Is the relationship between psycho-logical control and emotion regulation moderated by childhood emotional maltreatment in healthy adolescents?

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Abstract

Adaptive emotion regulation is crucial in all aspects of life and includes processes through which individuals influence the occurrence, timing, nature, experience, and expression of their emotions. The family environment plays an important role in the development of emotion regulation strategies and can affect it through various routes. In this study, we aimed to test the association of parental psychological control (PC) and adolescent cognitive and behavioral emotion regulation strategies. In addition, we investigated if childhood emotional maltreatment (EM) moderated the proposed relationship. It was expected that parental psychological control and emotional maltreatment would both be negatively related to emotion regulation. Additionally, we expected less adaptive emotion regulation strategies in adolescents with high parental psychological control and experiences of childhood emotional maltreatment. The proposed relationships were expected to differ for cognitive and behavioral emotion regulation and for the two different interaction tasks between parents and adolescents.

The current sample consisted of 80 healthy adolescents (64% girls) and 137 parents, with the majority having Caucasian heritage (91%). We used a cross-sectional online survey to assess emotional maltreatment and emotion regulation. Psychological control was observed and coded during two on-sight interaction tasks. We analyzed the data with multiple linear regression analyses.

None of the proposed associations were found to be significant. Therefore, it remains unclear whether parental psychological control relates to maladaptive adolescent emotion regulation and the extent to which emotional maltreatment may moderate this relationship. However, using data from healthy adolescents might have biased our results. Differences with other studies and implications for future research are discussed.

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1 Introduction

Psychological control (PC) can be defined as parental behaviors that are manipulating and intruding the child's thoughts, feelings and attachments to parents. It can be expressed through a range of parental tactics, including constraining verbal expressions, guilt induction, love withdrawal, personal attacks and invalidation of the child's emotions (Barber, 1996). As such, psychological control has been linked to various negative outcomes, such as a vulnerability to internalizing and externalizing problems (Barber, Olsen & Shagle, 1994), anxiety-related or depressive symptoms and low self-esteem (Barber, Stolz & Olsen, 2005). It has been hypothesized that the risk for mental disorders is partly grounded in the effects it has on the children's self-image. Specifically, the development of a stable, secure and positive sense of self may be interfered (Barber & Harmon, 2002). Additionally, it may increase the risk for developing more maladaptive emotion regulation strategies in children as controlling parental behaviors may undermine the child's need for autonomous regulation and could stimulate a more controlled way of behavioral and cognitive emotion regulation. Family environments high in controlling will give children fewer opportunities to develop an intrinsic motivation or to self-initiate activities as the parents are manipulating the internal desires of their child (Soenens & Vansteenkiste, 2010). The present study thus aims to investigate whether the relationship between parental psychological control and adolescent emotion regulation is moderated by childhood emotional maltreatment.

1.1 Psychological Control

According to self-determination theory, humans are striving to meet three needs, namely the need for autonomy, competence, and relatedness (Ryan & Deci, 2000). Parental psychological control is undermining the child's need for autonomy through its dictating approach while simultaneously undermining the child's feeling of competence through a critical tone that conveys the message that the child is ineffective in meeting the parental standards (Soenens & Vansteenkiste, 2010). Consequently, children may develop generalized insecurities about their competence. Using certain tactics, such as guilt induction, internal pressures in the child become activated and may lead to an internal conflict. On one hand, the child may feel a compulsion of engaging in the requested behavior but on the other hand the child may want to avoid the request completely (Soenens & Vansteenkiste, 2010). This approach-avoidance conflict is characterized by a repeated variation between feelings of excessive loyalty

and feelings of resentment due to not being accepted for who they are. This can result in emotional distress as the child may be afraid to either lose their parents' approval or to lose their sense of authenticity and self-determination (Soenens & Vansteenkiste, 2009), which can both be seen as threats to the need for relatedness.

1.2 Psychological Control and Emotion Regulation

The experience of these threats to the need for relatedness can lead to several emotion regulation difficulties in the adolescent. For example, a cross-sectional study of young adolescents aged 11 and 12 years indicated that levels of internalizing symptoms are highest when both parents were using high levels of psychological control compared to low levels or one parent being psychologically controlling only (Rogers, Buchanan & Winchell, 2003). The relation between psychological control and externalizing symptoms was investigated cross-sectionally and longitudinally and support was found that high PC leads to later externalizing symptoms in adolescents. Additionally, PC may increase the risk for developing more maladaptive emotion regulation strategies in children as controlling parental behaviors may undermine the child's need for autonomous regulation. Family environments high in control will give children fewer opportunities to develop an intrinsic motivation or to self-initiate activities as the parents are manipulating the internal desires of their child (Soenens & Vansteenkiste, 2010).

Generally, emotion regulation can be defined as the process through which individuals influence the occurrence, timing, nature, experience, and expression of their emotions (Gross, 2013). The importance of optimal emotion regulation strategies was highlighted by a meta-analysis of Compas et al. (2017) based on 212 studies (N = 80,850 participants). The authors of this meta-analysis concluded that disengagement coping (i.e., attempts to orientate away from the source of stress or one's emotions, including denial and avoidance) and emotional suppression (i.e., attempts to reduce one's internal or external experiences and/ or expression of emotion) were predictive of higher levels of psychopathology symptoms. Contrary, primary control coping (i.e., attempts to act directly on the source of stress or one's emotions, including emotional expression and problem-solving) and secondary control coping (i.e., attempts to adapt to the source of stress, including cognitive reappraisal and acceptance) were significantly related to lower levels of psychopathology. Thus, certain emotion regulation strategies may serve as protective factors while others may increase the risk for

psychopathology. The family environment plays a crucial role in the development of coping and emotion regulation strategies. It has been suggested that interpersonal interactions between caregivers and children are the base for learning and acquiring coping and regulation strategies and should include direct communication, modelling and the expression of support and warmth (Watson et al., 2014). These behaviors can be expressed through direct and indirect methods of socialization (Klimes-Dougan et al., 2007). Indirect methods include parental imitation, social referencing, and parental expectancy communication, which all contribute to the shaping of emotional expression in children. Direct methods of socialization include parental directives and contingency learning. Irrespective of the emotion socialization method, socializing agents serve to foster or inhibit the expression of emotions in children (Klimes-Dougan et al., 2007).

In a naturalistic observational study Sperling and Repetti (2018) aimed to understand emotion socialization by observing spontaneous parent-child interactions. Their results suggest that it may be beneficial for parents and children, if mildly negative emotional expressions from the child are ignored by the parents. This way, children are provided with opportunities to practice managing mild negative emotions, such as anger and sadness, independently and to develop self-regulation strategies. By working through everyday stressors collaboratively with their parents and reflecting on them, children can fine-tune their skills and apply them to interactions outside the home setting. However, when children experience intense emotions, an emotion coaching approach may be more appropriate. According to an emotion coaching philosophy, negative moods are treated as opportunities to teach coping skills by validating and labeling the distressing emotions and encouraging children in problem-solving skills to manage the arousing situation. It is believed that the validation of negative affect facilitates children's understanding and management of negative emotions. By doing so, children receive the fundamental message that their emotions are acceptable and worthy of expression and discussion. Contrary, an emotion-dismissing philosophy treats negative emotions as potentially harmful states that should be minimized and includes responses such as ignoring, negative commands, critical statements and minimizing or dismissing statements, which communicate the underlying message that negative emotions are undesirable and harmful and that the experience or expression of anger and sadness should be avoided. In their study, the most common parental response to expressions of mildly negative affect of their child was ignoring, which increased the likelihood of the child switching to a positive or neutral

expression. Moreover, other dismissing responses were more likely to be followed by children's negative emotional reactions which may be harmful and could contribute to internalizing and externalizing problems in the long run. On the other hand, desirable emotion-related socialization behaviors may promote social competence in children and can include tolerant reactions to the child's emotions, emotional expressiveness, and the discussion of emotions (Eisenberg et al., 1998).

Evidence from numerous studies shows great variation in people's automatic/ unconscious attentional bias towards emotional stimuli. Looking at possible genetic mechanisms involved in emotion regulation, Canli, Ferri and Duman (2009) have reviewed studies on common gene variants and their association with specific emotion regulation strategies. The search for genetic mechanisms has mostly focused on specific polymorphisms, such as the 5-HT transporter-linked polymorphic region (5-HTTLPR), which is composed of a short and a long allele. The presence of the short allele has been associated with increased activation in brain regions involved in emotion processing, especially the amygdala (Munafò et al., 2008), and with anxiety-related traits (Sen et al., 2004). Carriers of the short allele exhibited a significantly stronger attentional bias toward anxiety-related word stimuli and negative stimuli generally compared to noncarriers (Beevers et al., 2007). Contrary, carriers of the long allele exhibited an attentional bias toward positive and away from negative stimuli (Fox et al., 2009). These studies show that emotion regulation abilities are associated with differences in neural circuits involved in emotion processing. Therefore, apart from the environmental interplay of parents and children, genetic polymorphisms may also play a role in the development of emotion regulation abilities in children. In the present study, the effect of parental psychological control will be compared with respect to its influence on both cognitive and behavioral emotion regulation strategies.

1.3 Emotional Maltreatment and Emotion Regulation

Victims of childhood maltreatment may not acquire healthy and adaptive strategies that could serve as protective factors. That might be due to (a) the limited exposure to adaptive stress response processes and/ or (b) the increased exposure to maladaptive stress response processes (Kim & Cicchetti, 2010).

Early adverse experiences, such as emotional maltreatment (EM) may constitute a 'double-hit' as children are surrounded by deficient examples of adaptive stress regulation

while being presented with stressors far above their developmental capacity. We therefore hypothesize emotional maltreatment to be a moderator on the pathway between psychological control and emotion regulation. Emotional maltreatment includes both emotional neglect and emotional abuse and can be defined as a disregard of the child's emotional and psychological needs (Maguire et al., 2015) and has been shown to relate to more emotion dysregulation, both behaviorally and cognitively (O'Mahen, Karl, Moberly & Fedock, 2014; Gruhn & Compas, 2020).

A meta-analytic review by Gruhn & Compas (2020) on the effects of maltreatment on coping and emotion regulation in childhood and adolescence found a significant link between maltreatment and decreased emotion regulation and increased emotion dysregulation. They identified a significant link between maltreatment and increased avoidance, emotional suppression and emotional expression, whereby emotional expression measures dysregulated expression or the expression of angry emotions instead of positive emotions. Nevertheless, this meta-analysis was conducted with studies including any kind of maltreatment. It can only be hypothesized that the presented links can also be found in a population with emotionally maltreated individuals only. Still, this demonstrates that childhood maltreatment could pose a risk factor for increased emotion dysregulation and maladaptive coping and is worth analyzing in the relationship between psychological control and emotion regulation in the current study. Further, it has been researched whether exposure to threat, including physical and/or sexual abuse and exposure to deprivation, including physical and emotional neglect show a different effect on psychopathology and emotion regulation (Milojevich, Norwalk & Sheridan, 2019). Results indicate that exposure to threat but not deprivation is predictive of greater use of avoidance strategies in adolescence. Additionally, avoidance constitutes a partial mediator in the longitudinal association between early childhood exposure to threat and symptoms of internalizing psychopathology in adolescence. However, measures of emotional abuse were not included in the study by Milojevich, Norwalk and Sheridan (2019). Despite this, psychologically controlling behaviors could be seen as threatening to the child and thus increase the use of avoidance strategies as proposed by the abovementioned research. Although the role of childhood maltreatment has been demonstrated in the relationship to emotion regulation, the individual role of emotional maltreatment has not been researched. It is therefore interesting to inspect the relation of emotional maltreatment, including emotional abuse and neglect to cognitive and behavioral emotion regulation strategies in the present study.

To date, the concepts of psychological control and emotional maltreatment seem to have hardly been researched together despite the large theoretical overlap between the concepts. Only Rivelis (2008) looked at the relation of parental PC and psychological maltreatment and has found that both constructs load highly on the same factor, suggesting a strong overlap between the two concepts. Rivelis suggests that PC is a form of psychological maltreatment that can have detrimental consequences on child development, including emotion regulation, just as other forms of maltreatment. A study by Beyarslan and Uzer (2020) looked at the relation between psychological control, indulgent parenting, and a potential link to emotional-abuse victimization in later romantic relationships of the young adult. They concluded that mother's PC predicted emotional-abuse victimization when maternal warmth was moderate or high and behavioral control was low. Father PC significantly predicted emotional-abuse victimization independent of warmth or behavioral control. This implies that parental psychological control can be an important risk factor for emotional-abuse victimization in later romantic relationships. Most importantly, Beyerslan and Uzer (2000) found that parental psychological control became an important risk factor for emotional abuse victimization when parental warmth was either moderate or high and behavioral control was low. This implies that high parental warmth has positive effects on the development of the child when combined with high behavioral control and monitoring. This effect vanishes when high parental warmth is combined with low behavioral control and monitoring. Additionally, a combination of high parental warmth and high psychological control may suppress the child's autonomy, contribute to a dependent relationship, and increase the risk for emotional abuse victimization if the parents do not provide adequate supervision of their child's behaviors. It is thus crucial for parents to find a balance between psychologically controlling behaviors, warmth, and behavioral control to foster adaptive development of their child.

Summarizing, psychologically controlling behaviors and emotional maltreatment in childhood both present risk factors for optimal development of the child and can increase the risk for psychopathology (Beyerslan & Uzer, 2000; Maguire et al., 2014). By exerting effects on the child's feelings of competence and self-worth, the development of adaptive emotion regulation strategies may be hindered and would thus increase the risk for other problems, such as internalizing or externalizing symptomatology or abusive relationships.

1.4 Current Study

The present study aims to contribute to the sparse pool of literature by investigating whether the relationship between parental psychological control and adolescent emotion regulation is moderated by emotional maltreatment. Additionally, we aim to compare this proposed relationship in two different interaction tasks between parents and adolescent, namely a problem-solving task and an event planning task. The problem-solving task aimed at focusing predominately on solving a topic of discussion from the past and the event planning task aimed at focusing mainly on reaching a mutual agreement while taking both perspectives into account. As both interaction tasks differ in content and potential for tensions, it is desired to observe a differing relation between the variables of interest. The current study will be one of the first to observe and code parental psychological control during two different kinds of interaction tasks instead of assessing it via self-report questionnaires, ideally leading to more reliable results. By assessing psychological control and emotion regulation, potential targets of intervention related to emotion regulation skills could be identified, tailored to adolescents with psychologically controlling parents. As adolescence constitutes a time in life with many aspects that set the standard of adult life, it is crucial to be spent in an environment as optimal as possible for adaptive development. Focusing on an adolescent sample will thus provide the opportunity to investigate the parent-child relationships and implement possible family and individual interventions for most optimal outcomes on all ends.

First, it is hypothesized that the more psychological control is exerted by the parent, the more maladaptive emotion regulation strategies would be present in the adolescent and vice versa. Further, it is hypothesized that the more emotional maltreatment is experienced, the more maladaptive emotion regulation strategies would be observed and vice versa. In addition to the main effects of these variables, we also expect an interaction effect with emotional maltreatment, i.e., more maladaptive emotion regulation strategies in adolescents with emotional maltreatment and high psychological control. This means that emotional maltreatment is expected to moderate the relationship between psychological control and emotion regulation. Further, it is hypothesized that behavioral emotion regulation and cognitive emotion regulation will be affected differently, although the direction of the effect is not prespecified. Lastly, we hypothesize that the model will be different when applied to the problem-solving task than when applied to the event planning task. Due to the sparse literature including

emotional maltreatment in the relation between psychological control and emotion regulation, we do not want to specify a direction of the effect beforehand.

2 Methods

2.1 Participants

Data of the ongoing research project 'Relations and Emotions in Parent-Adolescent Interaction Research' (RE-PAIR) will be used. The RE-PAIR study examines the interplay of parent-child interactions and adolescent depression bi-directionally with the ultimate goal of identifying key targets for intervention. The study includes adolescents with a current depression and their parent(s), and adolescents without any psychopathology (in the past two years) and their parent(s). For the current study, data of the healthy control families will be used. Participants were recruited through schools, public areas and (social) media. Exclusion criterion is an insufficient level of speaking and understanding Dutch for both the adolescent and their caretaker. Inclusion criteria were an adolescent age between 11 and 17 years, living with and participation of at least one primary caretaker and no psychopathology within the past two years. Psychopathology was assessed with the Dutch version of the K-SADS-PL, a semi-structured interview that takes approximately 45 to 75 minutes to administer and is used to screen for affective and psychotic disorders in children aged six to eighteen years (Reichart, Wals & Hillegers, 2000). The total number of participating adolescents was 80. The complete demographic variables of the sample can be found in Table 1. The overall age range was 12 to 17 years ($M \pm SD$ = 15.90 ± 1.35) with 51 being girls (63.8%) and 29 being boys (36.2%). The majority of participants were Caucasian (91%), followed by mixed heritage (around 4%) and Asian (2.5%) and lastly African and Antillean/ Surinam (1.3% each). The majority of participating adolescents were single (83.8%), the rest were in a relationship (16.3%). Girls and boys did not differ significantly in education (X^2 = 15.58, p =.11), relationship status (X^2 = 1.17, p =.28) or nationality (X^2 = 6.38, p =.17). Girls and boys did differ significantly in age (16.17 ± 1.12 versus 15.43 ± 1.60, $t(79) = 105.01$, $p < .001$).

2.2 Measures

The *Childhood Trauma Questionnaire short form* (CTQ-SF, Bernstein & Fink, 1998) was used to assess emotional maltreatment. It is a 28-item retrospective self-report inventory, which includes 5 subscales (childhood emotional, physical, and sexual abuse, emotional and

Table 1

Demographic variables of the adolescent sample (n=80), including group statistics

	Girls (n=51)	Boys (n=29)	Group statistics
Age [years]	16.17 ± 1.12	15.43 ± 1.60	$t_{(79)} = 105.01$, $p < .001$
Education			$X^2 = 15.58$, $p = .11$
Preparatory vocational secondary education	4 (7.8%)	28 (96.6%)	
Senior general secondary education	16 (31.4%)	1 (3.4%)	
University preparatory education	31 (60.8%)	0 (0.0%)	
Relationship Status			$X^2 = 1.17$, $p = .28$
In relationship	10 (19.6%)	3 (10.3%)	
Single	41 (80.4%)	26 (89.7%)	
Nationality			$X^2 = 6.38$, $p = .17$
Caucasian	46 (90.2%)	27 (93.1%)	
Asian	2 (3.9%)	0 (0.0%)	
African	0 (0.0%)	1 (3.4%)	
Mixed race	3 (6.0%)	0 (0.0%)	
Old Dutch Colonies	0 (0.0%)	1 (3.4%)	

Note: Values are presented in means ± standard deviation, frequencies (*n*) and percentages (%).

physical neglect). For childhood emotional maltreatment, a sum score of two scales of the CTQ-SF, namely "emotional abuse" (five items) and "emotional neglect" (five items) was created. Emotional abuse items include questions like "People in my family said hurtful or insulting things to me" and emotional neglect items include questions like "People in my family felt close to each other" (reversed coding). Items were rated on a five- point Likert scale ranging from (1) *never true* to (5) *very often true*. The scores of each subscale could range from five to 25 points, with a maximum total score of 50. Higher scores indicate more maltreatment. The CTQ has shown good convergent and discriminant validity in an adolescent sample of psychiatric patients (Bernstein, Ahluvalia, Pogge & Handelsman, 1997) and in a Canadian undergraduate student sample (Paivio & Cramer, 2004). The subscale emotional abuse has

shown acceptable, and the subscale emotional neglect has shown good internal consistency in the current sample (α = .75, α = .81). Both subscales together as a measure of emotional maltreatment have shown good internal consistency in the current sample (α = .85)

For the assessment of psychological control, a coding system developed by the RE-PAIR researchers was used. This coding system scores observations of autonomy-support and psychological control between parent-child interactions. Subscales of psychological control include constraining (verbal) expressions (i.e., dominating content, dominating behavior, disinterest), guilt induction (i.e., making the adolescent unreasonably responsible, prioritizing own perspectives and needs) and invalidating emotions (i.e., minimalizing, and nonverbal signs, assigning values to emotions, minimalizing emotions). All subscales will be used in the current study. Coding was done on a 9-point scale with assigning one score for each subscale per interaction task, leading to a maximum score of 27 per task. PC was scored based on specific behaviors: if a PC behavior occurred, it was scored as low, mild, moderate, or strong and these episodes were used to provide a global score of the behavior with 1 = absent, 5 = infrequent mild and/ or one moderate episode and 9 = consistent and/ or at least one strong episode. Interactions were videotaped and scored by six independent female coders (MA students psychology and MA students child studies), who were trained in five sessions. To ensure a high level of reliability, a reliability set of 30 videos was coded by each coder and resulted in high ICC scores (constraining verbal expressions r = .90 (95% CI [.83, .94], guilt induction r = .88 (95% CI [.80, .94], invalidating feelings r = .83 (95% CI [.73, .91]). Coders never scored multiple tasks of the same parent or family. Regular intervision sessions were held to ensure consistency and intercoder reliability. Higher scores indicate higher levels of psychologically controlling behavior. Psychological control was assessed by creating a sum score of all three subscales. As psychological control was gathered from one or two parents, a mean score of parental psychological control was created for each task and child to match the gathered data to the other variables more easily. The measure has shown poor internal consistency in the current sample (α = .51). Validity has not yet been studied as this instrument was used for the first time.

To assess emotion regulation, both the *Children's Emotion Management Scale* (CEMS; Zeman, Shipman & Suveg, 2002) and the *Cognitive Emotion Regulation Questionnaire* (CERQ; Garnefski, Kraaij & Spinhoven, 2001) were used. The CEMS is a self-report questionnaire consisting of three scales and assesses one's behavioral style or strategies of

responding to (stressful) events to regulate emotions. Subscales include Disinhibition, Dysregulated Expression, and Emotion Coping. Items were answered on a 3-point scale ranging from (1) *(almost) never* to (3) *often*. A sum score of all items was used as a measure of behavioral emotion regulation in the current analyses, where higher scores represent a greater use of the strategy. Preliminary studies indicate adequate internal consistency (i.e., alphas range from .62 to .77) and good test–retest reliability (Zeman et al., 2001). Nevertheless, the questionnaire has shown questionable internal consistency in the current sample (α = .61). The CERQ is a self-report questionnaire consisting of 36 items and measures different cognitive coping strategies in response to stressful events. Subscales include Self-blame, Rumination, Positive Reappraisal and Catastrophizing. Items were answered on a 5-point Likert scale ranging from (1) *(almost) never* to (5) *(almost) always*. Subscale scores can range from four to twenty with higher scores indicating a greater use of the respective strategy and representing more maladaptive emotion regulation. The subscale "positive reinterpretation" was reverse coded, such that lower scores represent a greater use of the strategy. A sum score of all items was used as a measure of cognitive emotion regulation in the current analyses, where higher scores represent a greater use of the strategy. The questionnaire has shown good factorial validity in an adult sample of the general population (Garnefski & Kraaij, 2007). Internal consistency of the questionnaire was acceptable in the current sample (α = .70).

2.3 Procedure

We conducted a cross-sectional, multi-method study. The adolescents and their parents completed numerous questionnaires online and visited the laboratory for one day during which they participated in several tasks both independently and together. Moreover, participants were asked to fill out electronic diaries (Ecological Momentary Assessment, Stone & Shiffman, 1994) for a period of fourteen consecutive days. Both parents and adolescents had to sign an informed consent form before participating in any tasks. For adolescents younger than 16 years old, both caregivers with legal custody had to sign informed consent. Lastly, one parent and the adolescent were asked to undergo a fMRI scan. The current study will only be using data from the aforementioned questionnaires and two interaction tasks.

The adolescents and their parents participated in four interaction tasks in total, but this study will only focus on the problem-solving task (PSI, duration of ten minutes) and the event planning task (EPI, duration of six minutes) and compare the results. Both tasks were

completed with each parent separately (parent-adolescent dyads). Adolescent and parents filled out the Issues Checklist (Robin & Weiss, 1980) prior to the problem-solving task. It is a list of topics with common issues between parents and adolescents. The participant is asked to rate per topic (1) whether it was of issue for the dyad in the past four weeks (1 = not at all; 5 = often) and (2) how intense the conversations were (1 = very calm; 5 = very intense). One of our researchers selected the three most frequent and intense topics. If parent and child were inconsistent, parents' reporting was leading. Topics were written on a piece of paper and handed to the dyad at the start of the problem-solving task. The goal of the task was finding a solution to a conflict the parent and adolescent encounter regularly. The goal of the event planning task was to plan a trip the parent and adolescent would both be enjoying, given an unlimited budget. Directly after each task, adolescents were asked to report their emotions and their parents' behavior. The parents were asked the same questions with regards to their emotions and behavior.

Adolescents received 15-35€ for their participation. Parents received 70-100€ for participating and travel expenses were compensated. Additionally, gift vouchers were raffled per twenty families for the ecological momentary assessment and the follow-up.

2.4 Ethics

The study was approved by the Medical Ethics Committee of Leiden University Medical Hospital in Leiden, the Netherlands (NL62502.058.17) on May 2nd of 2018.

2.5 Statistical Analyses

Software IBM SPSS Statistics Version 26 was used for statistical analyses. Significance level for all analyses was set at $p = .05$, two-tailed.

Prior to the analyses, assumptions of linearity, homoscedasticity, normality and independence of residuals were checked. Additionally, outliers and influential cases were examined (Cook's Distance, Leverage values). From the initial sample of 80 adolescents and 149 parents, 12 parental scores were excluded because of missing data, leading to a final sample of 80 adolescent participants and 137 parents. Multicollinearity between predictors was checked with the tolerance statistics but found to be of no concern. Additionally, independent sample t-tests were conducted to determine if means for boys were different than means for

girls on all variables and to check whether preceding gender differences might affect the results.

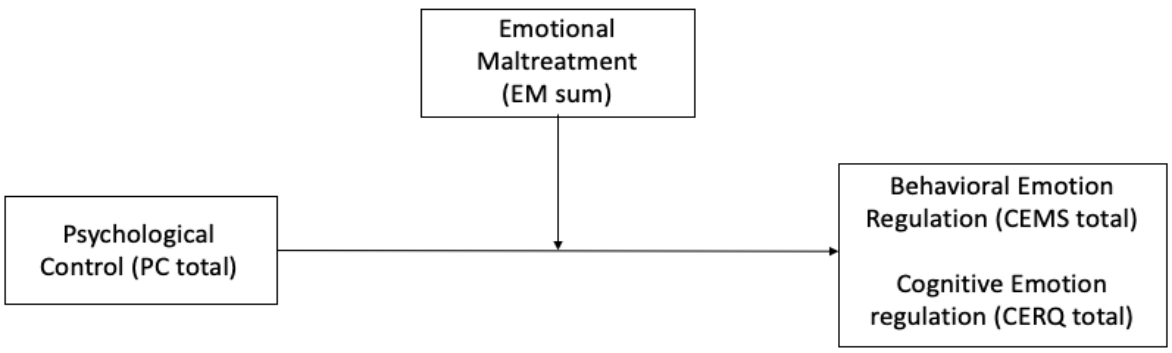
Psychological control (PC PSI and PC EPI) constituted the predictor variables (X_1 and X_2) and emotion regulation (CEMS total and CERQ total scores) constituted the outcome variables (Y_1 and Y_2). Emotional maltreatment (EM sum) constituted the moderator variable (M, see Figure 1). Adolescent gender was added as a covariate in all analyses to account for a potential gender effect. We conducted a multiple linear regression for each interaction task separately and for each outcome variable separately, thus, four multiple linear regressions in total.

Adolescent gender was added as a covariate in block 1 to assess its independent effect. PC PSI (and PC EPI) and EM sum were entered as the independent variables in block two to assess their independent effects (H1-H4). In block three, the interaction of PC PSI (and PC EPI) and EM sum was entered to assess their interaction effect (H5). CEMS total constituted the dependent variable for both interaction tasks separately and so did CERQ total.

We expected to observe a positive relation between psychological control and maladaptive emotion regulation. We also expected to observe a positive relationship between emotional maltreatment and maladaptive emotion regulation. For the moderation analysis, we expected emotional maltreatment to have a heightening effect on the relationship of psychological control and maladaptive emotion regulation. Thus, we expected that with emotional maltreatment, adolescents with psychologically controlling parents will be more likely to develop maladaptive emotion regulation strategies. Lastly, we expected a different effect when looking at behavioral than when looking at cognitive emotion regulation and we expected the whole model to differ between the problem-solving and the event planning task. This was an explorative part of the current research and subsequently no direction was prespecified.

Figure 1

Conceptual Model



3 Results

As shown in Table 2, girls and boys did not differ significantly in their ratings of psychological control, cognitive or behavioral emotion regulation. Childhood maltreatment including all subscales also did not differ between participants, but emotional maltreatment independently was reported significantly more by boys ($t(36) = 0.09$, $p = .047$). Nevertheless, no significant difference was found between the two subscales of emotional maltreatment.

Table 2

Distribution of PC, CTQ, CEMS and CERQ

Variable	Girls (n=51)	Boys (n=29)	Independent sample t-test, t(*df*), *p*
PC			
Mean score problem-solving task	8.32 ± 3.29	9.45 ± 2.74	$t_{(78)} = 1.56$, $p = .204$
Mean Score event-planning task	6.85 ± 1.85	6.47 ± 2.04	$t_{(78)} = -0.87$, $p = .403$
CTQ			
Sum score total	47.65 ± 2.99	46.55 ± 9.96	$t_{(78)} = -0.73$, $p = .147$
Sum score Emotional Maltreatment	14.12 ± 3.57	14.24 ± 6.80	$t_{(36)} = 0.09$, $p = .047$
Subscale Emotional Abuse	6.41 ± 1.75	6.28 ± 3.18	$t_{(78)} = -0.25$, $p = .073$
Subscale Emotional Neglect	7.71 ± 2.48	7.97 ± 3.98	$t_{(78)} = 0.36$, $p = .155$
CEMS			
Sum score	32.20 ± 4.44	29.28 ± 3.87	$t_{(78)} = -2.96$, $p = .644$
Subscale Inhibition	11.35 ± 2.59	10.76 ± 3.12	$t_{(78)} = -0.92$, $p = .202$
Subscale Dysregulated Expression	9.88 ± 2.67	8.45 ± 1.88	$t_{(78)} = -2.55$, $p = .055$
Subscale Emotion Coping	10.96 ± 2.17	10.07 ± 1.77	$t_{(78)} = -1.88$, $p = .493$
CERQ			
Sum score	37.24 ± 5.92	32.69 ± 7.07	$t_{(78)} = -3.08$, $p = .290$
Subscale Self-blame	9.73 ± 2.80	8.17 ± 2.61	$t_{(78)} = -2.44$, $p = .806$
Subscale Rumination	10.73 ± 4.01	8.72 ± 3.69	$t_{(78)} = -2.21$, $p = .581$
Subscale Positive Reappraisal	11.47 ± 3.64	10.79 ± 3.23	$t_{(78)} = -0.83$, $p = .793$
Subscale Catastrophizing	5.31 ± 1.54	5.00 ± 1.31	$t_{(78)} = -0.92$, p = .436

Note: Table shows means ± standard deviations of scores and results of t-tests. PC = Psychological control; CTQ = Childhood Trauma Questionnaire; CEMS = Children's Emotion Management Scale; CERQ = Cognitive Emotion Regulation Questionnaire.

3.1 Multiple Regression Analyses

3.1.1 Psychological Control and Cognitive Emotion Regulation for the Problem-Solving Task

A multiple regression was run to predict cognitive emotion regulation skills, from childhood emotional maltreatment and parental psychological control during the problem-solving task. Results can be found in table 3. Adolescent gender was included as a covariate in model 1 and significantly predicted cognitive emotion regulation skills (β = 0.33, p = .003, 95% CI [1.60, 7.49], R^2 = .11). The moderation model (model 3) statistically significantly predicted cognitive emotion regulation skills (F(1,75) = 3.04, p = .022, R^2 = .37). Model 2, which included both independent effects of the predictors and model 3, which included the interaction effect of the predictors had the same effect size, namely R^2 is 0.14, which is 3.1% higher than in model 1. Therefore, adding the two predictors improved the model by 3.1% (F(2,76) = 4.10, p = .009, R^2 change = .03) and adding the interaction effect did not improve the model further (F(1,75) = 3.04, p = .022, R^2 change = .00). Although all models statistically significantly predicted cognitive emotion regulation skills, none of the hypothesized predictors yielded statistical significance.

3.1.2 Psychological Control and Cognitive Emotion Regulation Skills for the Event Planning Task

A multiple regression was run to predict cognitive emotion regulation skills, from childhood emotional maltreatment and parental psychological control during the event planning task. Results can be found in table 4. Adolescent gender was included as a covariate in model 1 and significantly predicted cognitive emotion regulation skills (β = 0.33, p = .003, 95% CI [1.60, 7.49], R^2 = .11). Including both independent effects of the predictors in model 2 increased the fit of the model by 0.8% compared to model 1 (F(2,76) = 4.21, p = .008, R^2 change = .03). Including the interaction effect of the predictors in model 3 increased the fit of the model by another 1.6% (F(1,75) = 3.54, p = .011, R^2 change = .02). The moderation model (model 3) statistically significantly predicted cognitive emotion regulation skills (F(1,75) = 3.54, p = .011, R^2 = .16). Although all three models statistically significantly predicted cognitive emotion regulation skills, none of the hypothesized predictors yielded statistical significance.

3.1.3 Psychological Control and Behavioral Emotion Regulation Skills for the Problem-Solving Task

A multiple regression was run to predict cognitive emotion regulation skills, from childhood emotional maltreatment and parental psychological control during the problem-solving task. Results can be found in table 5. Adolescent gender was included as a covariate in model 1 and significantly predicted cognitive emotion regulation skills (β = 0.32, p = .004, 95% CI [0.96, 4.89], R^2 = .10). Including both independent effects of the predictors in model 2 increased the fit of the model by 3.5% (F(2,76) = 3.99, p = .011, R^2 change = .04). Including the interaction effect of the predictors in model 3 increased the fit of the model by another 13.1% (F(1,75) = 3.97, p = .006, R^2 change = .13). The moderation model statistically significantly predicted cognitive emotion regulation skills (F(1,75) = 3.97, p = .006, R^2 = .18). Although all models statistically significantly predicted cognitive emotion regulation skills, none of the hypothesized predictors yielded statistical significance.

3.1.4 Psychological Control and Behavioral Emotion Regulation Skills for the Event Planning Task

A multiple regression was run to predict cognitive emotion regulation skills, from childhood emotional maltreatment and parental psychological control during the event planning task. Results can be found in table 6. Adolescent gender was included as a covariate in model 1 and significantly predicted cognitive emotion regulation skills (β = 0.32, p = .004, 95% CI [0.96, 4.89], R^2 = .10). The moderation model statistically significantly predicted cognitive emotion regulation skills (F(1,75) = 3.83, p = .007, R^2 = .17). Including both independent effects of the predictors in model 2 increased the fit of the model by 6% (F(2,76) = 4.85, p = .004, R^2 change = .06). Including the interaction effect of the predictors in model 3 increased the fit of the model by another 0.9% (F(1,75) = 3.83, p = .007, R^2 change = .009). Although all models statistically significantly predicted cognitive emotion regulation skills, none of the hypothesized predictors yielded statistical significance.

Table 3

Main effects and interaction effects of the moderation model for cognitive emotion regulation during the problem-solving task

	b(*SE*)	*β*	*t*	*p*	95% Bootstrap CI [LLCI, ULCI]
Psychological control (PC)	-0.15 (0.23)	0.07	0.66	.514	[-0.31, 0.61]
Emotional Maltreatment	0.22 (0.14)	0.16	1.50	.138	[-0.07, 0.50]
PC x Emotional Maltreatment	0.00 (0.06)	0.00	0.00	.998	[-0.12, 0.12]

Table 4

Main effects and interaction effects of the moderation model for cognitive emotion regulation during the event planning task

	b(*SE*)	*β*	*t*	*p*	95% Bootstrap CI [LLCI, ULCI]
Psychological control (PC)	-0.15 (0.23)	0.07	0.66	.514	[-0.43, 1.05]
Emotional Maltreatment	0.22 (0.14)	0.16	1.50	.138	[-0.07, 0.51]
PC x Emotional Maltreatment	0.00 (0.06)	0.00	0.00	.998	[-0.07, 0.26]

Table 5

Main effects and interaction effects of the moderation model for behavioral emotion regulation during the problem-solving task

	b(*SE*)	*β*	*t*	*p*	95% Bootstrap CI [LLCI, ULCI]
Psychological control (PC)	-0.15 (0.23)	0.07	0.66	.514	[-0.24, 0.38]
Emotional Maltreatment	0.22 (0.14)	0.16	1.50	.138	[-0.03, 0.35]
PC x Emotional Maltreatment	0.00 (0.06)	0.00	0.00	.998	[-0.15, 0.00]

Table 6

Main effects and interaction effects of the moderation model for behavioral emotion regulation during the event planning task

	b(*SE*)	*β*	*t*	*p*	95% Bootstrap CI [LLCI, ULCI]
Psychological control (PC)	-0.15 (0.23)	0.07	0.66	.514	[-0.87, 0.10]
Emotional Maltreatment	0.22 (0.14)	0.16	1.50	.138	[-0.03, 0.35]
PC x Emotional Maltreatment	0.00 (0.06)	0.00	0.00	.998	[-0.16, 0.06]

4 Discussion

The aim of this research was to investigate the predictive effect of parental psychological control and emotional maltreatment on adolescent cognitive and behavioral emotion regulation strategies and whether these factors interacted in predicting emotion regulation strategies. Further, we aimed to explore whether cognitive and behavioral emotion regulation strategies were affected differently and whether the proposed relationships differed in the two parent-adolescent interaction tasks. Adolescent gender, which was included as a covariate, significantly predicted cognitive and behavioral emotion regulation strategies in all four analyses. Psychological control, emotional maltreatment and the interaction of psychological control and emotional maltreatment did not statistically significantly predict emotion regulation strategies in either of the analyses.

4.1 Psychological Control and Emotion Regulation

It was hypothesized that the more psychological control is exerted by the parent, the more maladaptive emotion regulation strategies would be present in the adolescent and vice versa, thus leading to a significant positive relation between psychological control and emotion regulation strategies. However, we could not find evidence for this hypothesis. The reasons for this can be manifold, such as the low scores of PC behaviors in the whole sample, from which we can conclude that psychologically controlling behaviors were used sparsely by the parents in the current sample. Research by Liu (2019) has shown that children raised in an authoritarian or neglecting/ permissive parenting style develop more negative cognitive emotion regulation skills than children raised in an authoritative parenting style, who develop more positive cognitive emotion regulation skills. Psychological control can be seen as a form of authoritarian parenting and increase the chance of children developing maladaptive emotion regulation skills. In general, it can be hypothesized that parents low in PC are more likely to engage in emotion-coaching parenting practices. Thus, they shape the interactions with their children in a way that provides the child with learning opportunities by validating their child's emotions, assisting their child in labeling their emotions and problem solving with the child by setting behavioral limits and discussing strategies and goals for dealing with the emotion eliciting situation (Gottman, Katz & Hooven, 1996). These children are in turn more likely to be aware of their own emotions and to self-regulate in times of distress. Applied to the present study, it is likely that we have not identified any significant link between PC and

emotion regulation because PC was used sparsely which in turn could entail that emotion regulation strategies of the adolescents were also already quite adaptive. Additionally, PC behaviors relate strongly to internalizing and externalizing child behaviors (Barber, 1996). Even though Barber (1996) did not specify these behaviors in the pathological sense, having excluded participants with past or current psychopathology might also have limited the number of participating families in which parents show high PC behaviors.

Our finding contradicts much of previous research, such as a study of Manzeske and Dopkins Stright (2009) in which a relation was found between higher levels of maternal control, specifically psychological control, and lower levels of emotion regulation abilities in young adults. Moreover, parental psychological control predicted low levels of emotion regulation and self-esteem among emerging adults in contrast to autonomy support, which predicted high levels of emotion regulation (Gong & Wang, 2011). Nevertheless, the predictive effect of autonomy support only showed when levels of psychological control were low. This demonstrates the importance of not only the absence of psychological control for the development of adaptive emotion regulation skills but also the importance of the presence of autonomy supportive parental behaviors for optimal development.

4.2 Emotional Maltreatment and Emotion Regulation

Our second hypothesis, that the experience of more emotional maltreatment would lead to higher emotion dysregulation and vice versa was also not supported. This stands in contrast to previous research, which has found that maltreatment significantly relates to decreased emotion regulation and increased emotion dysregulation (Gruhn & Compas, 2020). Specifically, maltreatment related significantly to avoidance, emotional suppression, and the expression of negative emotions in response to stress. Moreover, Lavi et al. (2019) found that children of emotionally maltreating parents report higher levels of anger, depression, verbal aggression, and negative affect in addition to reporting lower levels of emotional control, emotion regulation and coping strategies compared to children of non-maltreating parents. Consequently, these parents are more likely to provide their children with dysfunctional models of emotion regulation, which increases the likelihood of emotion dysregulation in their children (Morris et al., 2007). Looking at the present study, the amount of experienced emotional maltreatment and dysfunctional emotion regulation was comparatively low, which makes finding a significant relation between the two variables unlikely.

4.3 Effect of Psychological Control and Emotional Maltreatment on Emotion Regulation

Regarding our third hypothesis that more maladaptive emotion regulation strategies would be present in adolescents with emotional maltreatment and high psychological control, we could not observe an interaction effect of psychological control with emotional maltreatment on emotion regulation strategies. Thus, we cannot say whether the relationship between psychologically controlling parental behaviors and adolescent emotion regulation strategies depends on the level of emotional maltreatment experienced by the adolescent. To date, there has not been any research on this proposed relationship. Interestingly, previous studies (Compas et al., 2017; Ha & Jue, 2018) have mostly focused on internalizing or externalizing symptomatology as outcome variables related to psychological control or emotional maltreatment instead of emotion regulation abilities, even though maladaptive emotion regulation abilities might present as a precursor for developing internalizing and externalizing symptomatology. Despite the importance of these findings, constructing and implementing possible interventions might be complicated, as mechanisms behind the resulting symptomatology remain unknown. Emotion (dys-)regulation has been included as a moderator or mediator in several studies but only seldomly as an outcome variable. For example, emotion inhibition of dysfunctional emotions has been identified as a mediator between parental PC and adolescent depression (Ha & Jue, 2018). Moreover, in a sample of pregnant women, behavioral avoidance and rumination were both identified as (partially) mediating childhood emotional neglect and depression and childhood emotional abuse and depression, respectively (O'Mahen, Karl, Moberly & Fedock, 2014). Looking at the effects on emotion regulation, blame attribution mediates the relation between parental physical maltreatment and emotion regulation difficulties in adult children (Dumessa, Oliveros & Coleman, 2020). Self-reported maternal emotion dysregulation has also been positively associated with child emotion dysregulation and negatively associated with child adaptive emotion regulation (Morelen, Shaffer & Suveg, 2016). On the contrary, high parental levels of compassion for a child, nonjudgmental acceptance of parental functioning and listening with full attention were all significantly associated with fewer difficulties in emotion regulation in children (Moreira & Canavarro, 2020). Contrasting the present findings, parental PC, expressed anger, permissiveness and criticism have all been associated with emotion regulation difficulties in children in previous research (Morris, Criss, Silk & Houltberg, 2017).

4.4 Cognitive and Behavioral Emotion Regulation

Contrary to our hypothesis, behavioral and cognitive emotion regulation were also not found to be affected differently. A differential effect of parenting or maltreatment on both cognitive and behavioral emotion regulation has not been researched much. Still, Berzenski (2019) investigated the relationship of emotional abuse and emotional neglect on psychopathology through different emotion regulation dimensions. Her research found that childhood emotional abuse related indirectly to psychopathology through response-focused difficulties in emotion regulation, which entail nonacceptance of emotional responses, difficulties engaging in goal-directed behaviors and maintaining impulse control and limited access to emotion regulation strategies. Emotionally abusing parents are themselves more likely to express negative emotions and to have difficulties in regulating hostile negative emotions toward their children. Modeling these maladaptive strategies, children of emotionally maltreating parents may develop deficits in emotion regulation, which may manifest as problematic strategies, such as impulsive or aggressive behavior (Berzenski & Yates, 2010; Roy, 2005). On the other hand, childhood emotional neglect related indirectly to psychopathology through antecedent-focused difficulties in emotion regulation. Specific problems included a lack of emotional awareness and a lack of emotional clarity (Berzenski, 2019). Generally, antecedent-focused emotion regulation skills relate to cognitive elements of emotion regulation, which are more vulnerable to experiences of emotional neglect. Children who experienced emotional neglect are in turn more likely to lack adaptive emotional models as their parents may fail to provide models for any strategy use. We did not assess emotional abuse and emotional neglect separately in the present study, making it difficult to draw conclusions relating to a differential effect of either variable to behavioral or cognitive emotion regulation. Nevertheless, it is imaginable that behavioral and cognitive emotion regulation strategies are influenced through different mechanisms and experiences in childhood. Future studies should include the aforementioned variables separately in order to identify a possible effect.

4.4 Problem-Solving and Event-Planning Task as Measures of Psychological Control

Furthermore, we hypothesized that our model would be different when applied to the problem-solving task than when applied to the event planning task. We could not identify a differential effect between the tasks with the current sample. It became clear that PC behaviors and emotional maltreatment were both rarely applied and experienced, and adaptive

emotion regulation skills were comparatively high in the sample. Due to the generally low PC behaviors, they also did not differ much between the two interaction tasks. Moreover, the present study measured psychological control with a coding scheme that was developed specifically for this study and thus, has not been validated in previous studies. Although it reliably measured the construct of interest, we cannot be certain about the validity of the coded behaviors in our sample. Previous studies on PC have mostly used the *Psychological Control Scale – Youth Report* (Barber, 1996), which is an adolescent self-report on parental PC behaviors, with internal consistencies ranging between 0.80 and 0.90 (Rogers, Buchanan & Winchell, 2003; Bell, 2015; Cheah, Yu, Liu & Coplan, 2019; Beyerslan & Uzer, 2020). Further, Hauser Kunz & Grych (2013) report that child and parent rated PC are closely linked with observational assessments of PC. The employed coding system for PC was based on three existing ones and intercoder reliability was checked and trained regularly. Nevertheless, internal consistency was low in the present sample, which might have influenced our findings as well. Moreover, participants were filmed with one camera per person during the interaction tasks and were thus aware that they are being watched. This might have biased their behavior in a way that more extreme reactions were held back, compared to when observations would have taken place naturalistically. Interestingly, Hauser Kunz & Grych (2013) have also used an observational method to measure PC and yielded poor internal consistency when including all items and acceptable internal consistency when excluding two out of six items. This raises the questions to what extent coding systems for observational studies of PC are measuring the construct of interest. Besides, most studies on parental PC behavior used self-report measures from either adolescents or parents. However, the subjective experience of adolescents on their parental PC behaviors might indeed relate to i.e., emotion regulation even though the actual, observed parental behavior might not relate to emotion regulation. This highlights the importance of the subjective experience of the adolescent over the `objectively´ observed parental behavior. Nevertheless, the current study was conducted with healthy families and the observed constructs are expected to be in the problematic range less often compared to clinical samples. For future research, it would be interesting to check if (1) there is a difference when comparing subjective (i.e., self-report) and more objective (i.e., coded observations) perspectives of PC behaviors and if (2) this functions differently in clinical populations.

Lastly, the scores for PC were based on a varying number and gender of the parents. We used one PC score per adolescent, which was based on data from either both parents, only

maternal or only paternal PC behaviors, which could have obscured the results if one parent showed significantly more PC behaviors than the other parent. Reasons for parental non-participation were mostly related to the parent not being very involved with their child or the parent not having time, i.e., due to their workload. However, a third prominent reason was that the parent was not willing to participate. In that regard, parents' motivation should be assessed more thoroughly in future studies to become aware of possible intra-familiar discrepancies relating to the study participation or other parental variables which may have an influence on the assessed constructs.

Despite not having found any significant effect, this research contributed to the pool of literature about psychological control by using a novel coding scheme for parent-adolescent interaction tasks. Additionally, the majority of research of PC has been conducted with internalizing or externalizing symptomatology as an outcome variable. This was intentionally disregarded in the current study, as emotion regulation difficulties were hypothesized to be a precursor of psychopathology and thus, worthy of exploration. Moreover, childhood emotional maltreatment has been mostly disregarded in existing research on PC even though it is closely connected to PC behaviors and has been identified as a risk factor for developing emotion regulation difficulties. We thus tried to shed light on potential relations between PC behaviors, emotional maltreatment and emotion regulation in a sample of healthy adolescents.

4.5 Limitations

Nevertheless, there are several limitations that should be improved in future research. The sample was not gender balanced, as we had more female participants. Having a balanced sample would allow for a better generalizability of the results. Additionally, we were using a cross-sectional design, which did not allow for causal attributions. Therefore, it is encouraged and needed to conduct longitudinal research in a large group of children and parents to assess the development of PC behaviors, emotional maltreatment, and emotion regulation strategies. It is also encouraged to include various potential moderators, such as social support outside the home setting and parental autonomy support to get a more complete picture of parental psychological control on adolescent emotion regulation and potential resulting psychopathology. This would help to gain knowledge for the development of interventions that can explicitly target specific parental behaviors and adolescent emotion regulation strategy use. Additionally, the sample population was not drawn randomly and only included healthy

adolescents which could have biased the results. A generalizable sample, including a control and an experimental group, would thus be warranted in future research. Generally, both adolescent variables were assessed using self-reports. Emotion regulation could additionally be measured with the help of standardized objective measures, such as non-invasive biological/ physical measures (i.e. saliva, blood pressure) as proxies of the stress response. Lastly, due to the electronic data collection method, the participants were able to fill out the questionnaires in an environment of choice which leads to fewer control and power when analyzing the results. This could be improved by having participants come to a lab to fill out the questionnaires or by additionally including semi-structured interviews. As this research is part of the RE-PAIR study, participants had to fill out a large total number of questionnaires online, which could have influenced their concentration and consequently, their responses. It would be desirable to split up this part of the data collection into two or three shorter sessions, in order to retain concentration of the adolescents and thus, reliability of their responses and power of the results.

4.6 Conclusion and Implications

Concluding, in our sample of healthy adolescents, effects of observed parental psychological control and emotional maltreatment on adolescent emotion regulation skills could not be found. This was unexpected and potential reasons were discussed. It has important implications for future research, such that differences in perspectives on psychological control between parents, adolescents and research observants should be considered when assessing the construct of psychological control. Similarly, it would be interesting to assess emotional maltreatment from a parental perspective and compare possible discrepancies between parental and adolescent assessment. Lastly, different clinical populations should be considered, such as depressed adolescents or adolescents with other emotionally instable symptomatology (i.e., anxiety, panic).

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