


Maternal Self-Efficacy and Role Satisfaction: The Mediating Effect of Cognitive Emotion Regulation

Nóra Márk-Ribiczey¹ · Mónika Miklósi¹  · Marianna Szabó²

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Abstract Caregivers' beliefs about their ability to parent successfully play an important role in parent and child adjustment. Yet the cognitive processes through which parental self-efficacy beliefs may influence parental well-being have been understudied to date. The first aim of the present study was to evaluate the psychometric properties of the Hungarian version of the Parenting Sense of Competence Scale (PSOC). The second aim was to test a moderated mediational model of parental well-being, drawing on social cognitive theory. In a sample of 407 mothers of non-clinical children aged between 4 and 18 years, confirmatory factor analysis supported a two-factor solution for the PSOC, as suggested by the original authors. The Hungarian version of the PSOC showed good internal consistency and test-retest reliability. Next, we used conditional process modelling to test our hypothesised model in which the relationship between parental self-efficacy and role satisfaction is mediated by cognitive emotion regulation strategies, conditional on the level of parental self-efficacy. This model was partially supported. Self-blame mediated the relationship between parental self-efficacy and parental role satisfaction only when self-efficacy was low, while planning was found to be a significant mediator independent of the level of self-efficacy.

Targeting these cognitive factors may improve parent interventions.

Keywords Parents · Self-efficacy · Role satisfaction · Cognitive emotion regulation

Introduction

Satisfaction with the parenting role, or experiencing being a parent as a rewarding activity, is fundamental for being able to meet the intellectual, emotional and physical demands and the serious time and energy requirements this role entails (Coleman and Karraker 2003; Johnston and Mash 1989). Findings from diverse lines of research have documented the link between parental well-being and self-efficacy beliefs (Benzies et al. 2013; Fotiadou et al. 2004; Leahy-Warren et al. 2012; Streisand et al. 2005; Taft et al. 2012; Whittaker and Cowley 2012). Parents' beliefs about their efficacy in managing their own functioning as a parent and to exert control over environmental demands—including their children's emotional and behavioural problems—play an important role in both parent well-being and in child adjustment (Jones and Prinz 2005). Nevertheless, although previous research has documented the positive relationship between parental self-efficacy and parental role satisfaction (e.g. Coleman and Karraker 2003; Gilmore and Cuskelly 2009; Johnston and Mash 1989), the ways in which self-efficacy beliefs might influence role satisfaction have been understudied.

The most widely used measure for assessing both of these important aspects of parenting is the Parental Sense of Competence Scale (PSOC; Johnston and Mash 1989). The original 16-item scale was developed by Gibaud-Wallston and Wandersman (1978) and has been further

Nóra Márk-Ribiczey, Mónika Miklósi, and Marianna Szabó contributed equally to this work.

✉ Mónika Miklósi
miklosi.monika@ppk.elte.hu

¹ Psychological Institute, Eötvös Loránd University, Budapest, Hungary

² School of Psychology, The University of Sydney, Sydney, Australia

evaluated by Johnston and Mash (1989). Their factor-analytic study revealed two intercorrelated factors (Satisfaction and Efficacy) accounting for 23.6 and 12.5 % of the variance, respectively. These subscales showed good internal consistencies with Cronbach's alphas of .79 for the Efficacy subscale and .76 for the Satisfaction subscale. The two-factor structure of the PSOC has been supported by further research (Ohan et al. 2000; Ngai et al. 2007), although other studies suggested a three-factor solution (Gilmore and Cuskelly 2009; Nunes et al. 2014; Rogers and Matthews 2004). In spite of the debate about the factorial validity of the instrument, the PSOC is an important measure of parents' beliefs about their role as a parent worldwide (Jones and Prinz 2005). It has been translated into several languages, e.g. Thai (Suwansujarid et al. 2013), Spanish (Menéndez et al. 2011), Chinese (Ngai et al. 2007), German (Miller 2001), and Portuguese (Nunes et al. 2014).

According to the agentic model of Bandura (2012), self-efficacy beliefs regulate socio-emotional functioning through cognitive, motivational, affective and decisional processes. Benight and Bandura (2004) suggested that cognitive processes through which self-efficacy beliefs exert their effects on behavioural competency and emotional well-being include the activation of attentional control and cognitive evaluation. Individuals with high self-efficacy beliefs actively construct the (positive) meaning of, and plan behavioural responses to life events, while low self-efficacy is associated with non-adaptive cognitive processes, such as engaging in unproductive chains of thoughts (rumination) or blaming oneself or others. Empirical research has supported these suggestions. For example, in a student sample, lower levels of self-efficacy predicted an increased use of self-blame during test taking (Burić et al. 2011), and was shown to be positively related to rumination (Takagishi et al. 2013). In parents of children with developmental disabilities, coping self-efficacy was positively associated with reappraisal and acceptance, and negatively related to rumination (Van Der Veek et al. 2009a). These cognitive processes were considered to be conscious ways of regulating emotional responses to environmental demands (Garnefski et al. 2001; Ochsner and Gross 2008).

Previous research also found strong relationships between the use of specific cognitive emotion regulation processes, especially self-blame, rumination, catastrophizing and positive reappraisal, and emotional well-being (e.g. Garnefski and Kraaij 2006; Jermann et al. 2006; Martin and Dahlen 2005) as well as satisfaction with life (Geisler et al. 2010). Furthermore, cognitive emotion regulation has been found to be related to parental adjustment. In a sample of parents of children with developmental disabilities, self-blame and rumination

were associated with parental depression, while positive reappraisal was related to positive affect (van der Veek et al. 2009b). Positive reappraisal predicted posttraumatic growth in parents of infants hospitalized in a neonatal intensive care unit (Barr 2011), and was related to higher well-being of parents rearing children with developmental disabilities (Glidden et al. 2006). In parents of children with chronic health conditions, better parental adjustment was related to the less use of rumination (Goldbeck 2001) and self-blame (Greening and Stoppelbein 2007; Nelson et al. 2009; Wong and Heriot 2008) and the more use of positive reappraisal (Greening and Stoppelbein 2007). This pattern of data suggests that cognitive emotion regulation strategies may play a mediating role between self-efficacy beliefs and satisfaction with the parental role. To date, the only study exploring the joint effect of parental self-efficacy beliefs and cognitive emotion regulation was conducted in a sample of parents of hospitalised children (Miklósi et al. 2013). Results revealed that parental self-efficacy moderated the association between the use of non-adaptive cognitive emotion regulation strategies and parents' emotional responses to their child's illness and hospitalisation. Parental self-efficacy and cognitive strategies were found to be uncorrelated in that sample, however.

Considering the paucity of research investigating the potential role of cognitive emotion regulation strategies in the relationship between parental self-efficacy beliefs and satisfaction with the parental role, the broad aim of this study was to further explore this possible relationship. Specifically, the first aim of the present study was to provide initial psychometric information for this instrument and to enable its use in Hungarian language populations. A psychometrically sound assessment of parental self-efficacy and role satisfaction would then allow an investigation of the possible mediating and moderating processes in the relationship between these two aspects of parenting. Secondly, we drew upon Bandura's (2012) agentic model and previous empirical research to propose a moderated mediational model of parental role satisfaction. In our proposed model, cognitive emotion regulation strategies mediate the relationship between parental self-efficacy and role satisfaction, but this mediating relationship depends on the level of parental self-efficacy. We hypothesized that parents with high self-efficacy would engage in more adaptive cognitive regulatory strategies, i.e. positive reappraisal and refocus on planning, and less non-adaptive strategies, i.e. self-blame and rumination, which in turn would be associated with higher satisfaction with the parental role among these participants. In contrast, parents with low self-efficacy were expected to use less adaptive and more non-adaptive strategies, resulting in lower role satisfaction.

Method

Participants

Participant recruitment took place in public schools and kindergartens. The school psychologists employed in these schools and kindergartens informed the parents about the study during their regular parent-teacher meetings, and invited all parents to take part. As these meetings were attended almost exclusively by mothers, only mothers volunteered to take part in the study. Therefore, the sample included 407 mothers of non-clinical children between the ages of 4 and 18. The participants' children had no lifetime diagnosis of chronic or psychiatric illness and were not under current or previous psychological/psychiatric treatment. Mean age of mothers was 40.03 ($SD = 6.43$, *Range*: 25–59 years). Mean age of children was 11.12 years ($SD = 4.62$). Sample characteristics are shown in Table 1.

Procedure

The work described here has been carried out in accordance with The Code of Ethics of the World Medical

Table 1 Demographic characteristics (N = 407)

Demographics	N (%)
Child's gender	
Girls	205 (49.6)
Boys	202 (50.4)
Location of residence	
Capital	125 (30.7)
Town	93 (22.9)
Countryside	189 (46.4)
Living in own flat/house	385 (94.6)
Family structure	
Original full family	335 (82.3)
One-parent family	54 (13.3)
Full family with a step parent	15 (3.7)
Other	3 (.7)
Brothers/sisters	
No	77 (18.9)
One	128 (31.4)
More	202 (49.7)
Caregiver's level of education	
Low level of education (≤ 8 years)	189 (46.4)
Medium level of education (12 years)	131 (32.2)
High level of education (high school/university degree)	87 (21.4)
Employment status	
Mother economically active	308 (75.7)
Unemployed	19 (4.7)
Other	80 (19.6)

Association (Declaration of Helsinki) for experiments involving humans. Ethical approval was obtained from the Institutional Ethical Committee of the Eötvös Loránd University, Budapest. Participants were informed about the nature of the study and assured of anonymity and confidentiality by the school psychologist who assisted with recruitment. They received no compensation or other incentives for participation. After providing written consent, participants completed a questionnaire packet that included a demographic form, the shortened version of the Child Behavior Checklist, the Cognitive Emotion Regulation Questionnaire and the Parental Sense of Competence Scale, in this order. The questionnaires were completed at home and handed back to the school psychologist within a week. Sixty four participants gave consent to be contacted for a second testing occasion. They completed the PSOC a second time, 2 weeks after the first assessment.

Measures

Child Behavior Checklist, Short Form (CBCL-Short; Achenbach 1991; Gádoros 1996)

This measure consists of 47 Likert-type items selected from the Child Behaviour Checklist (Achenbach 1991), a parent-report questionnaire for assessing internalizing and externalizing problems of children between the ages of 4 and 18. Psychometric properties of the Hungarian version of the CBCL-short have been reported by Gádoros (1996). In this study we used the internalizing and externalizing subscales. Both subscales had very good internal consistencies ($\alpha = .83$ and $\alpha = .86$, respectively).

Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski et al. 2001)

This multidimensional self-report measure assesses individual differences in conscious, cognitive processes of emotion regulation. The CERQ consists of 36 Likert-type items (from 1 *almost never* to 5 *almost always*), with nine subscales targeting intercorrelated, but conceptually different, cognitive coping strategies. Higher scores represent greater use of the specific strategy. We used four subscales: *Self-blame* refers to the appraisal of the individual's responsibility for what one has experienced ("I feel that I am the one to blame for it"), *rumination* refers to focusing attention on the negative feelings and thoughts associated with the events ("I often think about how I feel about what I have experienced"), *refocus on planning* refers to focusing on what one has to do to change the situation ("I think of what I can do best"), *positive reappraisal* refers to giving a positive meaning to the event ("I think I can learn something from the situation"). The CERQ has been

validated in adolescent and adult samples (Garnefski et al. 2002). Cronbach's alphas for the scales ranged from .68 to .93. The psychometric properties of the Hungarian version have been reported by Miklósi et al. (2011). The questionnaire was adapted for the aims of this study, following the guidelines of the authors (Garnefski et al. 2002): the instructions were slightly modified to direct the respondents attention to their child's emotional and behavioural symptoms previously reported via the CBCL. In this study, the subscales showed acceptable to very good internal consistencies.

Parental Sense of Competence Scale (PSOC; Johnston and Mash 1989)

As it has been detailed above, this measure assesses two dimensions of parents' perceptions about their role as a parent: the *satisfaction* subscale refers to an affective dimension of parenting and reflects emotional well-being in relationship with the parental role ("Being a parent makes me tense and anxious"), while the *efficacy* subscale consists of judgements about parenting abilities and effectiveness ("I meet my own personal expectations for expertise in caring for my child"). The Hungarian version, based on the original 16-item version of the measure, was developed using a back-translation process.

Data Analyses

Data were analysed using IBM SPSS 20 (2011). Significance level was set at an α -level of .05, using Bonferroni correction for multiple comparisons. We first evaluated the factorial validity, internal consistency, and test-retest reliability of the Hungarian version of the PSOC. Item-total correlations and Cronbach's alphas were calculated to assess internal consistency, and 2 week test-retest correlation was computed to test reliability. A confirmatory factor analysis using the General Least Squares-Maximum Likelihood method was performed to test the goodness of fit of the data to a previously suggested two-factor model. Goodness of fit was tested with four indices: the Chi squared test, Bentler's Comparative Fit Index, the Standardized Root Mean Square Residuals (SRMR) and the Root Mean Square Error of Approximation (RMSEA).

To test the proposed moderated mediational model, direct, indirect and conditional indirect effects (specific for each mediator) were calculated using the conditional process modelling approach and SPSS macro provided by Hayes (2013). For this procedure, we conducted five multiple regression analyses, and set α' to .01 (=0.05/5). Box-cox and square-root transformations were used when the normality assumption was violated. Bootstrapping with a resample procedure of 5000 bootstrap samples (bias

corrected and accelerated (BCa) estimates and 95 % *CI*) was used for significance testing, because this method does not impose the assumption of normality for the sampling distribution of the indirect effect (Preacher and Hayes 2008). Child's age and gender, as well as externalizing and internalizing symptoms reported in the CBCL-short were included as covariates.

Results

To test the fit of our data to the two-factor solution suggested by the original authors (Johnston and Mash 1989), confirmatory factor analysis was conducted. The Chi squared test of overall model fit was significant, indicating that the proposed model did not fit the data from the present sample, $\chi^2(103) = 224.71$, $p < .001$, $\chi^2/df = 2.18$. However, Chi squared tests are known to be dependent on sample-size and are not recommended as the primary index of model fit (Henson and Roberts 2006). *CFI* was .905, suggesting a reasonable fit to the model. *SRMR* was below the level of 0.1 (*SRMR* = .057) indicating acceptable fit, and the *RMSEA* between .05 and .08 (*RMSEA* = .056, 90 % *CI*: .046 .065) also suggested an acceptable fit. Taken together, these fit indices indicated an acceptable fit for the original two-factor model.

Cronbach's α was .80 for the Efficacy subscale, and .70 for the Satisfaction subscale. Item-total correlations ranged from .41 to .61 for the Efficacy and from .21 to .50 for the Satisfaction subscale (Table 2). Two-week test-retest correlations were .55, $p < .001$, for the Satisfaction and .60, $p < .001$, for the Efficacy subscale.

Descriptive statistics and reliabilities of the measures used in the study are shown in Table 3, along with the zero-order Pearson correlation coefficients among the variables.

Child's age was not significantly associated with any other variables, while mother's age was negatively related to parental self-efficacy. A series of t-tests and ANOVAs were conducted to assess the effect of children's gender and mothers' level of education on study variables. We found no gender differences in child's and mother's age, measures of parenting, the use of cognitive strategies, and child's internalizing problems. However, boys were reported to show more externalizing symptoms, $t(405) = 3.60$, $p < .001$. Significant differences were found in the use of refocus on planning, $F(2) = 3.79$, $p = .02$, by mothers' level of education. Post-hoc tests revealed that mothers with a high level of education reported more refocus on planning than mothers with a low level of education.

Children's higher internalizing and externalizing scores were both associated with lower parental satisfaction and

Table 2 Descriptive statistics and item-total correlations of PSOC items

	Mean (SD)	Corrected item-total correlation	α if item deleted
Efficacy			
1. The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired	3.32 (1.13)	.58	.77
6. I would make a fine model for a new mother/father to follow in order to learn what she/he would need to know in order to be a good parent	2.92 (1.22)	.61	.76
7. Being a parent is manageable, and any problems are easily solved	2.12 (1.34)	.45	.80
10. I meet my own personal expectations for expertise in caring for my child	3.42 (1.11)	.55	.77
11. If anyone can find the answer to what is troubling my child, I am the one	3.81 (1.09)	.41	.80
13. Considering how long I've been a mother/father, I feel thoroughly familiar with this role	3.99 (1.08)	.56	.77
15. I honestly believe I have all the skills necessary to be a good mother/father to my child	4.03 (.97)	.61	.76
Satisfaction			
2. Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age	2.41 (1.55)	.49	.65
3. I go to bed the same way I wake up in the morning, feeling I have not accomplished a whole lot	1.54 (1.40)	.50	.65
4. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated	1.65 (1.34)	.47	.66
5. My mother/father was better prepared to be a good mother/father than I am	1.03 (1.14)	.27	.69
8. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one	3.23 (1.47)	.28	.70
9. Sometimes I feel like I'm not getting anything done	1.20 (1.28)	.47	.66
12. My talents and interests are in other areas, not in being a parent	.44 (.77)	.32	.69
14. If being a mother/father of a child were only more interesting, I would be motivated to do a better job as a parent	.49 (.92)	.21	.70
16. Being a parent makes me tense and anxious	1.09 (1.25)	.38	.68

N = 407. *SD* standard deviation *PSOC* parental sense of competence scale

Table 3 Descriptive statistics, reliabilities and bivariate relationships (Pearson's correlation coefficients) of study variables

	Mean (SD)	Skewness	Kurtosis	α	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Child's age	11.13 (4.63)			–	.68*	–.04	–.08	–.03	.02	–.03	–.06	–.10	–.07
2. Mother's age	40.02 (6.43)			–	–	–.01	–.02	–.05	.01	.01	–.06	–.07	–.17*
3. CBCL-S internalizing	3.62 (4.11)	1.78	3.63	.82		–	.30*	.21*	.16*	.01	.01	–.24*	–.12
4. CBCL-S externalizing	2.58 (2.96)	2.14	5.91	.86			–	.19*	.15*	–.04	–.04	–.34*	–.21*
5. CERQ self-blame	10.20 (2.82)	.86	.67	.74				–	.47*	.26*	.10	–.26*	–.16*
6. CERQ rumination	11.16 (3.54)	.20	–.31	.78					–	.28*	.18*	–.23*	–.12
7. CERQ refocus on planning	16.14 (2.85)	–.37	–.64	.77						–	.42*	.19*	.15*
8. CERQ positive reappraisal	13.39 (3.41)	–.17	–.60	.77							–	.17*	.29*
9. PSOC satisfaction	31.88 (6.15)	–.52	–.05	.80								–	.35*
10. PSOC efficacy	23.62 (5.37)	–.67	.90	.70									–

N = 407, *SD*: standard deviation, *CBCL-S* child behavior checklist short form, *CERQ* cognitive emotion regulation questionnaire, *PSOC* parental sense of competence scale

* *p* < .005 (α = .05/10, using Bonferroni correction)

Table 4 Moderated mediation analysis results

Potential mediators	Path A			Path B			Path V			Conditional indirect effects					
	a	SE	p	b	SE	p	v	SE	p	Low (−1 SD) self-efficacy		High (+1 SD) self-efficacy			
										Effect	BCa 95 % CI	Effect	BCa 95 % CI		
Self-blame	−.01	.00	<.01	−2.38	.74	<.01	.31	.13	.01	.04	.01	.10	.01	−.01	.04
Rumination	−.07	.03	.05	−.29	.09	<.01	−.01	.02	.39	.01	.00	.05	.02	.00	.06
Refocus on planning	.08	.03	<.01	.49	.10	<.001	.00	.02	.81	.04	.01	.09	.04	.01	.09
Positive reappraisal	.18	.03	<.001	.08	.09	.34	.00	.01	.87	.01	−.03	.06	.02	−.02	.06

$N = 407$. *Dependent variable*: Satisfaction with parental role. a , b , v unstandardized regression coefficients of Path A, B and the two-way interactions of cognitive emotion regulation strategies by parental self-efficacy (Path V), respectively, as shown in Fig. 1, SE standard error, BCa 95 % CI bias corrected and accelerated 95 % CI . Number of Bootstrap Resample: 5000

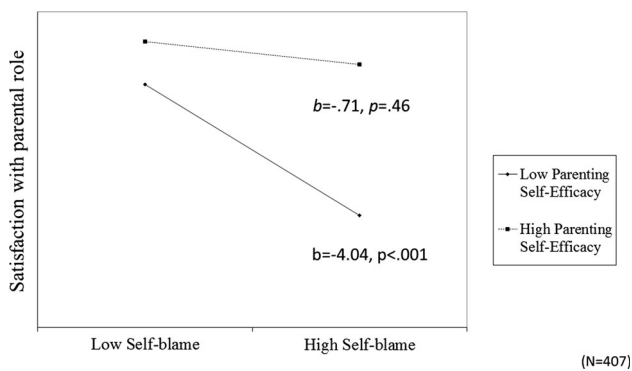


Fig. 1 Regression lines for relations between self-blame and satisfaction with parental role as moderated by parental self-efficacy (a 2-way interaction). b = unstandardized regression coefficient (i.e., simple slope)

greater use of self-blame reported by their mothers. Children's internalizing symptoms were also positively related to a greater use of rumination by the mother, whereas children's externalizing scores were negatively related to parental self-efficacy. Parental self-efficacy showed a negative association with the use of self-blame, and was positively related to the use of refocus on planning and positive reappraisal. On the other hand, higher satisfaction with the parental role was associated with a lower use of self-blame and rumination, and the more extensive use of refocus on planning and positive reappraisal (Table 3).

In the multivariate analysis (Table 4), parental self-efficacy was negatively related to the use of self-blame, $a = -.01$, $p < .01$, and positively associated with the greater use of refocus on planning, $a = .08$, $p < .01$, and positive reappraisal, $a = .18$, $p < .001$.

We found significant negative relationships between parental role satisfaction and the use of self-blame, $b = -2.38$, $p < .01$, and rumination, $b = -.29$, $p < .01$, and significant positive associations with the use of refocus on planning, $b = .49$, $p < .001$. Higher parental self-efficacy, $c' = .23$, $p < .001$, was also related to higher levels of satisfaction, while the interaction term of self-efficacy

scores by self-blame, $v = .31$, $p = .01$, was marginally significant after Bonferroni correction (Table 4). Post-hoc analyses (Holmbeck 2002) revealed that the unstandardised simple slope for individuals 1 SD below the mean of PSOC self-efficacy was $-.71$, $p = .46$, and that the unstandardised simple slope for individuals 1 SD above the mean of PSOC self-efficacy was -4.04 , $p < .001$ (see Fig. 1). All other variables were included when we computed the constant for the predicted values. Therefore, the plots depicted in Fig. 1 represent fully controlled relationships.

Conditional indirect effects were calculated for each potential mediator at value of ± 1 SD of the moderator. Results revealed that the conditional indirect effect of self-blame was $.04$ (BCa 95 % CI : $.01-.10$) when self-efficacy was low, and $.01$ (BCa 95 % CI : $-.01-.04$) in the high self-efficacy condition. Planning was found to be a significant mediator independent from the level of self-efficacy (Table 4).

Discussion

Our first aim was to evaluate the psychometric properties of the Hungarian version of the PSOC. Considering factorial validity, the data showed a good fit to the two-factor solution suggested by the original authors (Johnston and Mash 1989). Further, the Efficacy and Satisfaction subscales showed good to very good internal consistencies. Item-total correlations suggested very good consistency for the items of the Efficacy subscale, but they fell under .3 for three items of the Satisfaction subscale. However, deleting these items did not increase Cronbach's alpha. Furthermore, the Hungarian version evidenced good test-retest reliability over a two-week period. Though further studies are needed to evaluate the psychometric properties of this instrument, for example, its construct and predictive validity, our results suggest that the Hungarian version of the PSOC provides a reliable and valid assessment of parental self-efficacy and role satisfaction.

We next aimed to explore the relationship between the two separate dimensions of parenting assessed by the PSOC, self-efficacy and role satisfaction. We specifically focused on the role cognitive emotion regulation strategies may play in mediating this relationship. We proposed a conditional process (moderated mediation) model based on social cognitive theory (Bandura 2012; Benight and Bandura 2004), in which the relationship between parental self-efficacy and role satisfaction is mediated by cognitive regulatory processes, but the role of these cognitive mechanisms were expected to be dependent on mothers' level of self-efficacy. Consistent with previous literature (Coleman and Karraker 2003; Gilmore and Cuskelly 2009; Johnston and Mash 1989), we found parenting self-efficacy and satisfaction to be significantly and positively related. This association remained significant in the multivariate analysis, after controlling for all other variables in the model. Further, as predicted by social cognitive theory (Bandura 2012; Benight and Bandura 2004), results revealed that mothers with higher efficacy beliefs tended to use more adaptive cognitive emotion regulation strategies and less non-adaptive strategies. These findings are consistent with the agentic perspective (Bandura 2012), which suggests that parents' beliefs in their efficacy play an important role in their self-regulation of emotional states by setting adaptive cognitive processes, while inhibiting non-adaptive cognitive strategies at the same time. Finally, satisfaction with the parental role was negatively related to the use of non-adaptive strategies, i.e. self-blame and rumination, and positively associated with the use of refocus on planning. These findings are in line with results of Geisler et al. (2010) that cognitive emotion regulation involving executive functions—including planning—predicted satisfaction with life.

Moderated mediation analysis provided partial support for our hypothesised model. Refocus on planning was found to mediate the relationship between self-efficacy and satisfaction with parental role, independent of the level of self-efficacy: stronger self-efficacy beliefs were associated with greater use of refocus on planning, which in turn was related to higher levels of parental satisfaction indicating greater affective well-being. As planning is probably the more proactive cognitive strategy when facing environmental demands, our results are consistent with the agentic perspective of the social cognitive theory (Bandura 2012), suggesting that parents with stronger self-efficacy beliefs are more likely to exert an intentional influence over the course of events by their actions. On the other hand, self-blame mediated the relationship between self-efficacy and role satisfaction only when self-efficacy was low, indicating that non-adaptive cognitive regulatory strategies might have a greater impact on failures of adaptation in that condition. Previous research revealed

that the perception of uncontrollable stress negatively impacts cognitive processes of emotion regulation (Raio et al. 2013; Miklósi et al. 2014). Our results appear to suggest that the perception of low self-efficacy may have a similar effect: mothers with low self-efficacy—precisely those who would need it most—may have limited access to effective cognitive regulation strategies to modulate their emotional responses.

When examining the discrepancies between our findings and previous results (Miklósi et al. 2013), the critique of the trait view of self-efficacy and Bandura's (2012) suggestions for self-efficacy research need to be considered. Bandura emphasised that people may differ in their self-efficacy across different domains or even across various facets within the same domain. Therefore, a lack of significant findings in self-efficacy research might be due to the mismatch between domains related to self-efficacy and outcome measures. In light of these suggestions, self-efficacy and cognitive processes are expected to be intercorrelated only when they are related to the same aspect of environmental demands, while their interaction might affect outcomes even across different domains.

Although the study uncovered potentially important relationships, a major limitation was its cross-sectional design, which does not permit causal conclusions. Further studies are required to replicate our findings using longitudinal designs. Self-report measures might also be biased by contextual factors, memory and socially desirable responses, and these need to be complemented by alternative assessments in future research. Our sample consisted solely of mothers which limits generalizability of our findings. Further research is needed to replicate our findings in samples including fathers as well as mothers, and in clinical samples. In spite of these limitations, our study underlines the importance of assessing complex relationships between cognitive factors affecting parental adjustment, and points to the potential role of specific cognitive emotion regulation strategies in the relationship between parental self-efficacy and role satisfaction. Targeting these cognitive factors may play an important role in parent interventions aiming to improve parental role satisfaction and well-being.

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