



# Pandemic Era Maternal Alexithymia and Burnout as Mediated by Self-Efficacy and Resilience

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## Abstract

Parenting is considered a complex and stressful activity that is associated with the development of parental burnout, especially in the COVID -19 pandemic where mental health problems have a huge impact on individual lives and the division of family roles due to frequent closures. The aim of this study was to investigate whether various psychological characteristics such as alexithymia, resilience, and self-efficacy particularly influence the extent of parental burnout in mothers. For the study, 110 aged women qualified. Only mothers who had full-time jobs and worked from home were invited to participate in the study. Parental burnout was measured using the Parental Burnout Assessment. Level of alexithymia was measured with the Toronto Alexithymia Scale -20. Overall level of resilience as a personality trait was assessed with the Resilience Measurement Scale SPP -25. Beliefs about efficacy in dealing with difficult situations and obstacles were examined with the Generalized Self-Efficacy Scale. The results show that alexithymy had significantly higher levels of burnout than non-alexithymy on the first and second measures. In addition, a significant increase in burnout levels over time was found in the alexithymic group. Alexithymia was a strong predictor of parental burnout and tends to predict a decrease in perceived self-efficacy, which in turn predicts an increase in parental burnout. Finally, alexithymia predicts increased parental burnout through lower psychological resilience. Parents with high levels of parental burnout feel overwhelmed by the stresses associated with their parenting role and often express doubts about their ability to be competent parents.

**Keywords** Alexithymia · Maternal burnout · Covid-19 · Self-efficacy · Resilience

## Highlights

- Parenting is considered a complex and stressful activity that has been linked to parental burnout
- We examined how alexithymia, resilience, and self-efficacy influence levels of parental burnout in mothers.
- Alexithymia was a strong predictor of parental burnout and tended to predict reductions in perceived self-efficacy and resilience.
- Parents with high levels of alexithymia may feel less effective in coping with such stressors, leading to parental burnout.

## Introduction

With the spread of the Coronavirus, the world faced a global pandemic that forced several nations to adopt harsh, restrictive measures, such as closing public places,

canceling events, limiting social contacts and enforcing home quarantine. Western countries appear to have adopted more restrictive and harsher containment measures, albeit with some variation across countries (e.g., Sweden). These measures, adopted by governments to limit the spread of the

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virus profoundly transformed the lives of individuals and impacted the psychological well-being of families (Fontanesi et al., 2020; Longobardi et al., 2020; Spinelli et al., 2020). Social distancing and “stay at home” policies also appear to have been particularly stressful factors for parents, who, in addition to worrying about the financial situation and health of their loved ones, had to reorganize the daily routines of their families. This was accompanied not only by the adaptation to new routines, but also, for example, by the requirement to work from home, which was a source of stress for parents during the quarantine (Di Fiore et al., 2021). Thus, with the closure of schools, parents often found themselves working from home and simultaneously having to care for their children and manage home-schooling. This also seems to have placed a heavy burden on working mothers with young children, given that, in many cultures, homemaking and childcare are traditionally the responsibility of women, at least to a large extent (Alon et al., 2020). Parents, particularly mothers, can therefore remain in full-time contact with children, some of whom may have behavioral difficulties, perhaps triggered or exacerbated by the effects of the pandemic, while at the same time caring for them, teaching and managing household chores (Upadaya & Salmela-Aro, 2021). Social distancing also eroded opportunities for leisure and recreation, as well as hindered access to support normally provided by social services and family, for instance, grandparents, who, during the pandemic, were considered particularly vulnerable. In this sense, the pandemic was a source of stress for parents and it is no surprise that research revealed a correlation between lockdown measures and parental burnout (Bastiaansen et al., 2021; Fontanesi et al., 2020; Prikhidko et al. (2020)).

Parental burnout is a context-specific syndrome characterized by overwhelming exhaustion related to the parenting role, emotional distancing from the child, and perceived parental ineffectiveness (Mikolajczak & Roskam, 2018; Roskam et al., 2017). Conceptually, parental burnout cannot be reduced to ordinary parental stress, but should be understood as a persistent response to chronic and overwhelming parental stress (Mikolajczak & Roskam, 2018). Parental burnout impacts the psychological well-being of parents and family members. Indeed, parental burnout tends to increase parents’ psychological distress and is associated with depressive symptoms, addictive behaviors, sleep disorders, escapism and suicidal ideation (Mikolajczak et al., 2018; 2019). In addition, parents with high levels of parental burnout tend to report high levels of relationship conflict as well (Mikolajczak et al., 2018), and are prone to neglectful and abusive behaviors toward their children (Mikolajczak et al., 2018). In this context, there is some evidence that confinement during quarantine exacerbates domestic violence (Pereda and Díaz-Faes (2020); Piquero

et al., 2021); also, parental burnout is recognized as a risk factor for violence toward children. Overall, therefore, it seems that parental burnout negatively affects the psychological well-being of parents and their family members and can also directly impact the child’s psychological development and psychophysical integrity.

Given the negative impact of parental burnout, it is important to investigate the risk factors associated with this syndrome and the mechanisms of their operation. Research in this area is still in its infancy, and little is known about potential mediating factors.

Parental burnout affects parents worldwide. It is estimated that up to 8% of parents in various cultures may be affected by high levels of parental burnout; furthermore, it appears that parents in Western cultures are especially at risk (Roskam et al., 2021). Mothers seem to be at greater risk of parental burnout (Furutani et al., 2020; Mousavi, 2020; Lebert-Charron et al., 2021; Roskam & Mikolajczak, 2020; Roskam et al. 2021), probably due to the fact that they are more exposed to parental stress, and also because women are traditionally entrusted with child care, even when they are professionally active. This aspect seems to be of particular interest in Poland, a country where a deeply patriarchal culture still prevails and where egalitarian parental roles are rare (Wejnert & Djumabaeva, 2012; Suwada, 2021). The appellation of “matka polka” (Polish mother) is widely associated with the female sex. This shibboleth conveys the idea of a strong woman who sacrifices herself for the family (Wejnert & Djumabaeva, 2012). The cultural perception of the maternal role may have significantly increased the stress experienced by working mothers in Poland during the lockdown. Polish mothers likely faced the challenging task of simultaneously managing professional obligations and child care at a time when social support was considerably reduced due to the imposed restrictions. Additionally, the lockdown could have worsened the economic situation of many Polish families, further pressuring women to increase their working hours, without neglecting their caregiving duties traditionally associated with motherhood. In such a sociocultural context, it is plausible that working mothers, tasked with balancing professional and familial responsibilities even as external support is even less available than usual, encountered specific stressors likely to elevate the risk of parental burnout. With these expectations, the aim of our study was to improve our understanding of the psychological risk factors involved in the onset of parental burnout, particularly in highly stressful situations, such as lockdown parenthood. In this paper, we examine the possible role of alexithymia in predicting parental burnout and focus on two possible mediators: resilience and perceived self-efficacy.

## Alexithymia and Parental Burnout: a Possible Link

Alexithymia is a cognitive-emotional disorder characterized by reduced ability to identify one's feelings, to describe them verbally and distinguish them from physical sensations associated with emotional arousal; this condition is further characterized by restricted capacity for imagination and externally oriented cognitive style (Bagby et al. (1994); Bagby et al. (1994); Ścigała et al., 2021a; 2021b; Zackheim, 2007; Taylor et al., 1999). Alexithymia is a stable personality trait that tends to be associated with reduced psychological well-being (Prino et al., 2019; Taylor & Bagby, 2004; Viganò et al., 2018); it also appears to make individuals more vulnerable to stress. Some studies support the "alexithymia-stress hypothesis" (Martin & Pihl, 1985), according to which alexithymic subjects exhibit weakened resistance to stress (de Timary et al., 2008). Some authors have found that poor recognition and expression of emotions in alexithymic subjects tends to modulate cortisol levels during social stress, probably by affecting the anticipatory cognitive appraisal of situations (de Timary et al., 2008). This suggests that anticipatory apprehension may activate such cognitive processes as worrying and rumination in anticipation of or in response to stress, which may lead to prolonged stress activation. Some evidence also indicates that alexithymic subjects tend to resort to dysfunctional coping strategies more frequently – particularly of the avoidant type – thus increasing their distress (Mattila et al., 2007; Parker et al., 1998; Wood & Doughty, 2013). Finally, difficulties in identifying and regulating one's emotions may cause individuals with high levels of alexithymia to experience various interpersonal problems, such as difficulties in building intimate relationships (Bratis et al., 2009; Fukunishi and Koyama (2000); Mattila et al., 2007). This potentially negative impact on relationships with others may hinder the development of effective social support, a well-known stress buffering factor.

Overall, the data seem to indicate that alexithymic subjects are more vulnerable to stress; by extension, in cases of prolonged and chronic stress, such individuals may be at greater risk of developing burnout symptoms. Recently, evidence of correlation between alexithymia and burnout has been found, particularly in connection with professional life (Bratis et al., 2009; Franco et al., 2020; Lahoud et al. (2019); Mattila et al., 2007; Riethof et al., 2020). In contrast, little is known about the relationship between alexithymia and burnout in non-professional caregiving relationships, such as parent-child relationships. While Katsifaraki and Wood (2014) reported a linkage between alexithymia and burnout in relatives of people who suffered from traumatic brain injury, no study seems to have specifically examined the relationship between alexithymia and

parental burnout. Although job burnout and parental burnout share certain common characteristics (i.e., exhaustion, detachment, feelings of ineffectiveness), they should be considered two different forms of burnout, with specific outcomes related to the domain of personal life in which they occur, with parental burnout having a more direct and specific effect on child development (Mikolajczak et al., 2020; 2021). Therefore, it is important to extend our knowledge of the risk factors involved in specific kinds of parental burnout, and to identify its possible mechanisms.

## Alexithymia, Self-Efficacy and Parental Burnout

In the framework of the socio-cognitive theory, self-efficacy is seen as the main component of human agentivity, reflecting the individual's beliefs about his or her ability to achieve a desired goal (Bandura, 1977; 1986). Some researchers claim that a high level of self-efficacy is a protective factor with respect to stress-related outcomes, burnout in particular (Shoji et al., 2016). This association, primarily investigated in relation to work, has also been found in the context of parental burnout (Matias et al., 2020; Mikolajczak, Raes et al., 2018). Parents with high levels of parental burnout tend to doubt their competence as parents. Weak sense of self-efficacy, understood as the ability to handle stressful situations and modify them in the desired direction, may make the parent feel inadequate and ineffective, thus fueling burnout. Researches have found that parental self-efficacy is positively correlated with good parental practice, as well as close and warm parent-child relations (Jones & Prinz, 2005). Furthermore, parents who feel ineffective may exhibit a stronger tendency to resort to punitive behavior and to feel less involved with their children, stimulating negative emotional states and triggering conflictual relationships that may affect parental distress. This is particularly relevant to parents with alexithymic traits, who may experience difficulties in emotional regulation. Indeed, subjects with high levels of alexithymia tend to report lower levels of self-efficacy (Chung et al., 2013; Larsen et al., 2022; Lumley et al., 2002). This could be due to the fact that difficulties in regulating emotions lower the individual's sense of being effective in managing the stressors encountered in daily life (Ścigała et al., 2021; 2021). This could also contribute to depressive symptoms, anxiety and burnout. Some evidence suggests (Greene et al., 2021a; 2021b) that individuals with alexithymia tend to doubt their ability to recognize and regulate emotions. This is a possible mechanism through which low self-efficacy may develop in such individuals. In addition, situations that trigger an emotional response may be perceived by alexithymic individuals as dangerous and overwhelming,

thereby increasing distress. In this context, the perception of low self-efficacy may contribute to increased perception of stress, setting the stage for burnout, including parental burnout. Thus, it is likely that mothers with high levels of alexithymia perceive themselves as ineffective in coping with stressful situations related to their parenting role, and that this increases the risk of parental burnout. To date, however, no studies have explored this possible relationship.

## Alexithymia, Resilience and Parental Burnout

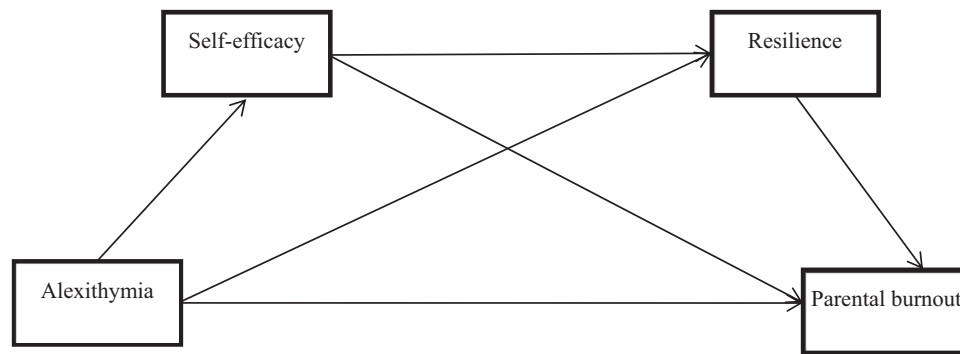
Given that parental burnout is due to overwhelming and persistent stress, resilience could be a mediating factor involved in alexithymia and parental burnout. Psychological resilience is the ability to cope with adversity, trauma, and highly stressful situations (Norris et al., 2009). In this sense, several studies have shown that psychological resilience tends to alleviate the negative impact of lockdown measures on mental health (Barzilay et al., 2020; Morales-Vives et al., 2020; Ran et al., 2020). Psychological resilience modulates the manner in which events are evaluated and allows individuals to choose the best strategies for coping with stress based on that evaluation (Osimo et al., 2021). Resilient individuals tend to be happier and exhibit more positive behaviors and attitudes, and tend to employ effective strategies of adaptation to adversity and stress management, such as compartmentalization (Morales-Vives et al., 2020).

In the context of parenting, high levels of resilience appear to be associated with better parenting styles, characterized by greater engagement and acceptance (Zakeri et al., 2010), while resilience-based programs have been used to improve relations between children with externalizing disorders and their parents (Borden et al., 2010) and to promote stress reduction in parents of children with certain learning disorders (Park et al., 2020), autism (Kuhlthau et al., 2020), and other serious physical conditions (Kaboudi et al., 2018). However, the relationship between resilience and parental burnout remains under-researched, especially in specific and highly stressful circumstances, such as lockdown. Along these lines, a recent Finnish study found that resilience during lockdown predicted a decrease in parental stress, especially among individuals who cared for young children and spent more time in close contact with them. However, the cross-sectional nature of the study limits our understanding of the causal relationships among the variables studied; even less is known about the mechanisms of these relationships. Osimo et al. (2021) found that individuals who showed a better emotional response to inclusion had higher levels of

resilience and lower levels of alexithymia. In addition, some studies have shown that alexithymia may mediate between COVID-19 pandemic exposure and psychological distress (Tang et al., 2020). Thus, these studies often show that alexithymic individuals tend to use dysfunctional coping strategies, and confirm previously reported negative correlation between alexithymia and measures of resilience (Craparo et al., 2018; De Berardis et al., 2020; Morice-Ramat et al., 2018). In this way, parents, especially mothers who work from home while catering to their children's needs, may perceive lockdown as a condition of exceptional stress. Individuals with high levels of alexithymia may have found the experience of lockdown particularly stressful and, because of their inability to develop appropriate and resilient coping strategies in response to stress, may be more susceptible to parental burnout. Similarly, a cross-national study found that maladaptive emotional regulation strategies tend to strengthen the relationship between parental stress related to lockdown and parental burnout risk while adaptive strategies appear to be a factor of resilience (Vertsberger et al. 2022). Ultimately, with reduced resilience, parents tend to be less optimistic and perceive themselves as less effective, thus feeling overwhelmed by stress related to the parental role (Pastor-Cerezuela et al., 2021); this, in turn, may expose parents to the risk of developing parental burnout symptoms.

## Self-efficacy and Resilience

As mentioned earlier, we selected two potential mediating factors that may help explain the relationship between alexithymia and parental burnout, viz. perceived self-efficacy and psychological resilience. The two constructs are independently defined but highly correlated (Schwarzer and Warner, 2013). Self-efficacy is a disposition that characterises an individual regardless of the presence or absence of stressors; in contrast, resilience develops during the operation of a stressor or in a difficult situation. Self-efficacy can promote resilience in particularly stressful situations by activating affective, motivational, and behavioral mechanisms (Schwarzer and Warner, 2013). Some evidence suggests that self-efficacy appears to promote higher perceptions of resilience in adults (Gu & Day, 2007; Yada et al., 2021); individuals with higher resilience tend to report lower stress sensitivity. In this sense, parents with better self-efficacy may develop more resilience in stressful situations and activate a positive and adaptive response aimed at reducing stress-related risks, including burnout. Indeed, some evidence seems to point to a negative relationship between resilience and parental burnout (Stănculescu et al., 2020).



**Fig. 1** Theoretical Model. A graphical model presenting the nature of dependencies between alexithymia, self-efficacy, and resilience in explaining the level of parental burnout. Note. It was assumed that alexithymia would be positively associated with parental burnout, but

negatively related with self-efficacy and resilience. Furthermore, it was assumed that self-efficacy and resilience would be positively related to each other, but negatively related to parental burnout

## Aims and Hypotheses

In the light of the above-presented arguments, the aim of this paper is to add to our knowledge of the possible risk factors of parental burnout. In particular, the study focused on working mothers with young children during a unique and particularly stressful time, namely, the COVID-19 lockdown. The pandemic indeed had a negative impact on the well-being of individuals, especially on the most vulnerable ones, such as mothers who had to reconcile the demands of their job with the responsibilities of child care during lockdown. This problem is likely to have been particularly acute in those countries, such as Poland, that adopted highly restrictive measures to counter the spread of COVID-19 and whose culture still favors uneven division of parental roles, with the mother being assigned the primary role in child care and homemaking. Given the data presented above, it was hypothesized that in both studies (T1 and T2), a higher level of alexithymia would be positively correlated with higher parental burnout in the sample (a group of mothers). In addition, it was expected that a stronger positive relationship between alexithymia and parental burnout would be observed in the second study (conducted six weeks after the first one), when the lockdown-related shock had passed and the situation began to “stabilize”. This meant a return to established patterns of coping with stress. It was further expected that self-efficacy and resilience were negatively correlated with parental burnout. When examining the direct relationship between alexithymia and parental burnout, while taking into account the mediating role of self-efficacy and resilience, we expected to find that a high level of alexithymia reduces the level of self-efficacy and resilience, causing an increase in parental burnout in the sample, both in the first and second study.

In summary, we set ourselves the following objectives:

1. to determine the relationship between alexithymia measured in the first and second study and the degree

of parental burnout.

2. to test the theoretical model (Fig. 1), which assumes that higher levels of alexithymia are associated with lower self-efficacy and resilience and, consequently, with higher levels of parental burnout.

## Method

### Participants

We recruited a convenience sample of individuals of Polish nationality with secondary (26.4%) and higher (73.6%) education. The group comprised persons who have at least one preschool child. The respondents were invited via social media, mainly Facebook.

The first study involved 200 mothers aged 25 to 45 years, most with two healthy children aged 3 to 18 years.

Due to the longitudinal nature of the study, only the responses of those who participated in both studies were considered. As a result, 110 women (age:  $M = 37.20$   $SD = 7.84$ ; 25–35 years – 23% and 35–45 years – 77%) qualified for the study. Only mothers who held a full-time job and worked from home, were invited to participate, due to the fact that existing research findings indicate that parental burnout predominantly affects mothers. Moreover, the highest level of parental burnout is observed in Poland (Roskam, et al., 2021).

### Procedure

The study was carried out at the beginning of the pandemic, from April to May 2020. The first measurement was performed in April 2020 and participants were informed that we would ask them to participate in a follow-up study 6 weeks later.



The study was conducted 6 weeks after lockdown. Research on the psychological aspects of coping indicates that the temporary inability to tolerate tension during a situational crisis such as a pandemic outbreak and full lockdown limits the duration of a crisis to a few weeks. The disorganization and disorder usually last 4–6 weeks. This period is followed by the re-establishment of relative stability. It may also produce a deepening of and return to habitual adaptive strategies (Kubacka – Jasiecka (2010)).

All the participants in the first study received an invitation to the follow-up study. Before they were presented with questionnaires, all subjects were informed about the purpose, procedure, and duration of the study. This was followed by an informed consent declaration. Once this has been signed, the participant was redirected to the survey platform.

The survey was conducted using the Google Forms platform, administered by Maria Grzegorzewska University. In order to participate in the second study, respondents had two options: either provide an e-mail address up front, or enter a nickname first, and an email address only later, after completing the first phase. Fully anonymous participation in the first phase only was also possible. In addition, each respondent was informed in the declaration of consent that he or she could discontinue participation in the study at any time without giving a reason. The study was conducted in compliance with the recommendations of the Maria Grzegorzewska University Ethics Committee. The project was approved by Institutional Review Board (IRB) Protocol No. 235-2019/2020.

All procedures involving human respondents complied with ethical standards of the institutional and/or national research committee and the Declaration of Helsinki of 1964, as amended, and relevant ethical standards.

## Measures

### Socio-Demographic Features

The respondents were first asked to provide basic information about themselves, such as: age, sex, education, marital status, the number of children in their family and the age of each child.

### The Parental Burnout Assessment (PBA; Roskam, Brianda, and Mikołajczak, 2018)

Parental burnout was measured using the Parental Burnout Assessment in a Polish adaptation (Szczygiel et al., 2020). The scale consists of 23 items for which responses are given on a 7-point Likert scale (from 0: “never” to 6: “every day”). The PBA has four subscales, i.e.: exhaustion in parental role (EX); contrast in parental self (CO); feelings of

being fed up with parenting (FU); and emotional distancing from children (ED).

In the present study, the Cronbach’s  $\alpha$  coefficients for the Polish version are as follows:  $\alpha = 0.958$  for the overall score,  $\alpha = 0.943$  for the EX scale,  $\alpha = 0.853$  for the CO scale,  $\alpha = 0.895$  for the FU scale, and  $\alpha = 0.592$  for the ED scale.

### The Toronto Alexithymia Scale—20 (TAS-20PL; Parker et al. 1993)

The level of alexithymia was measured using the Toronto Alexithymia Scale -20 (TAS-20 - Parker et al., 1998) in a Polish adaptation (Ścigała, Zdankiewicz-Ścigała, Bedyńska, Kokoszka, 2020). The scale consists of 20 items for which the responses are given on a five-point Likert scale (from 1: “strongly disagree” to 5: “strongly agree”). TAS-20 has three subscales: difficulty describing feelings, difficulty identifying feelings, and externally oriented style of thinking. The Cronbach’s  $\alpha$  coefficient for the Polish version in the present study is  $\alpha = 0.88$  for the general score;  $\alpha = 0.76$  for the difficulty in describing feelings scale;  $\alpha = 0.84$  for the difficulty in identifying feelings scale; and  $\alpha = 0.57$  for the externally oriented style of thinking scale. TAS-20 scores range from 20 to 100 points. Apart from quantitative analysis, the scale can be used to determine whether the subject meets the criteria of alexithymia: a score in the range of 52 to 60 points indicates possible alexithymia, and a score of 61 points or more indicates alexithymia.

### Generalized Self-Efficacy Scale; (GSES); Schwarzer and Jerusalem, 1995

Polish adaptation: Juczyński, 2000. The respondents’ convictions regarding their effectiveness in handling difficult situations and obstacles was examined using the Generalized Self-Efficacy Scale (GSES – Schwarzer, Jerusalem, 1995) in a Polish adaptation (Juczyński, 2000). The scale comprises a single factor consisting of 10 items. The Cronbach’s  $\alpha$  coefficient for the Polish version is  $\alpha = 0.90$ . The scale was used to examine both healthy adults and those with pathologies.

### The Resilience Measurement Scale – SPP-25 (Ogińska-Bulik and Juczyński, 2008)

The general level of resilience as a personality trait was examined using the Resilience Measurement Scale SPP-25 (Ogińska-Bulik, Juczyński, 2008). The scale consists of 25 items for which the responses are given on a five-point Likert scale (from 0: “definitely not” to 4: “definitely yes”). The overall score comprises five factors, i.e.: persistence and determination in action, openness to new experiences

and sense of humor, personal coping skills and tolerance of negative emotions, tolerance of failures and treating life as a challenge, as well as optimistic attitude to life and the ability to mobilize in difficult circumstances. Each factor is evaluated with five items. The Cronbach's  $\alpha$  coefficient for the overall score from the data collected in the present study is  $\alpha = 0.93$ .

## Data analysis

The SPSS 27 statistical software package was used to analyse the data.

The first step in the analysis was to compute descriptive statistics and several distribution measures, which proved to fall within the range of  $-1$  to  $+1$  for most of the variables; in the case of parental burnout, however, the measures were within the range of  $-2$  to  $+2$ . Further, a comparative analysis involving the first and the second measurement was carried out, and correlations between variables in measurement 1 and 2 were analyzed. In the next step, individuals who were not alexithymic were compared with those who probably were and with those who definitely were. The classification was made on the basis of the cut-off points proposed by the authors of the TAS-20 tool (non-alexithymics score up to 51 points, individuals who are probably alexithymics score from 52 to 60 points, and alexithymics score 61 points or more). The classification was additionally confirmed by the scores obtained by the authors of the Polish version of the tool (Ścigała et al. 2020), where the scores of individuals addicted to alcohol were compared with the control group; the results obtained in those groups were, respectively,  $M = 54.97$ ;  $SD = 12.54$  and  $M = 43.93$ ;  $SD = 12.48$ . In order to analyze interactions between the measurements (measurements 1 and 2 for burnout over time) and the groups (alexithymics vs. non-alexithymics), a multivariate analysis of variance was carried out, which allowed us to analyze both the main effects and the interactive effect.

The last stage of analysis involved the verification of the theoretical model with a multiple serial mediation model, performed using a non-standard macro to SPSS Process (Hayes; 2018), separately for measurements 1 and 2. The decision was made to select this specific method as it assumes the application of two mediators strongly

correlated with each other (Hayes; 2018), as is the case in the data analyzed in the present study. In addition, when testing the significance of various effects, confidence intervals based on the bootstrapping method were used to obtain greater certainty about the result obtained.

## Results

### Descriptive Statistics and correlations

The first step in the analysis was to verify the impact of the epidemic on the prevalence of parental burnout, and to measure the change in other variables over time. The results presented in Table 1 suggest that the context factors did not change the level of any of the factors.

Further, a linear relationship between variables in measurements 1 and 2 was analyzed.

Table 2 shows a strong positive relationship between alexithymia and the level of burnout in both the first and the second measurement, as well as a strong negative relationship between resilience and self-efficacy on the one hand, and parental burnout on the other, which suggests that these are protective factors in relation to burnout.

In line with theoretical assumptions, alexithymia was a key predictor of parental burnout. A multivariate analysis of variance was performed, in order to compare the measurements of the burnout level separately in the group of non-alexithymics and in the group of probable alexithymics.

The main effect of the measurement turned out to be statistically insignificant  $F(1.100) = 2.341$ ;  $p = 0.129$ , but a significant interaction effect was found:  $F(1.100) = 13.325$ ;  $p < 0.001$ ;  $\eta^2 = 0.118$ . This made it possible to analyze simple main effects. In the first and second measurement,

**Table 2** Linear correlations of analyzed variables in measurements 1 and 2

Measurement 1		Measurement 2	
parental burnout		parental burnout	
Alexithymia	0.408**	Alexithymia	0.431**
Resilience	-0.573**	Resilience	-0.616**
Self-efficacy	-0.512**	Self-efficacy	-0.401**

**Table 1** Descriptive statistics for measurements 1 and 2, and comparison of measurements

	Measurement 1				Measurement 2				t	p
	M	SD	SKE	kur	M	SD	ske	kur		
Resilience	70.66	14.49	-0.595	0.335	70.74	14.13	-0.432	-0.186	-0.098	0.922
Self-efficacy	29.92	5.73	-0.302	-0.592	30.39	5.47	-0.727	0.759	-1.439	0.153
Alexithymia	47.01	14.03	0.334	-0.499	46.25	15.11	0.649	-0.074	0.823	0.412
Parental burnout	31.89	25.99	1.296	1.741	32.93	27.38	1.283	1.473	0.718	0.474

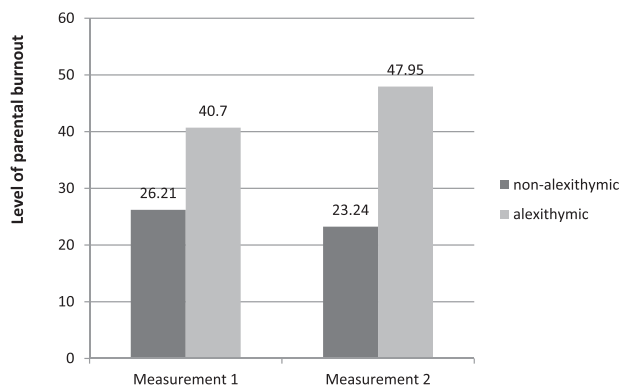
alexithymics presented a significantly higher level of burnout than non-alexithymics:  $F(1.100) = 8.087$ ;  $p < 0.05$ ;  $\eta^2 = 0.075$   $F(1.100) = 24.391$ ;  $p < 0.001$ ;  $\eta^2 = 0.196$  (Fig. 2). In addition, in the group of alexithymics, a significant increase in the level of burnout was demonstrated over time  $F(1.100) = 11.037$ ;  $p < 0.05$ ;  $\eta^2 = 0.099$  (Fig. 2).

### The serial multiple mediation model that explains parental burnout

The procedure included two measurements, which were performed at the beginning of lockdown and 6 weeks later. Therefore, two multiple mediation models, presented in Figs. 3, 4, were analyzed.

#### Measurement 1

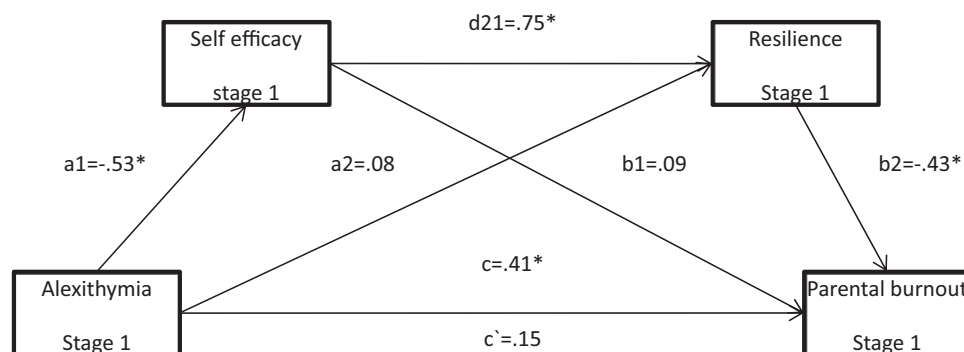
In the case of the model based on the first measurement, which assumes the existence of a mediating effect of self-efficacy and resilience on the relationship between



**Fig. 2** Comparison of parental burnout levels in measurements 1 and 2 for alexithymics and non-alexithymics

alexithymia and parental burnout, it was shown that the entire model was statistically significant with  $F(3.103) = 18.85$ ;  $p < 0.001$ , and explained 35.5% of the burnout variation. In the first step, the relationship between the level of alexithymia and burnout was found to be significant ( $c = 0.41$ ;  $SE = 0.16$ ;  $t = 4.57$ ;  $p < 0.001$ ). The second step was to analyse the relationship between alexithymia and self-efficacy ( $a1 = -0.53$ ;  $SE = 0.03$ ;  $t = 6.44$ ;  $p < 0.001$ ), as well as alexithymia with resilience ( $a2 = -0.08$ ;  $SE = 0.07$ ;  $t = 1.13$ ;  $p = 0.26$ ) and self-efficacy with resilience ( $d21 = 0.75$ ;  $SE = 0.17$ ;  $t = 10.74$ ;  $p < 0.001$ ). The third step of the analysis was to estimate the mediating effect of self-efficacy ( $b1 = -0.09$ ;  $SE = 0.60$ ;  $t = 0.66$ ;  $p = 0.51$ ) and resilience ( $b2 = -0.43$ ;  $SE = 0.22$ ;  $t = 3.26$ ;  $p < 0.05$ ) on the level of parental burnout. With the introduction of mediators into the model, the relationship between alexithymia and burnout turned out to be statistically insignificant ( $c' = 0.15$ ;  $SE = 0.17$ ;  $t = 1.64$ ;  $p = 0.10$ ), which confirmed the existence of total mediation.

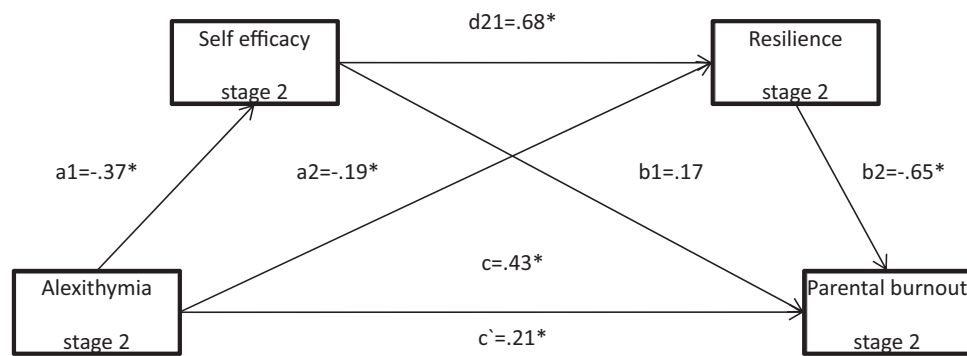
The analysis of indirect effects based on the bootstrapping method with 95% confidence intervals showed that the first indirect effect ( $a1, b1$ ), with the sense of self-efficacy as a mediator, was insignificant (point estimate  $b = 0.09$ . 95% CI  $[-0.23; 0.39]$ ); similarly, taking resilience as a mediator ( $a2, b2$ ), the difference was statistically insignificant (point estimate  $b = 0.06$ . 95% CI  $[-0.06; 0.16]$ ). However, it was shown that the indirect effect with both mediators taken into account was significant ( $a1, d21, b2$ ) (point estimate  $b = 0.31$ . 95% CI  $[0.08; 0.63]$ ). The overall effect also turned out to be statistically significant (point estimate  $b = 0.46$ . 95% CI  $[0.21; 0.75]$ ). The tests of contrast between the effects showed that there was a significant difference exclusively between the second ( $a2, b2$ ) and the third ( $a1, d21, b2$ ) effect; (point estimate  $b = 0.25$ . 95% CI  $[-0.62; -0.03]$ ).



**Fig. 3** Serial-multiple mediation model for the relation between alexithymia and parental burnout, where self-efficacy and resilience are mediators. (Stage 1). (c) A direct effect of the impact of alexithymia on the parental burnout level. (a1, b1) An indirect effect of the impact of alexithymia on the parental burnout level, including self-efficacy. (a2,

b2) An indirect effect of the impact of alexithymia on the parental burnout level, including resilience. (a1, d21, b2) An indirect effect of the impact of alexithymia on the parental burnout level, including self-efficacy and resilience. (c') A direct effect of the impact of alexithymia on the parental burnout level, with both mediators taken into account





**Fig. 4** Serial-multiple mediation model for the relation between alexithymia and parental burnout, where self-efficacy and resilience are mediators. (Stage 2) (c) A direct effect of the impact of alexithymia on the parental burnout level. (a1, b1) An indirect effect of the impact of alexithymia on the parental burnout level, including self-efficacy.

(a2, b2) An indirect effect of the impact of alexithymia on the parental burnout level, including resilience. (a1, d21, b2) An indirect effect of the impact of alexithymia on the parental burnout level, including self-efficacy and resilience. (c') A direct effect of the impact of alexithymia on the parental burnout level, with both mediators taken into account

## Measurement 2

The verification of the mediation model in the second measurement was based on the same assumptions as in the first measurement. The mediation model with two mediators turned out to be statistically significant  $F(3.101) = 24.78$ ;  $p < 0.001$ , and explained 42.4% of the variance. In the first step, the relationship between alexithymia and parental burnout was tested, and turned out to be statistically significant in the second measurement ( $c = 0.43$ ;  $SE = 0.16$ ;  $t = 4.85$ ;  $p < 0.001$ ). The next step was to analyse the relationship between alexithymia and self-efficacy ( $a1 = -0.37$ ;  $SE = 0.03$ ;  $t = 4.02$ ;  $p < 0.001$ ), and alexithymia with resilience ( $a2 = -0.19$ ;  $SE = 0.06$ ;  $t = 2.74$ ;  $p < 0.05$ ), which, unlike in the first measurement, was significant. In addition, the relationship between self-efficacy and resilience was tested ( $d21 = 0.68$ ;  $SE = 0.17$ ;  $t = 10.11$ ;  $p < 0.001$ ) and the result was on a similar level as in measurement 1. The third step of the analysis was to evaluate the mediating role of self-efficacy ( $b1 = 0.16$ ;  $SE = 0.56$ ;  $t = 1.43$ ;  $p = 0.15$ ) and resilience ( $b2 = -0.65$ ;  $SE = 0.22$ ;  $t = 5.46$ ;  $p < 0.001$ ). With the introduction of mediators to the model, the relationship between alexithymia and parental burnout decreased, but was still statistically significant ( $c' = 0.21$ ;  $SE = 0.14$ ;  $t = 2.46$ ;  $p < 0.05$ ), which indicates the existence of partial mediation.

The analysis of indirect effects based on the bootstrapping method with 95% confidence intervals showed that the first indirect effect ( $a1, b1$ ), with the sense of self-efficacy as a mediator taken into account, was insignificant, similarly to what had been shown in the first measurement (point estimate  $b = 0.11$ ; 95% CI  $[-0.31; 0.08]$ ). On the other hand, the second indirect effect with resilience as a mediator ( $a2, b2$ ) was significant (point estimate  $b = 0.21$ . 95% CI  $[0.05; 0.41]$ ), in contrast to the first measurement. It was also shown that the effect with both mediators taken

into account was also significant, as in measurement 1 ( $a1, d21, b2$ ) (point estimate  $b = 0.28$ . 95% CI  $[0.11; 0.51]$ ). The overall mediation effect is statistically significant (point estimate  $b = 0.39$ . 95% CI  $[0.19; 0.64]$ ). The tests of contrast between the effects produced results unlike those obtained in the first measurement.

In the second measurement, a significant contrast was found between the first ( $a1, b1$ ) and the second ( $a2, b2$ ) indirect effect; (point estimate  $b = 0.32$ . 95% CI  $[-0.66; -0.03]$ ) and between the first ( $a1, b1$ ) and the third ( $a1, d21, b2$ ) effect; (point estimate  $b = 0.39$ . 95% CI  $[-0.78; -0.09]$ ).

## Discussion

During the pandemic, lockdown was a potential stressor for women, especially working women and mothers of young children, as childcare is still largely left to women in Western cultures. This aspect seems to be particularly salient in some countries, for instance, in Poland, where motherhood is associated with the trope of “matka polka”. In this culture child care tasks are mostly delegated to mothers, who are expected to sacrifice themselves for the good of the family. Research on burnout has focused primarily on professional life, while the study of risk factors related to parental burnout is still in its infancy (Mikołajczak et al., 2020; 2021). Our study thus attempted to extend current knowledge by collecting some evidence relevant to the role of alexithymia as a risk factor for the onset of parental burnout. A previous study reported a positive association between alexithymia and burnout in relatives of people who suffered from traumatic brain injury (Katsifaraki and Wood, 2014); however, to the best of our knowledge, no study has examined the association between alexithymia and parental burnout specifically. Our data

seem to support the hypothesis that mothers with high levels of alexithymia may be at greater risk of parental burnout. Indeed, in the sample of working mothers with preschool children we studied, those with high levels of alexithymia had higher levels of parental burnout, and in both measures (T1, T2) alexithymia was a strong predictor of parental burnout. Faced with the challenges of lockdown, it is therefore possible that mothers with high levels of alexithymia were more vulnerable and, as a consequence, more likely to develop burnout symptoms, (i.e. parental burnout).

Our study also attempted to explore the possible mediating role of self-efficacy and psychological resilience. The data collected in both studies show that the model exhibits significant relationships between the constructs, and both self-efficacy and psychological resilience were found to mediate the relationship between alexithymia and parental burnout.

Specifically, alexithymia tends to predict a reduction in perceived self-efficacy which, in turn, predicts an increase in parental burnout. Our data seem to confirm prior findings reported in the literature (Chung et al., 2013; Lumley et al., 2002), which indicate an association between alexithymia and reduced levels of perceived self-efficacy. In this sense, it is possible that alexithymic mothers experience great difficulty in managing their emotional states and interpersonal relationships, which may make them less confident about their ability to cope with problematic and stressful situations, thus resulting in a lower perception of self-efficacy. However, self-efficacy is an important component in stress response dynamics and some research suggests that self-efficacy constitutes a protective factor with respect to parental burnout (Shoji et al., 2016). Some data suggests that parents with high levels of parental burnout feel overwhelmed by the stresses related to their parenting role and often express doubts as to their ability to act as competent parents (Mikolajczak et al., 2018; 2020; 2021). This seems to reflect the importance of self-efficacy in predicting the onset of parental burnout symptoms. If alexithymic individuals, probably due to their difficulties with emotion regulation, tend to perceive themselves as being ineffective in coping with stressful situations, they may be more susceptible to burnout symptoms. Applied to our sample, this means that mothers with high levels of alexithymia tend to perceive themselves as having low self-efficacy and are more likely to have difficulty finding effective strategies of coping with stress in exceptionally tense situations, such as lockdown; this increases their risk of developing symptoms of parental burnout.

Furthermore, we have found that alexithymia predicts increased parental burnout through reduced psychological resilience. Several studies have indicated that resilience is a protective factor with respect to mental health in lockdown (Barzilay et al., 2020; Morales-Vives et al., 2020; Ran et al.,

2020) and some research points to a relationship between high levels of alexithymia and reduced psychological resilience (Craparo et al., 2018; De Berardis et al., 2020; Morice-Ramat et al., 2018)). It is therefore possible that alexithymic subjects are less able to adapt positively to adverse situations and struggle to develop positive strategies of coping with stressors. This would mean that, in extraordinarily stressful situations, mothers with high levels of alexithymia may develop symptoms of parental burnout due to the reduced ability to adapt to adverse situations and to develop a more optimistic, positive approach, and more appropriate resilient coping strategies.

Finally, our data show that not only does psychological resilience mediate the relationship between alexithymia and parental burnout, but it also mediates the relationship between self-efficacy and parental burnout. Self-efficacy and resilience are two independently defined but strongly correlated constructs (Schwarzer & Warner, 2013). Subjects with high self-efficacy may be better able to activate motivational, emotional and behavioral mechanisms that support the use of more appropriate coping strategies and thus promote positive adaptation to stressful situations, thus reducing possible risks, such as burnout. Thus, based on our data, it appears that perceived low self-efficacy in alexithymic mothers reduces their perceived resilience and thus increases their risk of parental burnout.

In summary, the data support our hypotheses and add to the current understanding of the possible relationship between alexithymia and parental burnout by identifying self-efficacy and resilience as two possible mediators. Notably, our study was conducted at a significant historical juncture, the lockdown, which was a source of stress and burnout for many individuals exposed to restrictive measures. Although pandemics have occurred throughout human history, this pandemic offered a unique opportunity to study human behavior under extraordinary stress. In our study we focused on one category of people potentially at risk of parental burnout during lockdown, namely working mothers with preschool children. Given the potential impact of parental burnout on mothers' psychological well-being and their children's psychological adjustment, it is important to learn more about the risk factors associated with the syndrome's occurrence. Our study has confirmed the hypothesis that mothers with high levels of alexithymia are prone to suffer parental burnout and that this association could be explained by the effects of lower self-efficacy and resilience. Specifically, mothers with high levels of alexithymia, likely the result of deficits in emotion regulation, tend to feel less effective and are less able to use resilient strategies, which increases the risk of parental burnout. Thus, it appears that working mothers with preschool children are at a greater risk of developing parental burnout if they have high levels of alexithymia. This appears to be

due to the fact that alexithymia tends to reduce the ability of individuals to cope adaptively with stressful situations and to perceive themselves as effective in dealing with such situations. Therefore, alexithymic mothers would be less likely to cope adaptively with particularly stressful situations, such as lockdown measures and the need to work and care for the child at the same time, thereby increasing the risk of parental burnout. Our study has the merit of having adopted a longitudinal perspective by attempting to overcome the limitations of cross-sectional research that characterizes the majority of available data on the relationship between the variables under consideration.

### Limits and Future Directions

Our study offers new insights into the risk factors related to parental burnout, indicating alexithymia as a possible risk factor and self-efficacy and psychological resilience as important mediating factors. In spite of the novelty of our study, the results should be interpreted within the limits of the present research. The time span within which we conducted the two measurements, although sufficient to detect possible variations, could be extended in future research. In our investigation, we used self-report measures, and therefore the data may have been influenced by social desirability and factors related to reading comprehension and motivation to complete the questionnaire. Future studies may therefore examine different measures and observations. In addition, our sample is relatively small and consists of women who are both mothers of preschool children and full-time workers under lockdown. However, we recruited a convenience sample, which cannot be considered representative of Polish working mothers. Another limitation is the way the sample for the study was selected. It was difficult to control the selection procedure, because it was carried out entirely online through women's groups existing on various platforms. Thus, even though the respondents may have experienced a greater crisis right at the beginning of the pandemic, the distribution of the parental burnout scores failed to reflect this, as the level of burnout in the whole group did not differ significantly from the same measure in the control group drawn from the Polish population.

As mentioned above, we found this to be the most stressful condition for a mother in lockdown, but the characteristics of the sample severely limit the generalizability of the results to the whole parental population. Therefore, future studies may examine the relationship between the investigated constructs in larger and more representative samples, taking into account different characteristics potentially associated with parenthood, and extending the comparison also to fathers. Moreover, the study was conducted in a specific cultural context, Poland, a

Western country. Future research may replicate the study or propose comparisons with other cultural contexts, both Western and non-Western, in order to analyse the potential effect of cultural variables.

### Conclusions

In conclusion, our study offers a contribution to the current understanding of the risk factors involved in parental burnout, by considering particularly stressful situations, such as lockdown. Our study shows that maternal parental burnout is positively correlated with levels of alexithymia. Mothers with high levels of alexithymia are more vulnerable to stress, probably due to difficulties in emotion regulation and in building effective social support networks. Such deficits may contribute to the subject's perceived low self-efficacy and reduced ability to adapt positively to particularly stressful situations, ultimately resulting in the development of parental burnout.

Our study has important implications for intervention and prevention. The pandemic had negative effects on the psychological well-being of individuals and families, and this also affected the quality of the parent-child relationship. In this sense, the pandemic constituted a particularly stressful moment, especially for those mothers who had to combine the extraordinary demands of caring for their offspring (e.g., homeschooling) with a job. In this context, parental burnout may affect the quality of relationships with family members and, compared to job burnout, may have a more direct and detrimental effect on the psychological development of children. Parental burnout is characterized by emotional exhaustion and detachment from the child, and is recognized as a risk factor for negative relationships and aggressive behavior towards children. It is therefore important to identify potential risk factors, which could be countered by preventive action. Our study has shown that mothers with high levels of alexithymia need extra support, in order to prevent or treat parental burnout. In high-stress situations, it may be effective in the short to medium term to help mothers with high levels of alexithymia to develop more adequate coping strategies, a more optimistic and positive view of the situation, and a better perception of their own self-efficacy. For working mothers with young children, it could be useful to learn resilience-related skills, such as cognitive reframing and optimism (Sorkkila & Aunola, 2020; 2022). However, treating alexithymic symptoms may help parents develop better self-efficacy and psychological resilience, which may reduce the risk of parental burnout, preventing numerous risks to the psychological well-being of the family and to child development. Although the pandemic seems to have receded in developed countries, the crisis is not over globally, and new

pandemics cannot be excluded. To deal with such events, it could be important to set up intervention programs in case of emergency, taking into account the needs and well-being of families. Moreover, integrating psychological support services and practical support for parents, in particular mothers at risk of parental burnout, could alleviate risks associated with maladjustment during lockdowns (Sorkkila & Aunola, 2022).

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## Compliance with ethical standards

**Conflict of interest** The authors declare no competing interests.

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