



# The Process Linking Child-Invested Contingent Self-Esteem and Conditional Regard: The Roles of Maternal Anger and its Regulation

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## Abstract

Parents whose self-esteem is contingent on their children's achievements tend to exert more control over their children by displaying decreased affection and regard after failure in school (parental academic conditional negative regard). The current study examined parental anger and dysregulated anger expression as possible mechanisms in the respective association. In total, 221 mothers reported their child-invested contingent self-esteem, habitual dysregulated anger expression, anticipated anger after child failure, and their explicit use of conditional negative regard; their 12- to 14-year-old adolescent children reported perceived conditional negative regard. The moderated mediation analysis revealed that anger after child failure partially mediated the effect of child-invested contingent self-esteem on maternal explicit use of conditional negative regard, which, in turn, predicted adolescents' perception of conditional negative regard. The effect of anger was moderated by dysregulated anger expression, and anger was only positively related to conditional negative regard when expressed as medium- to highly-dysregulated. The results support our hypotheses and provide an explanation for parental application of conditional negative regard apart from socialization goals or a lack of knowledge about its suboptimal nature. Furthermore, our results underscore the importance of parents' self-esteem concerns and strategies for anger regulation. We discuss the practical implications of an anger-driven, reactive type of conditional regard.

**Keywords** Parental conditional regard · Contingent self-esteem · Anger · Emotion regulation · Academic achievement

## Highlights

- Mothers whose self-esteem depends on their child's performance use more achievement-oriented conditional negative regard.
- Mothers' anger following failure mediated the relation between their contingent self-esteem and use of conditional regard.
- Mothers' dysregulated anger expression exacerbated the positive association between anger and conditional regard.
- Mothers' contingent self-esteem indirectly related to both mothers' and children's reports of conditional regard.
- Mothers' use of conditional negative regard may result from mothers' unfavorable regulation of self-esteem loss and anger.

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How parents react to their children's failures in school plays a significant role in children's coping with academic tasks. An increasing body of research has identified variation in parents' affection toward their child as a key component in parents' responses (Assor et al., 2004; Ng et al., 2014; Roth et al., 2009). A specific type of reaction involving a decrease in parental affection, esteem, and regard in situations of child failure is termed parental academic conditional negative regard (PACNR; Assor et al., 2004). The literature suggests that parents may use this tactic to

punish poor performance and decrease the likelihood of future failure. However, PACNR needs to be distinguished from simple punishment. While these reactions can focus on the child's behavior, such as effort (see process feedback; Kamins & Dweck, 1999, p. 835), conditional negative regard explicitly focuses on the characteristics of the child (see person feedback; Kamins & Dweck, 1999, p. 835). Owing to the various costs associated with PACNR, research has focused on its antecedents. Parents' tendency to hinge their own self-esteem on their children's achievements (child-invested contingent self-esteem [CCSE]) was identified as a key precursor (Ng et al., 2014; Otterpohl et al., 2020), so that parental self-esteem fluctuates with child performance. Although the association between PACNR and parents' CCSE is well established, it remains unclear how fluctuations in parental self-esteem shape variations in their affection toward their child. Unraveling this mechanism is important to gain a clearer picture of PACNR and its origins, which is necessary for more precise and effective prevention. In the current study, we addressed this gap in the literature by investigating parental anger and anger expressions as possible underlying mechanisms in respective association.

## Parental Conditional Regard in the Academic Domain

Children face a variety of minor and major failures during their school years. How they deal with setbacks is influenced by their parents' reaction in such situations. For example, parents may display a sincere interest in the child's perspective, accept negative emotions in the child, and offer choices on how to deal with schoolwork. These reactions support children's basic psychological needs, which benefits their learning behavior (see autonomy support; Joussemet et al., 2008). In contrast, when parents adapt a more controlling type of parenting, their reactions frustrate their children's basic psychological needs and impair learning. One specific form of control is PACNR, in which parents' affection, esteem, and regard decrease when children do not meet parental expectations (Assor et al., 2004; Roth et al., 2009). From a behaviorist perspective, negative feedback in the form of decreased affection may be effective in decreasing the likelihood of further failure. However, self-determination theory (SDT) emphasizes that this person-focused disappointment frustrates children's needs (Assor et al., 2020; Deci & Ryan, 2000). A withdrawal of parental appreciation frustrates children's need for relatedness, the need to belong and be cared for. Furthermore, PACNR entraps children in a dilemma where they can either live up to parental expectations to avoid a decrease in parental regard, or remain true to their own

values and interests (Assor et al., 2004; Assor et al., 2020). This dilemma creates tension between children's need for relatedness and the need for autonomy, that is, the need to feel free in one's actions (Assor et al., 2020; Deci & Ryan, 2000). The dissatisfaction parents may feel with children's results or learning behavior is distinct from PACNR because these reactions can be accompanied by empathetic caring and support for the child to deal with the failure situation. In contrast, conditional negative regard communicates the deficiency of the child as a person, fostering low and contingent self-esteem in children (Curran, 2018; Otterpohl et al., 2021; Wouters et al., 2018). The detrimental effects of PACNR are evident in various other domains, including motivational and emotional adjustment in school, parent-child relationships, and general well-being (Otterpohl et al., 2019; Perrone et al., 2016; Roth et al., 2009; Roth et al., 2009). These findings are important, as approximately one out of seven children experiences PACNR (Steffgen et al., 2022).

## Parents' Child-Invested Contingent Self-Esteem and Conditional Regard

Previous research revealed that parents' CCSE is a key and robust precursor of achievement-oriented psychological control (Ng et al., 2014; Wuyts et al., 2015) and PACNR in particular (Otterpohl et al., 2020). Parents with CCSE base their self-esteem on their children's achievements, such that the children's failures threaten their own self-esteem (Ng et al., 2014). Thus, PACNR seems to result from parents' self-esteem concerns. A proposed mechanism is that parents hold performance standards for their children and punish poor performance using PACNR in an attempt to prevent future failures and the accompanying self-esteem threat (Assor et al., 2014; Ng et al., 2014; Wuyts et al., 2015). This is plausible and congruent with the finding that parents with high CCSE are perceived to promote extrinsic goals in their children (Soenens et al., 2015). Therefore, PACNR is widely understood as a parenting tactic to pursue socialization goals related to academic achievement (Assor et al., 2004; Assor et al., 2014; Assor et al., 2020; Curran et al., 2017).

From an SDT perspective, parents' self-esteem concerns indicate deprived basic psychological needs on the part of the parents themselves (Ryan & Brown, 2003). If their child fails in school, parents high in CCSE may be concerned about whether they will still be valuable in the eyes of others. As such, children's failures threaten their need for relatedness. Additionally, when parents strive for compliance with the internalized standard of being the parent of a successful child, the need for autonomy becomes frustrated. Finally, failing to meet their own expectations would frustrate parents' need for competence, that is, the

need to experience a sense of mastery and effectiveness. Research demonstrates that need frustration in parents hinders them from supporting their children's needs, making them act in a psychologically controlling manner (Mabbe et al., 2018; Van der Kaap-Deeder et al., 2019). If parents' own needs are not met, parents lack the psychological availability, capacity, and energy to be responsive to the child's perspective and feelings. In investigating parents' reactions to failure, an experimental study found that mothers displayed lower warmth (e.g., less smiling, laughing, and talking in a warm tone) toward the child after a failure, and this effect was more pronounced in mothers high in CCSE (Ng et al., 2019). In the current study, we argue that these variations in affection after a failure may not necessarily involve socialization goals, but rather are side effects of parents' coping with their self-esteem concerns and underlying need frustration.

### Self-Esteem Threats and Anger

The threat to self-esteem and basic psychological needs has affective consequences; for example, anger is likely to arise as a reaction to threatened self-esteem. Several studies found that failure feedback elicits more negative affect — anger in particular — when individuals base their self-esteem on academic achievement (Crocker et al., 2003; Zeigler-Hill et al., 2011). These findings suggest that parents high in CCSE likely experience anger in situations where their children fail in school. This is plausible for several reasons. First, children's failures intervene with parents' needs and self-esteem goals, and it is theorized that anger arises when an external event hinders goal pursuit (Berkowitz & Harmon-Jones, 2004). Anger involves an active approach motivation and narrows attention with a focus on anger-eliciting stimuli (Gable et al., 2015), thereby promoting short-term and self-focused goals (Elison et al., 2014). Moreover, anger can function as a defensive regulation strategy when self-esteem is threatened, and the accompanying feelings of shame and deficiency arise (Elison et al., 2014; Lazarus, 2001; Nathanson, 1992). Blaming the person responsible for the failure — the child — shifts the cause of the failure away from a flaw in the parents' self and replaces the feeling of shame with anger. This helps preserve self-esteem rather than decrease it (Lazarus, 2001). Finally, while child performance feedback has a high subjective value for parents' needs and self-esteem, the parent has no direct control of the performance outcome. Anger helps the parent energize their behavior to regain control over the need frustrating and self-esteem threatening situations (Elison et al., 2014).

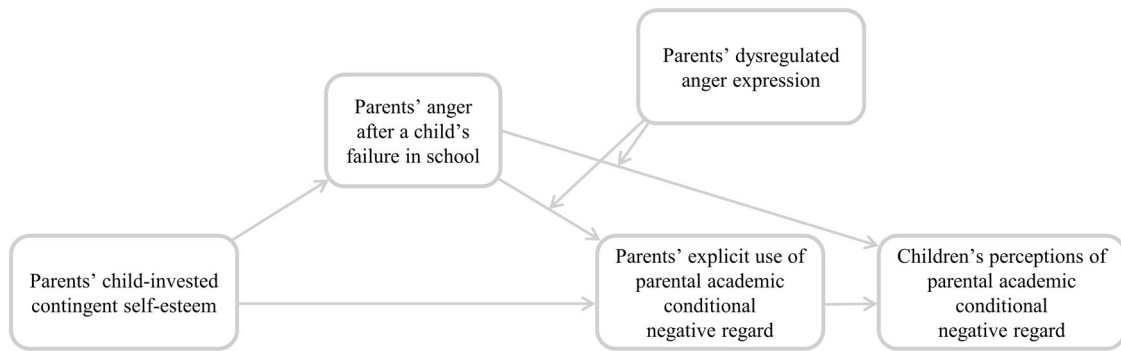
In turn, this angry state likely hinders parents from being psychologically available and responsive toward their

children. Parents who report getting instantly angry use more scolding or yelling, as well as physical punishment, in their interaction with the child (Di Giunta et al., 2020). Consistent with this, research shows that parents who react more angrily to hurtful messages from their child report more love withdrawal (Walling et al., 2007). Mills et al. (2007) demonstrated that parents were more likely to use shame induction, love withdrawal, or person-focused criticism when they were prone to experiencing shame. This association was mediated by parents' negative approach toward the child, which included the parents angrily reacting to the hurtful messages of the child. As such, it seems likely that parents' anger in response to the children's failures depicts one mechanism by which parents' self-esteem fluctuations shape their use of PACNR.

### Anger Expression and Conditional Regard

How parents express their anger is shaped by their way of dealing with emotions (Gross, 1998). Self-determination theory posits different forms of emotion regulation styles based on the quality and depth of emotion processing (Roth et al., 2019). Within this framework, integrative regulation is contrasted with emotion dysregulation. Integrative regulation is considered the most adaptive emotion regulation style, in which individuals experience anger with a non-judgmental attitude and explore its informational value for the self. As such, integrative regulation allows parents to deal flexibly with the need thwarting situation and to act according to their typical parenting style instead of adopting short-term and self-focused goals. However, if some components of integrative emotion processing are missing, the individuals are not able to manage emotions well and are easily overwhelmed by them, resulting in involuntary emotional outbursts (Roth et al., 2009; Ryan & Deci, 2006). Emotion dysregulation, characterized by a lack of control over emotion and attention, affects interpersonal relationships and parenting (Brenning et al., 2020; Crandall et al., 2015; Saritaş et al., 2013). Difficulties in emotion regulation relate to greater rejection and less warmth in interaction with the child (Saritaş et al., 2013), as well as ineffective discipline strategies and harsh parenting (Crandall et al., 2015).

Taken together, it seems plausible that difficulties in emotion regulation can worsen things, particularly in parents who are vulnerable to experiencing anger after child failure because of their CCSE. Anger after a child's misbehavior is related to parents using harsher discipline strategies than they personally would have liked (Rhoades et al., 2017). The discrepancy between parents' ideal of how they want to respond to a child's misbehavior and their actual use of harsh discipline strategies is stronger in parents who tend to act impulsively without thinking, suggesting an interplay



**Fig. 1** Hypothesized conceptual model

between anger experience and anger expression in situations of misconduct. If parents express their anger in a dysregulated way, they may act impulsively instead of congruently with their intended parenting and long-term socialization goals; for example, parents may use dismissive remarks and criticize the child. In addition, more insidious anger responses are likely to occur; for example, parents might smile and laugh less, speak in a less warm tone, and ignore or turn away from the child. Overall, anger may serve parents' short-term attempts to restore self-esteem, while simultaneously dysregulated anger expression may carry various costs for the child, the parent-child relationship, and the parents' own long-term goals (Elison et al., 2014).

## Research Questions and Hypotheses

Building on the existing literature, we examined the question of whether parents' anger in response to children's academic failures represents an underlying mechanism for how parents' CCSE shapes their use of conditional negative regard. Furthermore, we aimed to explore the exacerbating role of maladaptive anger regulation. The hypothesized conceptual model is shown in Fig. 1.

In the first step, we hypothesized that anger mediates the relationship between CCSE and PACNR. Besides using PACNR as an explicit parenting tactic to pressure the child into high performance, the threat to parents' self-esteem may elicit anger, and this anger reaction may decrease parental affection toward the child. Parents' and adolescents' reports of PACNR are only weakly correlated ( $r = 0.28$ ; Israeli-Halevi et al., 2015), which makes it important to consider both perspectives for statistical and substantive reasons. Statistically, considering parents and their children as informants, we avoid a single informant bias. Substantively, whereas the parents' perspective involves their explicit use of parenting, children report on their perceptions or representations of whether parental love is conditional or unconditional (Israeli-Halevi et al., 2015).

Empirical findings indicate that parents' explicit use of PACNR shapes children's perceptions of parental regard (Israeli-Halevi et al., 2015); however, the low correlation between reports suggests other possible sources. We presume it possible that some parents' angry expressions may be perceived as love withdrawal by the child, even if the parents themselves are not aware of (and do not even aim at) disapproving of the child. For example, parents may withdraw from their child to avoid derogatory remarks and criticism by losing their temper, yet the child gets the impression that the parent does not support them in the failure situation. Ultimately, children's perceptions of parenting relate to their well-being (Mabbe et al., 2016). Thus, considering children's perspectives allows us to investigate the significance of our findings for children's development. In the second step, we hypothesized that parents' difficulties in emotion regulation (here, dysregulated anger expression) moderate the effects of parental anger on conditional negative regard. If parents are still in control of their emotions, they may remain true to their typical parenting. However, if overwhelmed by anger, decreased appreciation in the parent-child interaction is more likely to occur.

## Method

### Recruitment and Procedure

The participants were 13- to 14-year-old adolescents and their mothers. The data were collected as part of a larger project funded by the German Research Foundation (Deutsche Forschungsgemeinschaft [DFG]). We contacted the families by letter via residents' registration offices to participate in the online survey. By this, we invited all families in nine districts of Germany who had adolescent children aged 13 to 14 years. Of these families, all who had at least two children could participate (69.0%; Statistisches Bundesamt, [Destatis] 2020a) because the project required data from at least one parent and two children. For

participation, family members needed to fill in questionnaires online. The duration of the questionnaires was about 50–70 min for children and about 30 min for parents. Participation was voluntary, parents provided active informed consent, and every family received 50 euros as compensation. The data of family members were matched using pseudonymized codes. All mother-adolescent dyads were used in the current investigation. The response rate was 12.6% ( $n = 184$ ). We also invited families of 8th graders who participated in a school survey of the project. All participating pupils received a letter with information and access to an online survey for all family members. The response rate for mother-adolescent dyads was 11.8% ( $n = 37$ ).

## Participants

In total, 221 mother-adolescent dyads participated, composed of 107 mother-daughter dyads and 114 mother-son dyads. The adolescents' age ranged between 13 (34.4%) and 14 (58.4%) years, with the exception of 2.8% deviating, with an age of 12 or 15 years. Among the adolescents, 1.8% attended the lowest track, 7.7% attended the middle track, and 57.9% attended the highest track of the German school system; 32.6% attended a school without tracking (integrated schools). A comparison with data from the Federal Statistical Office of Germany revealed that adolescents from the highest track (50.1%) and integrated schools (23.6%) were overrepresented, and adolescents from the lowest (8.2%) and middle track (18.1%) were underrepresented (Statistisches Bundesamt [Destatis], 2019).

The mothers' average age was 45 years ( $M = 44.93$ ,  $SD = 4.82$ ), and their ages ranged between 32 and 58 years. Of these, 81.9% were married and lived with their spouse, 11.3% were divorced or lived separated from their spouse, 5.0% were unmarried, and 1.8% widowed. Among the mothers, 6.3% reported that they graduated from the lowest track of the German school system, 26.7% from the middle track, and 65.2% from the highest track. Compared with data from the Federal Statistical Office of Germany on parents of schoolchildren, mothers who graduated from the lowest track were underrepresented (17.3%), and mothers who graduated from the highest track were overrepresented (43.5%; Statistisches Bundesamt [Destatis], 2020b).

## Measures

### Child-invested contingent self-esteem

We used the German translation (Otterpohl et al., 2020) of the scale *child-based worth* by (Eaton and Pomerantz 2004; quoted from Ng et al., 2014) to measure mothers' CCSE. Mothers rated the extent to which their self-esteem depended on the achievements of their child in general (e.g.,

“How I feel about myself as a person does not depend on what my child does.”; five items), successes (e.g., “If my child is successful, I feel good about myself.”; four items) or failures (e.g., “My child's failures can make me feel ashamed.”; six items). A 7-point scale from 1 (very much disagree) to 7 (very much agree) was used, with higher scores indicating a stronger contingency. Convergent validity of the original scale has been demonstrated, and exploratory factor analyses replicated the expected one-factor solution for the original and German translations (Ng et al., 2014; Otterpohl et al., 2020; Wuyts et al., 2015). Cronbach's alpha in this study was 0.90.

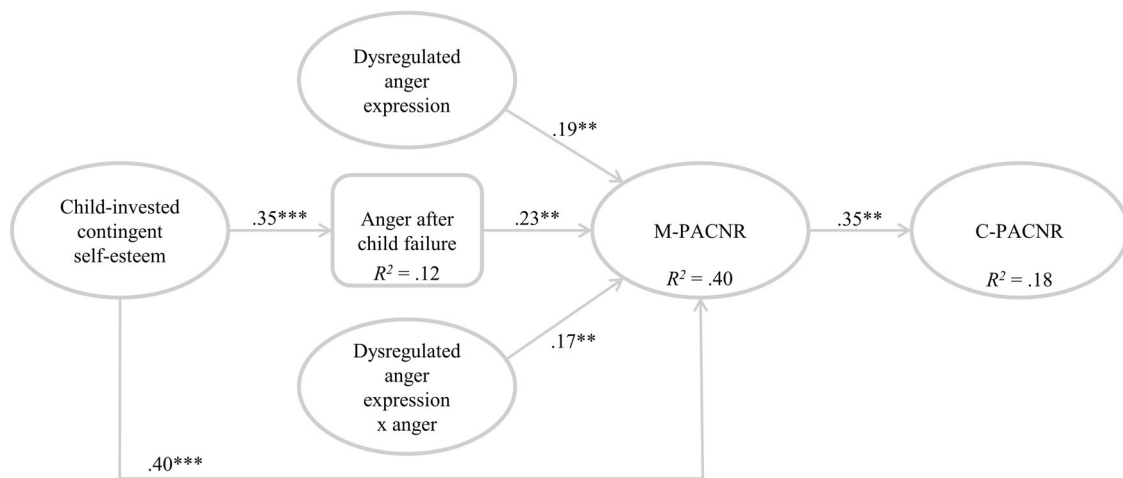
### Parental academic conditional negative regard

The German translation (Otterpohl et al., 2017) of the Parental Conditional Regard Scale (Assor et al., 2004) was used to measure PACNR. To capture the perspectives of both adolescents and mothers, two versions were applied. Adolescents were asked to evaluate how they perceived affection and appreciation after performing poorly at school or studying (e.g., “I think that if I fail in a test my mom would show me less affection and caring.”). The scale included nine items. Correspondingly, mothers were asked about their explicit use of PACNR (e.g., “If my child does not make an effort for school, I make him feel that he should be ashamed.”). The scale included 10 items. Mothers and adolescents rated the items on a scale from 1 (very much disagree) to 7 (very much agree); high values on the scales indicated high PACNR. The psychometric quality and validity of the original scale and the German translation have been demonstrated in numerous studies (Assor et al., 2004; Assor & Tal, 2012; Otterpohl et al., 2017; Roth Assor et al., 2009). Cronbach's alpha for the two versions (mothers and adolescents) in the current study were 0.91 and 0.95, respectively.

### Anger

We used three items from Roth et al. (2009) to measure mothers' habitual dysregulated anger expression. Items asked for different aspects of dysregulated expression in situations mothers experience anger (e.g., “When I'm angry, I feel I have little control over my behavior.”). We used a 7-point scale ranging from 1 (not true at all) to 7 (absolutely true). Higher scores indicated that mothers expressed anger in a rather dysregulated manner. Empirical findings show good reliability and construct validity of the original scale and the German translation (Otterpohl et al., 2017; Roth et al., 2009). Cronbach's alpha in this study was 0.80.

We then assessed how angry mothers would feel in situations of child failure. Therefore, mothers were



**Fig. 2** Moderated mediation analysis (latent model). Note. Coefficients shown are standardized path coefficients. C-PACNR Child's report of parental academic conditional negative regard, M-PACNR Mother's report of parental academic conditional negative regard. \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

instructed to imagine that their child had received a poor grade at school. Then they rated their extent of anger on a 7-point scale ranging from 1 (very calm and peaceful) to 7 (very angry). We used a single item to measure anger (German “wütend”) to assess parents' emotional response as closely as possible alongside the items of dysregulated anger expression.

### Plan of Analysis

Before testing the hypotheses, the potential confounding effects of the background variables were examined. To this end, a MANCOVA was conducted with all study variables as dependent variables. Adolescents' gender, school track, mean school grades (mathematics, English, and German), and family structure (intact vs. non-intact) were entered as fixed factors, and mothers' age and level of education (as indicator of mothers' socioeconomic status) as covariates. Results revealed multivariate effects of adolescents' gender (Wilk's Lambda = 0.93,  $F(5196) = 2.96$ ,  $p = 0.01$ ), with boys reporting higher scores in PACNR ( $d = 0.48$ ). In all subsequent analyses, we controlled for the effect of adolescents' gender on adolescents' report of PACNR as a significant background variable.

To test our hypotheses, we first conducted a mediation analysis and included a moderation term in the next step (see Fig. 2 for our final model). We used structural equation modeling with latent variables in Mplus 8 (Muthén & Muthén, 1998–2017). A priori power analysis with an anticipated medium effect size of 0.3, a desired power level of 0.8, a model consisting of 4 latent and 13 manifest variables, and a probability level of 0.05 revealed a minimum sample size of  $N = 166$  mother-adolescent dyads. The online survey ensured, that participants did not omit items,

consequently there was no missing data. Robust maximum-likelihood estimation with Huber-White standard errors (MLR estimation) was applied. To evaluate model fit, 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) were taken into consideration. As recommended, we used the following cut-off values to evaluate good model fit in MLR estimation: chi-square should be as small as possible, RMSEA < 0.06, CFI > 0.90, and SRMR < 0.08 (Muthén, 2012).

We used latent variables to reduce the error variance in the model. To build latent variables, we created three parcels per latent factor, resulting in parcels of three to five items. This benefits the model in such a way that parcels are more likely to be related to the latent variable, are less contaminated by methodological effects or wording of individual items, and are more likely to meet the assumption of normality (Marsh et al., 1998). Parcels were created using the item-to-construct balance approach (Little et al., 2002). First, a 1-component principal component analysis was conducted for the variables CCSE, mothers' (M-PACNR), and children's (C-PACNR) reports of PACNR. The items with the highest and lowest factor loadings were added to the first parcel, the items with the second highest and second lowest factor loadings were added to the second parcel, and so on. This procedure was repeated until the items were evenly distributed across the three parcels. Dysregulated anger expression was measured using three items; therefore, items served as indicators for the latent variable. The item for anger after child failure was added as a manifest variable.

In testing the moderation, we centered the manifest variable involved in forming the interaction term as recommended (Muthén et al., 2016; Muthén, 2017, July 19). Therefore,

**Table 1** Means, standard deviations, internal consistency, and correlations (Spearman-Rho) among the study variables

	<i>M</i> ( <i>SD</i> )	$\alpha$	(1)	(2)	(3)	(4)	(5)
(1) C-PACNR	1.82 (1.27)	0.95	–				
(2) M-PACNR	2.12 (1.17)	0.91	0.37***	–			
(3) CCSE	2.76 (1.09)	0.90	0.27***	0.44***	–		
(4) Anger after child failure	3.82 (1.03)	–	0.21*	0.41***	0.31***	–	
(5) Dysregulated anger expression	3.46 (1.65)	0.80	0.14*	0.33***	0.28**	0.24***	–

*C-PACNR* Child's report of parental academic conditional negative regard, *M-PACNR* Mother's report of parental academic conditional negative regard, *CCSE* Child-invested contingent self-esteem

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

anger after child failure was mean-centered. The Mplus command XWITH was used to include the interaction terms in the models (Klein & Moosbrugger, 2000). A drawback of the method implemented in Mplus is that there are no conventional fit indices (e.g., RMSEA) available. Therefore, the fit of the model without the interaction term, but including the main effect of the moderator variable was evaluated as recommended by Asparouhov & Muthén (2021).

## Results

Table 1 shows the intercorrelations of the study variables as well as the mean values, standard deviations, and internal consistencies of the scales. All study variables reported by the mothers showed positive small- to medium-sized intercorrelations. The correlation between adolescents' and mothers' reports on maternal use of the PACNR was medium. CCSE, anger, and dysregulated anger expression correlated higher with mothers' than with adolescents' reports on PACNR.

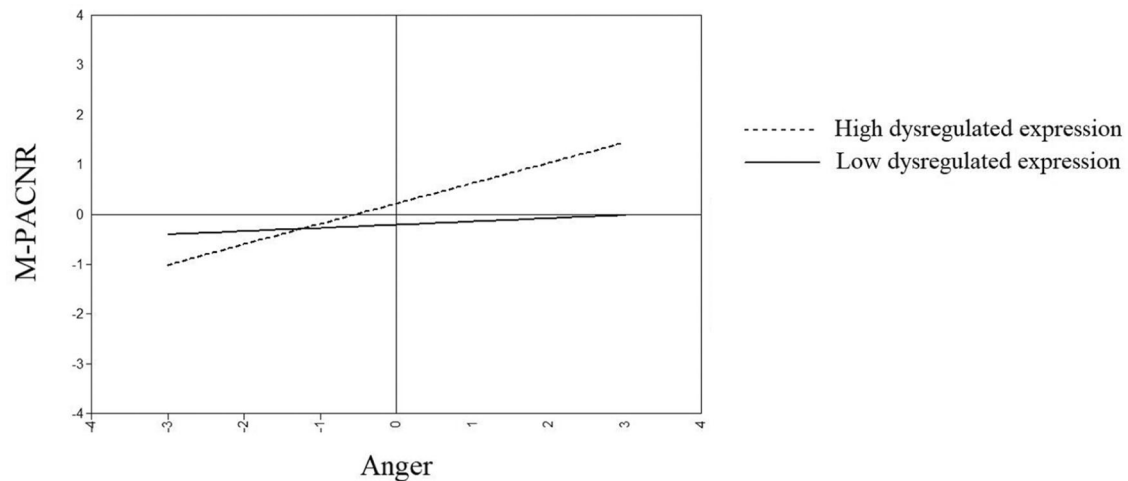
### Moderated Mediation Analysis

The measurement model of all study variables in the form of a confirmatory factor analysis indicated good model fit ( $\chi^2(48) = 80.10$ , CFI = 0.98, RMSEA = 0.06, SRMR = 0.04), with all factor loadings  $\lambda > 0.78$ , except for one item of dysregulated anger expression ( $\lambda = 0.61$ ). Based on this measurement model, we built our structural equation model in two steps, according to our hypotheses. First, we tested our mediation assumption by including CCSE, M-PACNR, and C-PACNR, adding anger as a mediator. In the next step, we tested the moderating effect of dysregulated anger expression. The final model is depicted in Fig. 2.

In the mediation model, we first included a path from maternal use of PACNR (M-PACNR) on child perception of PACNR (C-PACNR). We further specified paths from CCSE to both reports of PACNR. Finally, we added anger as a mediator between CCSE and both reports of PACNR. The model showed a good fit:  $\chi^2(39) = 56.04$ , CFI = 0.99,

RMSEA = 0.04, SRMR = 0.03. Explanation of variance was significant for anger ( $R^2 = 0.13$ ,  $p < 0.01$ ), M-PACNR ( $R^2 = 0.34$ ,  $p < 0.001$ ), and C-PACNR ( $R^2 = 0.20$ ,  $p < 0.001$ ). We found CCSE predicting M-PACNR ( $\beta = 0.46$ ,  $p < 0.001$ ), which, in turn, predicted C-PACNR ( $\beta = 0.28$ ,  $p < 0.001$ ). CCSE did not directly predict C-PACNR. In addition, CCSE predicted anger after child failure ( $\beta = 0.36$ ,  $p < 0.001$ ), which in turn predicted M-PACNR ( $\beta = 0.23$ ,  $p < 0.001$ ). We used bootstrapping with 1000 samples to test indirect effects. The indirect effects of CCSE on C-PACNR via M-PACNR ( $\beta = 0.17$ ,  $p < 0.01$ ), and via anger and M-PACNR ( $\beta = 0.03$ ,  $p < 0.05$ ) were significant. To test for partial mediation, we constrained the direct paths of CCSE to M-PACNR and C-PACNR to zero. This constraint significantly reduced the model fit ( $\Delta\text{SBS} - \chi^2(2) = 39.07$ ,  $p < 0.001$ ). Next, the direct path between CCSE and M-PACNR was larger ( $\beta = 0.54$ ,  $p < 0.001$ ) when excluding the mediator from the model. This supports the hypothesis of partial mediation. Leaving out non-significant paths of CCSE and anger on C-PACNR did not significantly reduce model fit ( $\Delta\text{SBS} - \chi^2(2) = 2.06$ ,  $p = 0.36$ ). Therefore, we used the reduced model for moderation testing.

In the moderation model, we added dysregulated anger expression as a predictor of M-PACNR. Given that the model including the main effect of dysregulated anger expression fitted the data well ( $\chi^2(72) = 109.88$ , CFI = 0.98, RMSEA = 0.05, SRMR = 0.05), the interaction term of M-PACNR and anger was added (Fig. 2). Explanation of variance was significant for anger ( $R^2 = 0.12$ ,  $p < 0.01$ ), M-PACNR ( $R^2 = 0.40$ ,  $p < 0.001$ ), and C-PACNR ( $R^2 = 0.18$ ,  $p < 0.001$ ). The main effect of dysregulated anger expression ( $\beta = 0.19$ ,  $p < 0.01$ ) and the interaction with anger ( $\beta = 0.17$ ,  $p < 0.01$ ) on M-PACNR was significant. To further explore the interaction, we calculated simple slopes for mean, high, and low values ( $M \pm 1$  SD) of dysregulated anger expression. Anger was significantly associated with M-PACNR for high ( $b = 0.41$ ,  $p < 0.001$ ) and mean ( $b = 0.24$ ,  $p < 0.001$ ) dysregulated anger expression. The slope for low dysregulated anger expression was not significant ( $b = 0.06$ ,  $p = 0.39$ ). The slopes for



**Fig. 3** Interaction (simple slopes) between maternal anger after child failure and dysregulated anger expression in the prediction of parental academic conditional negative regard. Note. M-PACNR Mother's report of parental academic conditional negative regard. Anger and M-PACNR are mean-centered

high and low dysregulated anger expression are shown in Fig. 3.

## Discussion

The present study aimed to investigate a possible mechanism in the association between parents' CCSE and the use of conditional negative regard. Parents' anger responses to children's failures mediated the respective association. In addition, we showed that anger was more strongly associated with conditional negative regard in parents who expressed their anger in a dysregulated manner. Our findings suggest that the association between anger and PACNR may be significantly buffered if parents are in control of their anger. Finally, parents' use of conditional regard was related to children's perception of being conditionally regarded, highlighting the importance of our findings for the parent-child relationship and, ultimately, children's well-being. Taken together, our results support the idea that parents' use of conditional negative regard may not always be the product of a well-intended socialization strategy. Rather, conditional regard behavior that stems from a prompt and impulsive anger reaction to child failure in parents, whose self-esteem depends on the performance outcome, seems to exist. This is an interesting finding as it offers a possible explanation for parental engagement in conditional negative regard, apart from a lack of knowledge, that PACNR is a suboptimal strategy that carries psychological costs and ultimately misses the parents' goal of promoting school engagement. This might have important implications for understanding and defining conditional regard and prevention strategies.

The literature mostly defines conditional regard as a socialization strategy, including the idea that parents (consciously or unconsciously) pursue a long-term socialization goal with their parenting (Assor et al., 2014; Assor et al., 2020; Curran et al., 2017). In terms of operant conditioning, parents may use conditional negative regard to punish low performance, for example, to enhance the child's school engagement. Our results suggest a second route to conditional regard. In addition to a proactive route that involves goal-oriented use, there might be a reactive type of conditional negative regard, driven by impulsive anger. This reactive type seems to be a by-product of parents' attempts to regulate their self-esteem, and their underlying need frustration. In our study, mothers were able to recognize and report the depreciating behavior associated with their dysregulated anger. Thus, parents may be aware of not only the *if* but also the *why* of their conditional negative regard. We presume it possible that parents may be able to distinguish whether they use conditional regard as a socialization strategy to promote achievement or disregard their child because they are overwhelmed by anger. Rhoades et al., (2017) suggested that parents may at least be able to report on the discrepancy between their intention to use conditional regard (ideal response) and their actual use of PACNR. A recent prospective study found that the orientation to use conditional regard in expectant mothers and their actual observed conditional regard with their toddlers had low correlation ( $r = 0.30$ ; Assor et al., 2020), suggesting various factors other than intentional use of conditional regard to determine their actual behavior.

Anger partially mediated the relationship between CCSE and PACNR. Therefore, we consider it worthwhile to broaden the view of other possible responses to self-esteem



threats that may function as mediators. Notably, our results are highly congruent with findings from an extensive body of research that investigates shame and has recognized that anger (e.g., Tangney et al., 1992) and aggression (e.g., Elison et al., 2014) arise in shameful situations. Although we did not assess parental shame explicitly, the theory on contingent self-esteem assumes (and explicitly includes in measures) that failures in the domain of contingency elicit shame (e.g., Ng et al., 2014). Research shows that individuals who do not recognize or accept shame tend to respond to a shaming event with anger directed at others (*attack others*; Elison et al., 2006). Anger directed at someone else, in turn, comes with the tendency to induce shame in someone else, which serves the aim of creating a better self-image. In light of these findings, conditional negative regard might well reflect parents' dysfunctional shame regulation by attacking the child. Besides outward-directed anger, shame coping theories suggest three more internalizing dysfunctional strategies: attacking the self, avoidance, and withdrawal (Elison et al., 2006). Including these reactions in future studies might allow us to gain more fine-grained insight on the action tendencies that constitute conditional regard. Furthermore, it allows us to investigate the idea that internalizing parental behaviors owing to self-esteem threat are perceived as devaluing by the child, while not reported as such by the parent (see our reasoning in the introduction). Identifying sources other than parents' explicit use of conditional regard for children's representations of being conditionally regarded is important because it might shed light on possible unintended and unacknowledged detrimental parenting behaviors.

Our findings have implications for the prevention of conditional negative regard. We assume that psychoeducation about the nature of PACNR and its negative consequences may be sufficient if conditional regard is used as a socialization strategy, but it may fall short if PACNR results from anger outbursts. In that case, parental anger regulation needs to be addressed as an additional intervention component to enable parents to act congruently with their intended parenting. An integrative regulation of anger would allow parents to deal autonomously and flexibly when anger arises in academic failure situations and prevents them from expressing their anger in a dysregulated manner. One important intervention component in the emotion-focused parenting program *Tuning in to Kids*, in which parents are taught to coach (instead of disregard or disapprove) their children's emotions, involves parents' emotion regulation strategies (Havighurst & Haley, 2007). Within the program, parents reflect on their own emotional experiences, their attitudes toward emotions, and the possible needs behind their emotions. This approach may help parents view their anger as containing information about themselves and as a possible indicator of the involvement of

parental self-esteem with respect to the child's performance in school. The potential benefit of such interventions match ideas about the prevention of interpersonal aggression. Interventions to reduce family violence and conflict already consider anger management and involve the search for sources of anger as an important intervention component (Fetsch et al., 2008). In addition, because self-esteem concerns indicate a frustration of basic psychological needs, it seems worthwhile to address parents' proactive role in managing their own needs in a more constructive manner. Need crafting, which involves proactive management of basic psychological needs (Laporte et al., 2021), may have the potential to make controlling parenting behaviors (such as PACNR) unnecessary. In summary, we propose that the occurrence of strong negative emotions, dysregulated anger expression, and PACNR can be prevented if parents are knowledgeable about their anger and the involvement of CCSE, and are able to pursue self-esteem and need satisfaction beyond controlling parenting.

An important limitation of our study is that the cross-sectional data did not allow for causal conclusions or temporal inferences of effects. This is important because research stresses the reciprocal nature of parenting and child adjustment (Soenens et al., 2008; Otterpohl et al., 2021), and it is important to consider adolescents' role in shaping the parent-child relationship (Soenens & Vansteenkiste, 2020). Additionally, the literature already suggests that children parented with PACNR experience emotions like shame (Assor & Tal, 2012; Smiley et al., 2020) and anger (Smiley et al., 2016) in response to difficulties in achievement tasks, which may affect parents' emotional reactions. Together with our findings, the literature suggests that shame and anger may play roles as the antecedents and consequences of conditional regard, respectively. Therefore, it is worthwhile to investigate the interplay between children's and parents' emotional experiences. A second limitation concerns parents' reports of anger after a child's failure. Parents likely have experienced failure situations several times, and our measure may well reflect the parents' representation of failure situations. However, future studies need to explore parents' actual responses, for example, by observing anger expressions in an experimentally manipulated failure situation. A third limitation is that we investigated anger in a sample of mother-adolescent dyads. In a study by Wuyts et al., (2015), fathers reported a higher intention than mothers to use psychological control aimed at pressuring the child into high performance in school. Moreover, men were found to disguise their anger less (Timmers et al., 1998). It is worthwhile to investigate whether parental anger expression may help explain the differences between fathers and mothers in their use of conditional negative regard.

Taken together, this study contributes to the research in this field by unraveling an underlying mechanism of

how CCSE may promote conditional negative regard. Our results argue in favor of (at least) two routes toward conditional regard. In addition to applying it as a socialization strategy to foster child engagement (proactive), conditional negative regard may occur as a by-product of a dysregulated anger reaction (reactive), and hence does not necessarily involve socialization intentions. This reactive type of conditional regard may prevail, especially when parents are under internal pressure. Therefore, this study can serve as a starting point for understanding PACNR as a by-product of parental self-esteem regulation. The link between self-esteem threat and anger seems to be important, not only for overt aggression and violent behavior (Elison et al., 2014; Velotti et al., 2014), but also for more subtle depreciating behavior in the parent-child relationship. Accordingly, our results underline that enhancing parents' abilities to adaptively regulate anger and identify CCSE as a source may be fruitful in preventing overt family aggression as well as subtle and insidious harmful parenting such as conditional negative regard.

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## Compliance with Ethical Standards

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

**Ethical Approval** The study was approved by the local ethics committee of the Department of Psychology, Justus-Liebig University (Ethics approval number: 2016-0028).

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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