



# Psychologically Controlling Parenting during Toddlerhood: The Role of Mothers' Perceived Parenting History and Emotion Regulation Style

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Published online: 4 June 2020

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## Abstract

This study investigated whether mothers' own perceived parenting history (in their own family of origin) relates to mothers' self-reported use of psychological control during the toddler period and whether mothers' emotion regulation capacities play an important underlying role in this regard. A community sample of 150 primiparous mothers participated in a longitudinal study, including both a prenatal and postnatal assessment (2 years after birth). Results of structural equation modeling indicated that mothers' own retrospectively perceived history of psychologically controlling parenting prior to childbirth related to their psychologically controlling parenting behavior vis-à-vis their toddlers. Mothers' maladaptive emotional regulation, and dysregulation in particular, was found to play a mediating role in this association. The results highlight that mothers' perceived parenting history is an important prenatal predictor of mothers' own (self-reported) use of psychological control in the first years after childbirth, with maternal emotion regulation helping to account for this association.

**Keywords** Parenting · Toddlerhood · Psychological control · Emotion regulation

## Highlights

- Early developmental origins of psychological control are poorly understood.
- Intergenerational similarity of psychological control.
- Emotion regulation helps to explain intergenerational similarity.
- Emotional dysregulation rooted in parents' own developmental history.
- Emotional dysregulation related to more psychological control with toddlers.

Parental psychological control involves parents' use of manipulative and pressuring strategies such as shaming, guilt induction, personal attack, and love withdrawal (Barber and Harmon 2002). To date, psychological control is most typically studied during adolescence, and is hypothesized to increase the likelihood of maladjustment due to its intrusive and autonomy-invasive nature (Barber 1996; Soenens et al. 2019). For example, parental statements such as “It would be a disgrace to our family if you would not pass your exams” (as an example of shaming) are expected

to threaten adolescents' emerging self-esteem and, by doing so, to heighten the risk of maladjustment. A wealth of studies among adolescents have indeed provided robust empirical evidence for the detrimental effects of psychological control on adolescents' psychosocial adjustment (Barber and Harmon 2002; Pinquart 2017a, b).

Parental psychological control may, however, not only occur during adolescence, but also during early childhood. For instance, in response to 3-year olds' misbehavior, parents may say that they are disappointed in them and further deliberately ignore their child, which would constitute an example of love withdrawal. Recent research has indicated that the detrimental effects of psychological control extend to earlier life phases (see e.g., Laurin and Joussemet 2017; Stone et al. 2013). To illustrate, a 6-year longitudinal study following children from the ages of 2.5–8 years found that psychologically controlling parenting was positively related

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to the development of childhood anxiety (Laurin et al. 2015). Such work is congruent with the presumed autonomy-thwarting nature of psychological control, with the frustration of individuals' sense of psychological freedom yielding a cost across different developmental stages (Soenens and Vansteenkiste 2010). In light of the well-documented problems associated with psychologically controlling parenting, a new generation of studies has begun to identify factors that contribute to parents' use of psychological control (Scharf and Goldner 2018).

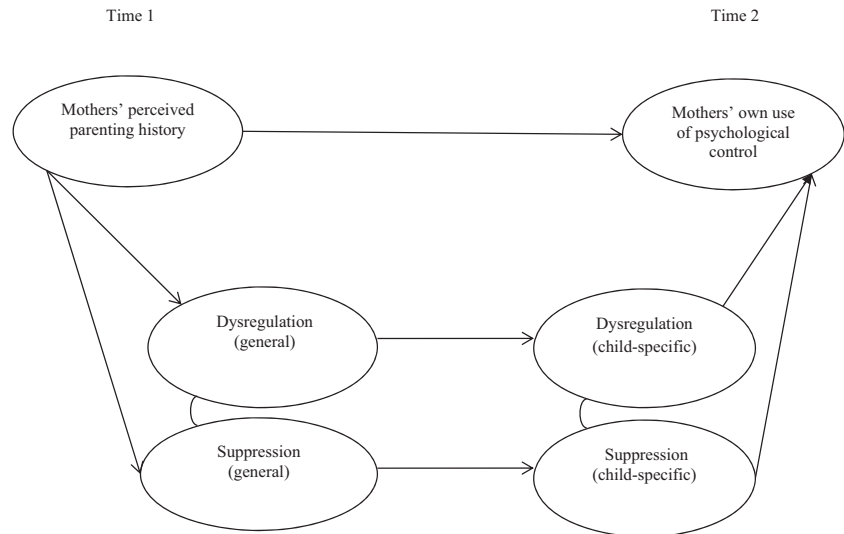
Parents' likelihood of using psychologically controlling practices may be partially driven by their exposure to such parenting practices while growing up. Several learning mechanisms (e.g., observational learning, experiential learning, and parental explicit coaching of interaction patterns) are supposed to form the basis of such a transmission process (Van Ijzendoorn 1992). Previous studies provided evidence for the intergenerational similarity of both adaptive (supportive, positive) and maladaptive (harsh, aggressive) parenting styles (Belsky et al. 2009; Van Ijzendoorn 1992). However, in the case of parental psychological control, the available evidence is limited and rather preliminary. Two cross-sectional studies among university-students provided empirical support for the intergenerational similarity of psychological control. Specifically, Assor et al. (2004) found that mothers' reports of their parents' conditional regard (a key facet of psychological control) predicted mothers' own use of conditional regard as reported by their college-aged daughters. Ong (2010) found a significant association between child and parent reports of psychological control experienced during young adulthood. Further, in a study with mothers of 2–5 year old toddlers, mothers' self-reported psychological control as experienced during their own youth related positively to their current use of punitive discipline towards their young children (Seay et al. 2016). Although informative, in each of these studies the assessment of mothers' own history of psychological control in their family of origin took place after their own children were born, such that their scores were potentially contaminated by the current interactions with the child. Because of this, any observed association between perceived parenting history and current parenting may have been artificially inflated and, hence, overestimated.

Apart from examining mothers' perceived parenting history within their own family of origin, we also sought to investigate whether mothers' way of handling emotions may help to explain this hypothesized role of perceived parenting history. Parents' reduced capacity for emotion regulation is a likely candidate to explain intergenerational similarity in psychologically controlling parenting because parental emotion regulation would be rooted in parents' own developmental history (Morris et al. 2007) and, in turn, is likely to play a role in their parenting style (Dix 1991).

Parental emotion regulation refers to the way parents deal with various forms of emotionally arousing experiences (Gross 2015). Because psychological control is a dimension of detrimental parenting, dysfunctional parental emotion regulation is particularly likely to play a mediating role in the intergenerational transmission of psychologically controlling parenting. On the basis of specific conceptual models in the domain of emotion regulation (e.g., Gross' process model; Gross 2015) and more general theories on psychological development, such as Self-Determination Theory (Deci and Ryan 2000; Ryan and Deci 2000), a distinction can be made between emotional dysregulation and suppression as two ways of maladaptive regulation (Roth et al. 2009, 2019). Emotional dysregulation refers to individuals' tendency to be overwhelmed by their emotions, with emotions being expressed in an impulsive and disorganized way. Dysregulation is harmful because it involves a lack of control over negative emotions, as exemplified by extreme emotional outbursts that cause interpersonal tension (Beauchaine 2015). Suppressive regulation involves the avoidance or minimization of negative emotional experiences. Individuals high on suppressive regulation tend to either block negative emotional experiences from awareness by distancing themselves from the emotion or they hide the behavioral expression of the emotion (Roth et al. 2019). Emotional dysregulation and suppression have been found to relate to depressive symptomatology, ill-being (Benita et al. 2020; Gross 2013) and defensiveness (Roth et al. 2018). Importantly, the costs associated with suppression and dysregulation also manifest at the interpersonal level, with these types of emotional regulation relating to reduced empathic responding (Roth et al. 2017) and lower intimacy (Roth and Assor 2012) in romantic relationships.

Linking parenting history to maternal emotion regulation, mothers who were exposed to more psychologically controlling parenting themselves may have learned to suppress or even deny their emotional experiences (Morris et al. 2007; Roth and Assor 2012). Individuals growing up in such an environment likely experience negative emotions as a threat (rather than as signals with high informational value), leading these individuals to suppress the negative emotions or to be overwhelmed by these emotions in a disorganized way. Congruent with this reasoning, previous research (mainly among adolescents) indeed showed that perceived psychological control is related to impaired capacity for emotion regulation (e.g., Brenning et al. 2015; Cui et al. 2014; Roth et al. 2009). For instance, Roth and Assor (2012) found in a sample of college students that parental conditional regard, a practice characteristic of psychologically controlling parenting, related to a maladaptive pattern of emotion regulation (i.e., more emotional dysregulation and suppression). In line with these findings,

**Fig. 1** Conceptual model. Time 1 = prenatal ( $N = 150$ ); Time 2 = postnatal ( $N = 107$ ,  $M$  age = 22 months)



parents' perceived exposure to a history of psychologically controlling parenting was expected to relate to parents' maladaptive emotion regulation in general. Further, this general emotion regulation style is also expected to manifest in the way how parents deal with negative emotions emerging during parent-child interactions (Lorber 2012).

During parent-child interactions, maternal emotion regulation involves monitoring, interpreting, and controlling maternal emotions elicited in interaction with the child as well as mother's expression of these emotions (Dix 1991; Fabrizio et al. 2015). For example, after a long day of work mothers may react differently to their whining toddler depending on how they regulate the emotions that the whining elicits in them. Mothers high on maladaptive emotion regulation, may become more self-absorbed when experiencing negative affect in interaction with the child (i.e., focus on their own negative emotions instead of emotions of the child), which may prevent them from being receptive for the needs of the child and/or to reflect on the child's mental experiences (Dix 1991; Fabrizio et al. 2015). Consistent with this reasoning, parental difficulties with emotion regulation (e.g., emotional dysregulation) seem to increase the risk for maladaptive parenting, both in preschool-aged and school-aged children (Shaffer et al. 2018), with maladaptive parenting manifesting as ineffective disciplinary behaviors (Lorber 2012), lack of parental support (Morelen et al. 2016), and even child maltreatment (Mammen et al. 2002). Although it can be assumed that dysfunctional parental emotion regulation may also give rise to more psychological control, evidence for this assumption is largely indirect. Aunola et al. (2017) found that parents of first grade children (6–7 years of age) were more inclined to engage in psychological control when they experienced high overall levels of negative emotions, which may result from dysfunctional emotion regulation.

Similarly, recent experimental research shows that parents become more controlling when facing emotionally taxing situations that potentially exceed their capacity for emotion regulation (Robichaud et al. 2019). More direct evidence is needed, however, to demonstrate the role of dysfunctional parental emotion regulation in psychologically controlling parenting.

Based on the extant literature, the present study aimed to examine mothers' own perceived parenting history and the role of maternal emotion regulation in mothers' use of psychologically controlling practices when interacting with their toddler. As visually presented in Fig. 1, we forwarded two main hypotheses. First, we hypothesized that mothers with a self-reported a history of psychologically controlling parenting would be more likely to make use of psychologically controlling parenting behaviors themselves when their children were around 2 years of age. Second, we investigated whether mothers' dysfunctional emotion regulation would function as an underlying psychological process in this regard. In doing so, we considered both mothers' *general* emotion regulation, that is, their habitual style of regulating their emotions in general as assessed prior to childbirth, and mothers' *child-specific* emotion regulation, that is, mothers' way of handling emotions that arise in interaction with their child as assessed after childbirth. We assessed emotion regulation at these two different levels of functioning because mothers' general emotion regulation style would be rooted in their own experienced parenting history. In turn, mothers' capacity to regulate their emotions in interaction with their child is presumably rooted in the way how they handle their emotions in general (Lorber 2012). Specifically, we expected that mothers who experienced their own parenting climate as psychologically controlling would be more likely to either dysregulate or suppress their negative emotions, which would then be

carried over to the way how they regulate the negative emotions that arise during interactions with their toddler. Unique to the present study was the use of a pre- to post-natal longitudinal design, with maternal perceived parenting history and general emotion regulation measured prior to birth (Time 1) and with child-specific emotion regulation and mother's own use of psychological control measured when the child was ~2 years of age (Time 2). By assessing perceived maternal parenting history and mothers' general emotion regulation prior to childbirth, we avoided mothers' responses to be affected by interactions with the child. Finally, in testing the main hypotheses we controlled for the contribution of a range of variables concerning the mother (i.e., age, education level, single parenthood, unexpected pregnancy, stress, sleep and the birth of a second child between Time 1 and Time 2) and concerning the child (birth weight, gender, negative affectivity, age), that are known to increase the risk to engage in maladaptive parenting practices (Laird 2011). For example, toddlers scoring higher on negative affectivity may more easily trigger parents' use of controlling strategies as they challenge parents' emotion regulation capacities (see e.g., van der Bruggen et al. 2010).

## Method

### Participants

The sample was taken from a larger longitudinal project in Belgium on maternal well-being during the transition to motherhood, using data from Wave 1 (prenatal: Time 1 of the current study) and Wave 3 (~2 years postnatal: Time 2 of the current study). Initially 150 Caucasian primiparous mothers (Mean age = 27.34, SD = 3.24, range 18–38) participated in this study during their second or third trimester of pregnancy (Wave 1; Brenning et al. 2015). Of all women, 143 were married or lived together with their partner (95.3%), two women were divorced, three women decided to rear their child alone, and two women did not report on family status. Regarding level of education, 21.3% of the mothers completed secondary school, 50.7% had a bachelor's degree diploma, and 26.7% attained a master's degree diploma. Again, two women did not provide information on their level of education. Regarding pregnancy, there were 139 planned pregnancies (92.7%), whereas 9 pregnancies were unexpected. Again, two women did not answer this question.

At Time 2, 107 of the initially primiparous mothers participated again. The children (Mean age = 22 months, SD = 2.84, range 16–27 months) were 53.5% female. Birth weight was above 3000 grams for the majority of children (74.74%), 21.21% of children had a birth weight between 2500 and 3000 grams and a minority of children (4.04%)

had a birth weight below 2500 grams. Since the birth of their first child (i.e., target child of the present study), 25.23% of the mothers had a second child, whereas the other mothers reported no family expansion. Response rate at Time 2 was 71.33%. Five mothers did not wish to participate any longer and 38 mothers were not attainable at Time 2. Although there was substantial drop-out, no significant differences were found between mothers who stayed in or dropped out of the study regarding perceived history of psychological control ( $F = 0.09, p > 0.05$ ), general emotional dysregulation ( $F = 2.35, p > 0.05$ ), nor mothers' age ( $F = 0.57, p > 0.05$ ), education level ( $F = 2.72, p > 0.05$ ), single parenthood ( $F = 0.45, p > 0.05$ ), or unexpected pregnancy ( $F = 3.52, p > 0.05$ ). There was a significant difference regarding general emotional suppression ( $F = 4.63, p < 0.05$ ), with mothers dropping out scoring higher on emotional suppression ( $M = 2.57, SD = 0.94$ ) in comparison to mothers participating a second time ( $M = 2.23, SD = 0.88$ ). Further, Little's missing completely at random (MCAR) test produced a  $\chi^2(16)$  of 16.23 ( $p > 0.05$ ), which indicates that the data were likely to be missing at random. Cases with missing values were included in the analyses using full-information maximum likelihood estimation (FIML; Little and Rubin 1987).

### Procedure

This longitudinal study was approved by the organizing university's Institutional Review Board. For Time 1, all women were recruited through gynecology departments at general hospitals, private gynecologists and physiotherapists (for details, see Brenning et al. 2015). Data of Time 2 were gathered in the context of a course on developmental psychology. As part of the course objectives, undergraduate psychology students were trained in making contact with an (unfamiliar) study participant and were instructed to go through the written guidelines for completing the questionnaires together with the participant. The students visited all participants at home, in order to hand them a set of paper and pencil questionnaires. Participation in the study was voluntary and confidentiality was guaranteed.

### Measures

#### Psychological control

Both mothers' retrospective perception of maternal psychologically controlling parenting history (Time 1) and mothers' own current psychologically controlling parenting behaviors (Time 2) were measured using the Psychological Control Scale–Youth Self-Report (PCS–YSR; Barber 1996). Psychological control was measured with eight items. Example items are: “My mother avoided looking at me

when I disappointed her” for parenting history, and “I avoid looking at my child when s/he has disappointed me” for mothers’ current parenting behaviors. Participants rated the items on a scale from 1 (strongly disagree) to 5 (strongly agree). The psychometric quality and validity of this scale, as reported both from a child and parent perspective, is well-established (Barber 1996; Soenens et al. 2006). In the current sample, Cronbach’s alphas were 0.80 and 0.76 for, respectively, Time 1 perceived history of maternal psychological control, and Time 2 mothers’ own psychologically controlling behaviors.

### Emotion regulation

Emotion regulation strategies were assessed using the Emotion Regulation Inventory (ERI) developed by Roth et al. (2009). Two versions of the ERI were used in the current study, that is, a version tapping into mothers’ general regulation of negative emotions (Time 1) and mothers’ child-specific emotion regulation (Time 2). Both versions of the ERI contain two subscales for maladaptive emotion regulation: dysregulation and suppression, with each subscale containing four items. Sample items read “It is hard for me to control my negative emotions” for general dysregulation, and “When I experience negative feelings, I try to hide this from others” for general suppression. To tap into child-specific emotion regulation, the same items were used but the following stem was added: “From time to time, all mothers experience negative emotions in interaction with their child (e.g., stress, irritation, anger). Please answer the questions below about how you deal with these negative feelings in interaction with your child.” A Likert scale, ranging from 1 (completely not true) to 5 (completely true), was used for this questionnaire. Previous research has provided evidence for the internal structure and validity of this instrument (Roth et al. 2009). Cronbach’s alphas in the current study were 0.79 and 0.83 for general dysregulation and suppression, respectively, and 0.72 and 0.76 for child-specific dysregulation and suppression, respectively.

### Perceived toddler negative affectivity

To assess negative affectivity in toddlers (Time 2), the short form of the Early Childhood Behavior Questionnaire (ECBQ; Putnam et al. 2006; 12 items) was used. Each item describes a specific toddler reaction to a concrete situation. Parents are asked to indicate on a seven-point Likert-type scale how often in the past 2 weeks each response occurred. A sample item reads “During everyday activities, how often did your child seem to be irritated by tags in his/her clothes?”. The ECBQ very short form scale has yielded acceptable internal consistency and validity in previous

research (Putnam and Rothbart 2006). In the current study the Cronbach’s alphas was 0.72.

### Maternal sleep and stress

To tap into maternal sleep, mothers were asked to rate their sleep on a scale from 1 (very poor) to 10 (very good). Mothers had a mean score of 8.27 with a range from 1–10. To tap into maternal stress, mothers were asked to rate how much stress they have experienced since the arrival of their child on a scale from 1 (very little) to 10 (very much). Mothers had a mean score of 4.57 with a range from 1 to 8.

### Data Analyses

To examine the main hypotheses (see Fig. 1) we conducted structural equation modeling with latent variables using Mplus 8 (Muthén and Muthén 2012). The primary analyses followed the two-step procedure recommended by Anderson and Gerbing (1988). First, a confirmatory factor analysis (CFA) was used to test the quality of the measurement model of the study constructs. Second, a series of structural models was tested. We evaluated model fit of the models based on a combined consideration of the Chi-square statistic ( $\chi^2$ ), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA) and the Standardized Root-Mean-square Residual (SRMR). The  $\chi^2$  should be as small as possible. A CFI value of 0.90 or higher indicates a reasonable fit, whereas a RMSEA value of 0.06 or lower and a SRMR value of 0.08 or lower indicate acceptable fit (Kline 2010).

## Results

### Descriptive Statistics and Correlational Analyses

Correlations among the study variables are presented in Table 1. As expected, mothers’ developmental history of perceived maternal psychological control correlated positively with mothers’ own self-reported psychologically controlling behaviors 2 years postpartum. Further, a history of perceived psychologically controlling behaviors correlated positively with both general and child-specific emotional dysregulation and with child-specific suppression. Next, both general emotion regulation and child-specific emotion regulation correlated significantly positive with mothers’ psychologically controlling behaviors at Time 2. Further, the corresponding general and child-specific emotion regulation styles were found to be positively related.

We investigated correlations between the study variables and the potentially confounding variables (i.e., mothers’ age, education level, single parenthood, unexpected pregnancy,



**Table 1** Means, standard deviations and correlations among the study variables

	<i>M</i> ( <i>SD</i> )	1	2	3	4	5
1. History of psychological control (Time 1)	1.89 (0.64)	/				
2. Psychological control (Time 2)	1.69 (0.48)	0.35***	/			
General Emotion Regulation (Time 1)						
3. Dysregulation	2.47 (0.86)	0.26**	0.31**	/		
4. Suppression	2.32 (0.91)	0.12	0.25**	0.08	/	
Child-specific Emotion Regulation (Time 2)						
5. Dysregulation	2.25 (0.76)	0.19*	0.36***	0.44***	0.11	/
6. Suppression	2.46 (0.83)	0.22*	0.24**	0.13	0.43***	0.22*

Time 1 = prenatal ( $N = 150$ ); Time 2 = postnatal ( $N = 107$ ,  $M$  age child = 22 months)

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

children's birth weight, gender, negative affectivity, age, parental sleep, stress and arrival of a second child in the family since the birth of the first child). Only three of these variables were significantly related to a key study variable. Perceived toddler's negative affectivity and maternal stress were correlated positively with mothers' self-reported psychological control ( $r = 0.21$  and  $r = 0.19$ ,  $p < 0.05$ , respectively). Further, the arrival of a second child in the family since the birth of the first child was related to less suppressive emotion regulation in mothers (as measured at Time 2,  $r = -0.22$ ,  $p < 0.05$ ). To control for the contribution of these three variables when examining the main research questions, residual scores were created by regressing each outcome variable on the three background variables and by saving the obtained unstandardized residual scores.

## Mothers' Perceived Parenting History and the Role of Emotion Regulation

### Measurement model

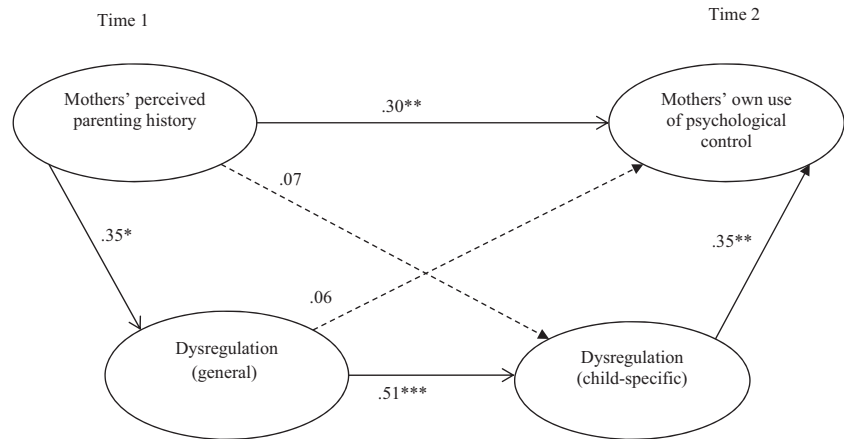
The baseline model included six latent variables (i.e., mothers' perceived history of psychological control, mothers' own use of psychological control, and both general and child-specific dysregulation and suppression) and 22 indicators. For both constructs of psychological control, three parcels were created, consisting of two to three selected items. According to Marsh et al. (1998), parceling has some advantages with respect to the modeling of latent factors. For example, parceling results in a smaller number of indicators per latent factor. Further, individual parcels are likely to have a stronger relation to the latent factor, are less likely to be influenced by method effects, and are more likely to meet the assumptions of normality. For the present study, parcels were created using the item-to-construct balance approach (Little et al. 2002). We first performed a one-component PCA on the items for each factor and used the item loadings to assign items to the parcels. The three items with the highest loadings were distributed across three

different parcels, the three items with next highest items were then distributed across the parcels, and so on until all items were assigned to a parcel. For both emotion regulation constructs, the items of each subscale (i.e., four items) were used as indicators of the latent variables. The measurement model fitted the data adequately ( $\chi^2[194] = 234.31$ ,  $p < 0.05$ , CFI = 0.95, RMSEA = 0.05, SRMR = 0.06). Moreover, all factor loadings were highly significant ( $p < 0.001$ ), ranging from 0.40 to 0.92 (mean = 0.77). Evidence was obtained for a reliable measurement model, which was used in all subsequent tests of the structural models.

### Structural models

The first structural model, testing the role of mothers' perceived parenting history and both general and child-related emotion regulation, included all paths that were found to be significant in the correlational analyses. Estimation of this model showed good model fit ( $\chi^2(197) = 235.42$ ,  $p < 0.05$ , CFI = 0.95, RMSEA = 0.04, SRMR = 0.07). However, as emotional suppression did not yield a unique significant association with either perceived history of psychological control nor with mothers' psychologically controlling behaviors 2 years postnatally, maternal suppression (both in general and in interaction with the child) was excluded from the model. The second structural model, without emotional suppression, had a very good fit ( $\chi^2(71) = 78.87$ ,  $p > 0.05$ , CFI = 0.98, RMSEA = 0.03, SRMR = 0.05) and all hypothesized paths were significant. As can be noticed in Fig. 2, mothers' perceived history of psychological control related positively to mothers' own use of psychologically controlling behaviors 2 years postnatally. Further, perceived history of psychologically controlling parenting related positively to mothers' prenatal general emotional dysregulation, which, in turn, related to dysregulation in interaction with the child 2 years postnatal. Further, child-specific emotional dysregulation related to mothers' own use of psychological control. In total, this model explained 30% of the variance in psychological control measured at Time 2.

**Fig. 2** Integrated model. Time 1 = prenatal ( $N = 150$ ); Time 2 = postnatal ( $N = 107$ ,  $M$  age = 22 months). Coefficients shown are standardized path coefficients, \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$



In a final step, we tested three indirect paths (Preacher and Hayes 2008). Thereby, the full sequence of events (from parenting history to mothers' own use of psychological control) was split up into two indirect effects, followed by a test of the full sequence. The three indirect effects tested successively were (1) from parenting history to child-specific emotion regulation via general emotion regulation ( $t = 2.13$ ,  $p < 0.05$ ), (2) from general emotion regulation to mother's own use of psychological control via child-specific emotion regulation ( $t = 2.63$ ,  $p < 0.01$ ), and (3) from parenting history to mothers' own use of psychological control via, consecutively, general and child-specific emotional dysregulation ( $t = 1.68$ ,  $p = 0.09$ ).

## Discussion

Despite increasing evidence for the harmful effects of parental psychological control on young children's development (see e.g., Laurin et al. 2015; Stone et al. 2013), little is known about the early developmental origins of parents' use of these intrusive and manipulative strategies during toddlerhood. The purpose of the present study was to examine whether the roots of such parenting can be traced back to how mothers perceive having been raised by their own mother (as assessed prior to the birth of their own first child). Further, the present study aimed to examine the potential mediating role of parental dysfunctional emotion regulation in the intergenerational transmission of psychologically controlling practices.

First, the present study adds to existing research on the intergenerational similarity of parenting (e.g., Van Ijzendoorn 1992) by showing correspondence between mothers' perceived exposure to a history of maternal psychological control (as measured before childbirth) and mothers' self-reported use of psychologically controlling behaviors ~2 years postnatally. The advantage of assessing parents' history of psychological control prior to childbirth is that such

an assessment is not confounded by later parent-child interactions, thus allowing one to draw less biased conclusions regarding the role of mothers' exposure to a history of psychological control. Indeed, when assessed concurrently, the interrelation between one's perceived history of parenting and one's current parenting may be artificially inflated. The fact that a prenatal measure of history of psychological control prospectively related to mothers' own use of psychologically controlling behaviors 2 years postnatal provides support for the intergenerational similarity of psychological control. Thus, parents who experienced their own mothers as autonomy-thwarting and manipulative seem to be at risk for transmitting such a style to their own offspring. While many previous studies found evidence for the intergenerational transmission of overtly harsh and even abusive parenting (e.g., Niu et al. 2018), the present study was among the first to support intergenerational similarity of psychological control, which is a more subtle and intrusive type of maladaptive parenting.

Apart from examining the intergenerational similarity of psychological control, the present study investigated maternal emotion regulation as a possible underlying mechanism. With regard to the link between perceived family history of psychological control and emotion regulation, in line with previous research in adolescents (e.g., Cui et al. 2014), mothers who perceived their own mothers to be high in psychological control reported a higher level of emotional dysregulation. Thus, being pressured to act, think, and feel in certain ways as a child, seems to relate to being overwhelmed when facing negative emotions as an adult. This general strategy of emotional dysregulation, in turn, seems to translate into the way how parents deal with negative emotions elicited by their own toddler. Finally, parents who handle negative emotions elicited by their toddler in a disorganized way (i.e., child-specific emotional dysregulation) report using more psychological control during parent-child interactions. Presumably, the distressing negative emotions that mothers experience in

interaction with their toddler (e.g., irritation, anger, or anxiety) elicits a blaming or pressuring response from the side of the mother, probably because they hold their toddler accountable for the elicited negative emotions. In times of emotional dysregulation, such psychologically controlling practices may emerge rather directly, with little reflection or awareness being involved. Indeed, much as they are overwhelmed by their negative emotions, they may resort to the use of psychological control in an automatic fashion.

With regard to emotional suppression, no significant associations were found with history of psychological control nor with mother's own psychologically controlling behaviors. The distinction between negative and positive parental conditional regard could offer a possible explanation here. While negative conditional regard refers to withdrawing attention and affection when the child fails to act as expected, positive conditional regard refers to providing more attention and affection when the child does act as expected (Roth et al. 2009). As demonstrated by Roth et al. (2009), negative conditional regard is primarily related to emotional dysregulation, while positive conditional regard is primarily related to suppression. As the current study's measure of psychological control is primarily focused on negative conditional regard (e.g., "I am less friendly with my child when s/he does not see things my way"), the unique link between psychological control and emotional dysregulation is not entirely surprising. Future research should investigate the differentiated link between both emotion regulation strategies and negative as well as positive conditional regard (see Otterpohl et al. 2020 for initial steps in this direction). Another possible explanation for why emotional suppression is not related to mothers' own psychologically controlling behaviors is that, given the more covert nature of suppression, suppressive emotion regulation may primarily lead to a personal cost for mothers (e.g., rumination, see Witvliet et al. 2015) instead of a more interpersonal cost (e.g., more psychological control). A final possible explanation is that a selective drop-out effect occurred. As reported in the method section, mothers high on emotional suppression were more likely to drop-out of the study, leading to a reduction in the variation in emotional suppression to detect significant effects. Again, future research should investigate this issue.

## Limitations

In spite of its strengths, including the use of a longitudinal design from pre-birth to 2 years postnatal, the study has a number of limitations that can be addressed in future work. First, the current study's sample is a rather selective sample of generally highly educated Caucasian

participants. Future research in diverse populations (e.g., with other ethnical backgrounds) is needed to investigate the applicability of the present study's model. It is possible that the effects obtained in this study may be even more pronounced in more vulnerable populations (e.g., a clinical sample). Second, this study was based on self-reports but did not include data from other important sources (i.e., single source). To avoid common method biases, an interesting avenue for future research is to use multiple measurement methods such as self-report, other-report and observation (Podsakoff et al. 2003). Third, regarding mothers' own parenting history, the present research contains a retrospective perception of mother's psychologically controlling parenting experienced in her own family of origin. Future research could add to the literature by including long-term longitudinal research, multiple generations (i.e., grandparents, parents and their children) and by differentiating between genetic and psychological processes in the transmission of parenting (Van Ijzendoorn 1992). Further, as a related issue, the present study investigates pathways between variables measured at the same measurement point (e.g., Time 1: between mothers' perceived parenting history and mothers' general emotion regulation). Future research could adopt a more extended longitudinal procedure which allows modeling cross-lagged effects after controlling for stabilities of the key constructs and, by this way, providing some evidence about the assumed causality of relationships. Fourth, with regard to underlying processes in the intergenerational similarity of psychological control, future research should investigate other psychological processes next to maternal emotion regulation. The present study's model explained up to 30% of the variance in psychological control, yet an important portion of variance remained unexplained. For instance, previous research pointed to the importance of parental self-efficacy as a possible psychological mechanism behind changes in parenting (Mejia et al. 2016). Also, research could address the role of personality dimensions in the intergenerational transmission of psychologically controlling parenting, such as perfectionism (Soenens et al. 2005). Further, with regard to the role of emotion regulation more specifically, one could enrich the current results by measuring adaptive (i.e., emotional integration) next to maladaptive emotion regulation strategies, by measuring the amount of negative emotions (i.e., quantity) instead of only focusing on how parents deal with these emotions (i.e., quality) and by investigating the link between parenting and emotion regulation on a daily basis. Fifth, although the current study investigated different socio-demographic variables in relation to maternal psychological control, future research could also investigate key confounds (e.g., family income, co-parenting skills) other than the covariates included in the present



study, thereby including all covariates in the model directly (instead of using residual scores). Related to this, future research should try to replicate the present study findings in a more heterogeneous sample. Thereby, one important direction for future research is to examine whether the current model can be generalized to fathers. Although developmental research has a history of focusing on the role of mothers, researchers and clinicians have gradually come to recognize that both parents are important in the development of children (Connell and Goodman 2002). Still, the manifestation of maternal and paternal parenting may be somewhat different. Soenens et al. (2010), for instance, found that psychologically controlling parenting centers around different issues for mothers and fathers, with relation and separation-oriented themes being more prevalent among mothers and achievement-oriented themes being more strongly characteristic of fathers. Further, previous studies suggest that parenting antecedents of mothers and fathers may also interact to predict parenting (Brenning et al. 2017; Kelley et al. 2015). As such, future research may also want to investigate maternal and paternal parenting history and emotion regulation simultaneously using an actor-partner interdependence model (APIM; Kenny et al. 2006). Finally, from a practical perspective, future research should investigate the possible value of parenting programs aimed at enhancing parents' capacities of emotion regulation to prevent the use of psychological control, especially in those parents who had a history of high psychological control. By enhancing parental emotion management skills, existing programs have been shown to effectively reduce the intensity and frequency of parental anger and to prevent the occurrence of harsh parenting practices, including physical aggression towards children (e.g., Fetsch et al. 2008; Fox et al. 1991). Based on the current findings, future research could investigate this issue with regard to psychological control.

### Data Availability

All data are available at the Open Science Framework.

**Funding** This study was funded by Research Foundation Flanders (FWO.3EO.2015.0012.01).

**Author Contributions** K.B.: designed and executed the study, drafted the manuscript and performed the measurement and the statistical analyses. B.S.: co-designed the study and participated in coordination of the study, helped to draft the manuscript and participated in the interpretation of the findings. J.V.K.D.: helped to draft the manuscript and participated in the interpretation of the findings. L.D.: helped to draft the manuscript and participated in the interpretation of the findings. M.V.: helped to draft the manuscript and participated in the interpretation of the findings. All the authors read and approved the final manuscript.

### Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethics Statement** All procedures performed involving human participants in this study were in accordance with the ethical standards of the Ghent University Review Board and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Informed consents were obtained from all participants included in the study.

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