participants were invited to complete an online questionnaire after giving informed consent. The informed consent they signed allowed participants to withdraw at any stage without having to justify their withdrawal. They were also assured that data would remain anonymous. Participants who completed the questionnaire had the opportunity to enter a lottery with a 1/1000 chance of winning €200. Participants who wished to participate in the lottery had to provide their email address, but the latter was disconnected from their questionnaire.

Measures

Parental Burnout

Parental burnout was assessed with the Parental Burnout Inventory (PBI) (Roskam, Raes, & Mikolajczak, 2017), a 22-item self-report questionnaire consisting of three subscales: Emotional Exhaustion (8 items) (e.g. I feel tired when I get up in the morning and have to face another day with my children ; When I think about my parental role, I feel like I’m at the end of my rope), Emotional Distancing (8 items) (e.g. I sometimes feel as though I am taking care of my children on autopilot; I can no longer show my children how much I love them), and (Loss of) Personal Accomplishment (6 items) (e.g. I accomplish many worthwhile things as a parent; As a parent, I handle emotional problems very calmly). PBI items were rated on a 7-point Likert scale: never (0), a few times a year or less (1), once a month or less (2), a few times a month (3), once a week (4), a few times a week (5), every day (6). A global score was obtained by summing the appropriate item scores, with higher scores indicating greater burnout; the items of the personal accomplishment factor were therefore reverse-scored. In the current sample, Cronbach’s alphas were .93, .83 and .79 for the Exhaustion, Emotional Distancing and (Loss of) Personal Accomplishment respectively and .91 for the global score.

Cumulative Risk

Two cumulative risk indexes (unweighted and weighted) were computed based on a set of 37 risk factors previously identified in M. Mikolajczak et al. (2018). The measure of each risk factor has been presented in detail in the later publication. Briefly, with regard to socio-demographic factors, participants were asked about their age, gender, number of children, gender and age of each child, marital status, type of family (single parent, living with the father/mother of the children, blended family), surface of housing, level of education, net monthly household income, working time (being unemployed, part-time, full-time), work hours per day. For the particularities of the child, participants were asked about each of their children if s/he displays behavioral problems, a disability or chronic illness, or if s/he was an adopted or

foster child. The stable traits of the parent consisted of attachment, trait emotional intelligence and the big five personality traits. Parental factors consisted of both parental cognitions (i.e. how parents think about themselves as a parent, in particular their self-efficacy beliefs and perceived role restriction) and parental behaviors (i.e. childrearing practices). Finally, family functioning factors consisted of marital satisfaction, coparenting dimensions and disorganization of the family.

The unweighted Cumulative Risk Index (CRI) was computed in accordance with previous studies (Evans et al., 2013). The 37 risk factors were dichotomized, i.e. 0 = no risk; 1 = risk. For continuous variables, the nature of the risk was either decided according to the sign of the bivariate non parametric association, i.e. Spearman correlation, with the PBI score for continuous variables considering the lower (e.g. marital satisfaction) or upper (e.g. neuroticism) quartile of the distributions in the whole sample. Thus, people belonging to the upper quartile (percentile 75-100) on the neuroticism dimension were coded 1 on this specific risk factor and people belonging to the other quartiles (percentiles 0-74) were coded 0 on this specific risk factor. For categorical (e.g. gender) and ordinal variables (e.g. educational level), the nature of the risk was defined according to the result of mean comparisons and post-hoc tests allowing to identify which subgroups of parents were most at risk for parental burnout. For instance, analyses revealed that for the ordinal variable “number of children”, people having 2 or 3 children were more at risk of parental burnout. People having 2 or 3 children were thus coded 1 on this specific risk factor. People having 1, 4, 5, 6 and 7 children were coded 0. A summary of the 37 risks, their measure, range, nature and the correlation with the PBI score, is presented in Table 1. The nature of the risk figures in the sixth column. A Cumulative Risk Index (CRI) was computed for each subject by summing the dichotomous scores. The CRI ranges theoretically from 0 to 37. In the current sample, the min., max. and median scores were 1, 28, 10 respectively.

The weighted Cumulative Risk Index (wCRI). In standard (unweighted) CRI computations, no assumption is made about the relative strength of the different risk factors; only the quantity of risk factors matters. The advantage is that the CRI is therefore completely insensitive to multicollinearity among the risk factors. However, because CRI reduces continuous and ordinal risk factors into a risk/no risk information, information about the nature of risk exposure is lost (e.g., the fact that neuroticism matters more than household income; see Table 1, seventh column). CRI may therefore mask nonlinear functions. A weighted CRI (wCRI) was therefore computed to compensate for the loss of information and allow for some risk factors to weight more than others. The wCRI was obtained by multiplying the dichotomous scores, i.e. 0 = no risk; 1 = risk, by the bivariate correlation coefficient (absolute value) reported in Table 1 (seventh column), and then summing the risk scores across the five domains. In the current sample, the min., max. and median scores were .06, 7.09, 1.74 respectively.

Table 2. Descriptive Statistics of the Number of Risk Factors According to the PBI Levels

<i>PBI levels</i>	<i>N</i>	CRI			wCRI		
		<i>M (SD)</i>	<i>CI (.95)</i>	<i>Range</i>	<i>M (SD)</i>	<i>CI (.95)</i>	<i>Range</i>
No Burnout	785	8.32 (3.39)	8.08-8.56	1-20	1.37 (.94)	1.30-1.44	.06-5.26
Low Risk	345	10.57 (3.51)	10.20-10.94	2-22	2.08 (1.08)	1.97-2.20	.17-5.87
Moderate Risk	214	12.77 (4.11)	12.21-13.32	4-25	2.79 (1.31)	2.61-2.97	.44-6.31
High Risk	120	14.85 (3.99)	14.13-14.58	5-25	3.47 (1.27)	3.24-3.70	.67-6.24
In Burnout	76	16.75 (4.34)	15.75-17.74	10-28	4.17 (1.32)	3.86-4.47	1.57-7.09
Total	1540	10.37 (4.43)	10.14-10.59	1-28	2.03 (1.36)	1.96-2.10	.06-7.09

RESULTS AND DISCUSSION

We first tested the normality assumption of CRI and wCRI distributions. Assessment of normality was based on skewness and kurtosis values. Values of asymmetry and kurtosis between -2 and +2 were considered sufficient to reflect normal univariate distribution (George & Mallery, 2010). While skewness values were .61 and .46 for CRI and wCRI respectively, kurtosis were 2.64 and 2.78. A square root transformation ensured normality for the two variables (skewness of -.01 and .00 and kurtosis of -.475 and -.719 for CRI and wCRI, respectively). The same was done for the PBI score which skewness and kurtosis values were .93 and 3.74. before square root transformation and .06 and 2.85 after. We also tested whether the relation between CRI or wCRI and the PBI score was linear, quadratic or cubic. Estimates showed that the data were best represented by a linear relation between CRI and the PBI score, $F(1,1538) = 841.02$, $p < .001$, as well as between wCRI and the PBI score, $F(1,1538) = 969.66$, $p < .001$.

We then regressed the PBI score on the CRI in a first linear model and on the wCRI in a second linear model. The regression analyses were performed twice, first with scores transformed for normality purpose, and then with original scores. Estimates were strictly similar. Therefore for the readability of the results, only those on original scores are presented. For the first model (CRI), the statistic $F(1, 1538) = 885.36$, $p < .001$, indicated that the model was better than a model containing the constant only, with adjusted $R^2 = .36$ and Root MSE = 15.47. The regression coefficient indicates that when the CRI goes up by one unit, parental burnout goes up by 2.64 units [2.47 - 2.82], $SD = .08$, $p < .001$. For the second model (wCRI), the statistic $F(1, 1538) = 1021.80$, $p < .001$, indicated that the model was better than a model containing the constant only, with adjusted $R^2 = .40$ and Root MSE = 15.05. The regression coefficient indicates that when the CRI goes up by one unit, parental burnout goes up by 8.99 units [8.44 - 9.55], $SD = .28$, $p < .001$. The comparison between the two models suggest that the CRI model, i.e. the most parsimonious, was as robust as the wCRI model.

The linear function that was used in the regression models considers the relation between the CRI/CRIw and parental burnout as constant. However, it may be that the number of risk factors associated to parental burnout differ from a certain level to another. As a final analysis, we therefore compared the mean number of risks across the five levels of parental burnout based on cutoff scores suggested by Roskam et al. (2017), i.e. 0-to-27 no burnout, 28-40 low risk, 41-54 moderate risk, 55-67 high risk, ≥ 68 in burnout. The result of the ANOVA indicates that the number of risks significantly differ across the five levels of parental burnout, $F(4, 1536) = 265.04$, $p < .001$. Tukey post-hoc tests suggest that the five levels significantly differ from each other confirming the true linear relation between the CRI or wCRI and the PBI score, i.e. the constant increase in burnout according to the accumulation of risks. Descriptive statistics are presented in Table 2.

Discussion

By showing that the number of risk factors that a parent is exposed to linearly predicts parental burnout regardless of the nature of these risk factors, this paper nicely complements previous findings and allows to account for observations left unexplained by previous studies. In past studies (Lindström et al., 2011; M. Mikolajczak et al., in press), sociodemographic characteristics of the parents and the presence/absence of a medical disorder accounted for a negligible percentage of variance in parental burnout. These findings sharply contrasted with clinical or field observations that a lot of divorced moms raising their children alone were exhausted. The cumulative risk model presented in this paper allows to account for these observations. Indeed, these divorced moms usually combine not less than 5 sociodemographic risk factors: they are women, aged between 30-39 years old, having usually two or three children, raising their children alone, working part-time. Taken individually, these factors account for 0.3, 0.3, 0.09, 0.6 and 0.04% variance of burnout respectively. Outside the framework of the cumulative risk, their simple sum (which equals to 0.79%) would amount to add at best 1 point to the Parental Burnout

Inventory score¹. By contrast, and according to the cumulative risk model (CRI) presented here, the accumulation of these 5 demographic factors would add 13 point to the person' score at the Parental Burnout Inventory. According to the wCRI model, these 5 factors alone would add nearly 45 points. As shown in this example, the cumulative risk model is a fruitful framework to understand how the accumulation of risk factors negligible in itself can significantly increase the risk of parental burnout. This implies that no risk factor, as small as it may appear, should be ignored. If we see burnout as resulting from an imbalance between demands (risk factors) and resources (protection factors), the linearity of the cumulative risk model implies that every risk factor weights on the balance. Even if some factors are heavier than others, each and every factor counts. Clinically, this means that no factor should be underestimated, the relieving impact of removing a series of "negligible factors" should not be underestimated either. At the prevention level, the current results suggest that interventions or public policies targeting a single factor will be less efficient than those targeting several factors at once.

While the current study has the merit of showing that the number of risk factors matters, it is not exempt from limitations. First, the risk "cut-off" depends on both the operationalization and the distribution of the variables in a given study. For instance, if we had measured income continuously and not categorically, we may have observed that the risk cut-off would be slightly earlier (e.g., > 3500) or slightly above (e.g., > 4500). The distribution matters too: if the sample is small or the distribution skewed, taking the upper quartile of neuroticism can lead to include/exclude people that were excluded/included here. This being said, our variables were operationalized thoughtfully and our sample was large enough to ensure that the cut-offs taken here are not completely biased. Note that, even if they were, the central message of this paper, i.e., that risk accumulation linearly predicts parental burnout, would not change. Yet, our results must be replicated to refine risk cut-offs and, awaiting such replications, the risk cut-offs taken here should be considered as provisional and interpreted with caution. Another limitation of this study is that the duration of exposure to some of the risks is not taken into account (e.g., for how long the parent has been raising the children alone? For how long has the relationship with the spouse been unsatisfactory?). Given that burnout is a process that unfolds with time (Roskam & Mikolajczak, 2021), future studies should probably take this into account.

These limitations leave ample room for future research to refine our findings. In addition to replicating them in a longitudinal design, researchers would benefit to pursue the investigation of risk factors for parental burnout. Thirty-seven factors were considered here and yet, we failed to consider some potential risk factor related to the child (e.g., temperament and personality), to the parent (e.g., parental perfectionism) or to the extended family (e.g., grand-parents support). The inclusion of these factors would not call the CRI model into question, but it is important to examine them in future studies in order to inform clinicians and practitioners of all the risks that could accumulate. In doing so, researchers should also pay particular attention to uncovering not only "general" risk factors but also risk factors that play a specific role in specific categories of parents (for parents of ill-children, see e.g. Lindström et al., 2011). Single parents, step-parents, gay and lesbian parents may also each have specific risk factors that can accumulate in addition to the more general factors examined here. A second research direction consists in testing whether the CRI model holds with macro-sociological risks, such as living in an underprivileged (or upper-class) area, in an individualistic society, in a society without structural child care facilities, in a culture with rigid gender roles, Do macro-sociological risks accumulate in the same way as the factors of the micro- (individual) and meso- (family) levels? More cross-cultural research is urgently needed to answers those questions and it is our hope that this paper will stimulate such investigations.

CONCLUSION

Regardless of the characteristics of such risk factors, parental burnout is linearly predicted by the total number of risk factors a parent is exposed to. Clinically speaking, this means that neither any element nor the soothing effect of eliminating a number of "negligible causes" should be undervalued. The recent findings also imply that prevention-level treatments or public policies that focus on a single component will be less effective than those that simultaneously address a number of factors.

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CONFLICTS OF INTEREST

There is no conflict of interest.

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