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Brief Report: Maternal socialization of emotion and the development of emotion regulation in early adolescent girls

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Abstract

Regulation of negative emotions is a core competency of child development. Parental emotion socialization profoundly influences later capacity to regulate negative affect in childhood and adolescence. The present study examined the effects of maternal emotion socialization on the development of emotion regulation in the context of a longitudinal study of 210 mother-daughter dyads. Dyads completed a conflict resolution task when the child was age 11 years during which maternal warmth and hostility were coded. At ages 11 to 13 years, mothers completed self-report measures of supportive and non-supportive responses to child negative emotion, and children completed self-reports of inhibition and adaptive regulation of sadness and anger. We used latent growth curve modeling to estimate changes in inhibition and adaptive regulation of sadness and anger over time; observed maternal warmth and hostility were included as time-invariant covariates and maternal self-report of supportive and non-supportive responses were included as time-varying covariates. Observed maternal warmth was positively associated with girls' adaptive regulation of anger and sadness at age 11 years. Maternal self-reported supportive responses to girls' negative affect were positively associated with girls' adaptive regulation of anger, and non-supportive responses were negatively associated adaptive regulation of anger and sadness. These findings support the role of maternal emotion socialization and indicate specific effects of maternal warmth and supportive responses in the development of girls' capacity to modulate negative emotions during early adolescence.

Emotion regulation refers to an individual's awareness, modulation, and expression of affective states (Gross, 2013; McRae et al., 2017). Individual differences in emotion regulation emerge in childhood and adolescence and are associated with later mental health outcomes (Aldao et al., 2016; Compas et al., 2017; Keenan et al., 2009). Emotion socialization is an important mechanism by which the caregiving environment influences the range of emotion regulation strategies utilized by children and adolescents. Emotion socialization is an ongoing series of processes by which youth learn via observations of

parents' self-regulation, responses to offspring emotion expression, and emotion modeling and coaching (Eisenberg, 2000; Smetana & Rote, 2019). Both positively valenced (e.g., expressed warmth, authoritative styles) and negatively valenced (e.g., hostility, invalidation) parental behaviors predict later outcomes (Smetana & Rote, 2019; Tan et al., 2020). Over time, emotion expression and regulation strategies during parent-child interactions reinforce their use in and outside of the family context (Berkman & Lieberman, 2009; Gyurak et al., 2011). Evaluating these emotion socialization processes during different developmental periods is therefore important to identify critical periods of regulation adaptability and mental health risks.

Early adolescence, which generally corresponds to the period between ages 10 and 15 years, is a complex period that includes increased social interactions with peers, challenges with parents, and increases in and difficulty regulating negative emotions (Collins & Steinberg, 2006; Larson, Moneta, Richards, & Wilson, 2002; Laursen, Coy, & Collins, 1998). Early adolescence also represents a sensitive period for stress exposure, emotional reactivity, and risk for psychopathology in part due to puberty-related changes in neurodevelopmental architecture (Guyer et al., 2016; Shields et al., 2021; Vilgis et al., 2018). Throughout childhood and adolescence, parent-child interactions remain important vehicles of emotion socialization for social-emotional outcomes (Bronstein et al., 1993; Masten, 2001; Plomin et al., 2001). For example, maternal warmth has been found to be associated with adolescent resilience, indicated by low levels of internalizing behaviors and high level of prosocial functioning, in the context of risk factors such as maternal depression (Brennan et al., 2003; Yap et al., 2008). Maternal positive and negative behaviors during the early adolescent period were prospectively associated with mood disorders across later adolescence (Schwartz et al., 2014). Thus, identifying parenting factors associated with emotion regulation during early adolescence is important from the perspective of defining critical periods for psychopathology.

Previous research on parental emotion socialization, however, has often lacked specificity regarding type of emotion (Dagne & Snyder, 2011). Different types of negative affect, such as anger and sadness, have relatively distinct biobehavioral underpinnings (Kassam et al., 2013; Lerner et al., 2007; Tracy & Randles, 2011), and different regulatory strategies may vary in successful modulation of negative affect, both of which have implications for later psychopathology. For instance, the inhibited expression of sadness and anger explained more variance in later depression symptoms and functional impairment than dysregulated expression (Keenan et al., 2009). Further, the prospective associations between sadness regulation, but not anger regulation, and depression were moderated by parental acceptance and psychological control (Feng et al., 2009). Unsupportive parental behaviors, such as psychological control, have a unique role in influencing depressive symptoms and aggressive behaviors through regulation. Specifically, a strong association was observed between parental psychological control and adolescent depression among adolescents with low sadness regulation abilities; among adolescents with low anger regulation abilities, a strong association was observed between parent psychological control and adolescent aggressive behaviors (Cui et al., 2014). These results suggest that negative and unsupportive parental behaviors have an impact on adolescent anger and sadness regulation individually, which may result in the development of maladaptive behaviors and internalizing disorders.

As such, transactional processes between parents and youth likely play a crucial role in the development of emotion regulation and later psychopathology.

In the present study, we examined relationships among observed maternal warmth and hostility during a conflict resolution task and maternal self-report of supportive and non-supportive responses to girls' negative affect and girls' emotion regulation strategies in early adolescence. First, we hypothesized that adaptive regulation of anger and sadness would decrease and that inhibition of anger and sadness would increase from age 11 to 13 years. Second, we hypothesized that positive maternal behaviors (observed warmth, self-reported supportive responses) would predict girls' higher levels of adaptive regulation of sadness and anger at age 11 and from ages 11 to 13 whereas negative maternal behaviors (non-supportive responses, observed hostility) would be associated with lower levels of adaptive regulation of sadness and anger at age 11 and from ages 11 to 13. Third, we hypothesized that positive maternal behaviors would be associated with lower levels of inhibition of sadness and anger whereas negative maternal behaviors would be associated with higher levels of inhibition of sadness and anger at age 11 and from ages 11 to 13. Given the limited work that has tested parenting behavior on anger and sadness regulation within a single study, we do not present hypotheses specific to each emotion.

Methods

Participants

Participants were girls and their biological mothers enrolled in the Pittsburgh Girls Study Emotions Sub-Study (PGS-E; Keenan et al., 2008), a longitudinal study of preadolescent precursors to depression in adolescence. The Pittsburgh Girls Study (PGS) sample was formed following an enumeration of households with 5–8-year-old girls living in the city of Pittsburgh. Of the 2,992 eligible families, 2,450 (85%) were successfully re-contacted and enrolled.

Participants for PGS-E included girls who enrolled in PGS at age 5 years; all girls who screened in the upper quartile on the self-reported Short Moods and Feelings Questionnaire (Messer et al., 1995) and/or parent-reported Child Symptom Inventory (Gadow & Sprafkin, 1997) at age 8 years were eligible for PGS-E. A random selection from the remaining same-age cohort of girls matched on race was also invited to participate. This enriched sampling strategy was used to increase the base rate of depression as the girls moved into adolescence. The number of participants targeted for enrollment was based on power calculations that underwent National Institute of Health peer review. Briefly, power analyses were conducted using data from the 8-year-old PGS participants and were based on planned analyses for depression symptom outcomes. A proportional odds model was fitted to the data with an ordinal scale of depression as the dependent variable. A bootstrap method was used to generate reliable estimates for standard errors of the coefficients. Power was estimated to be over 85% for testing family emotion socialization and depression symptoms.

Of the 263 girls selected for PGS-E enrollment, 232 (88.2%) agreed to participate and completed the first assessment at age 9 and four annual follow-up assessments through age 13; retention in subsequent waves was 94%. Sample racial distribution was 64.7% Black,

29.7% White, 4.7% multi-racial, and 0.9% Asian. The analytic sample for the present study included 210 of the 232 (90.5%) participants who completed the observed parent-child task described below.

Procedures and Measures

Girls and their mothers completed a two-hour laboratory assessment during which they were separately administered interviews and questionnaires and were observed in joint and individual activities. Written informed parental consent and child assent were obtained. Participants were compensated monetarily for their time. All study procedures were approved by the IRBs of the University of Chicago and the University of Pittsburgh.

Emotion regulation.—Girls completed the Children’s Sadness/Anger Management Scales (CSMS/CAMS) at ages 11, 12, and 13 years, which assess three strategies for the regulation of sadness and anger: adaptive emotion regulation, inhibition, and dysregulated expression (Zeman et al., 2001). Five items assess adaptive regulation (e.g., “I can stop myself from losing control over my sad feelings”). Four items measure inhibition (e.g., “I get sad inside but don’t show it”). Three items measure dysregulated expression (e.g., “I do things like slam doors when I’m mad”). In the present study, Cronbach’s alphas for inhibition and adaptive regulation of sadness ranged from .76-.79 and .68-.71, respectively, and for inhibition and adaptive regulation of anger were .76-.81 and .79-.82, respectively. Dysregulated expression subscales had low reliability (alpha range: .39-.63) and thus were excluded in the analyses.

Observed maternal hostility and warmth.—When the girls were 11 years of age, each dyad participated in a conflict resolution task during which they individually identified current topics of conflict in their relationship and then discussed each conflict for three minutes. Digital recordings were coded by a team of raters who were unaware of all other information about the dyad. Trained research assistants used the Warmth/Support and Hostility subscales of the Iowa Family Interaction Rating Scales (Melby & Conger, 2000) to code maternal behavior during the conflict resolution task. The Warmth/Support subscale measured the degree to which mothers expressed liking, appreciation, praise, care, concern, and/or support for their daughters through nonverbal communication (e.g., loving smiles), supportiveness (e.g., offering encouragement), and content (e.g., expressing statements of affirmation or empathy). The Hostility subscale measured the degree to which mothers expressed hostility, anger, criticism, disapproval, and/or rejecting behavior towards their daughters through nonverbal communication (e.g., displaying an angry facial expression), emotional expression (e.g., shouting), and content (e.g., using critical remarks about the other person). The range for both scales is from 1 (“not characteristic”) to 9 (“mainly characteristic”). Inter-rater reliability among coders was high. Intraclass correlations of warmth and hostility ratings ranged from $\alpha=.90-.98$ and $\alpha=.86-.97$, respectively.

Maternal supportive and non-supportive responses to girl’s negative affect.—Mothers completed the Coping with Children’s Negative Emotions Scale (CCNES) to assess supportive and non-supportive maternal responses to negative affect when girls were 11, 12 and 13 years old (Fabes et al., 2002). Twelve hypothetical scenarios were presented in

which a child displays negative affect such as anger or sadness. Mothers then indicated the likelihood of engaging in six behaviors in response to the child's affect (1 = very unlikely, 7 = very likely). The CCNES comprises six subscales, three of which capture supportive responses (i.e., Expressive Encouragement, Emotion-Focus Responses, and Problem-Focus Responses), and three of which capture non-supportive responses (i.e., Distress Reactions, Punitive Responses, Minimization Responses). The CCNES has good internal consistency, test-retest reliability, and predictive validity of children's emotional competence (Fabes et al., 2002). In this study, Cronbach's alphas for maternal supportive and non-supportive responses ranged from .82-.85 and .72-.74, respectively.

Analytic approach

We used R version 4.1.2 and Mplus version 8.7 to conduct latent growth curve modeling (LGCM) of emotion regulation development. We estimated unadjusted (i.e., time-only models) followed by adjusted models in which the effects of covariates on intercepts and slopes were estimated. In adjusted models, observed maternal warmth and hostility were included as time-invariant covariates as these constructs were assessed at a single time point when girls were age 11. As maternal reports of supportive and non-supportive responses to girls' negative affect were measured from ages 11 to 13, these variables were included as time-varying covariates from ages 11 to 13. We estimated parallel models for each subscale (anger inhibition, anger adaptive regulation, sadness inhibition, sadness adaptive regulation). Analytic variables varied in degree of skew (range: 0.04-0.75) and kurtosis (range: 0.14-1.25). For all variables, data were available for at least 90.5% of the sample. As data missing were at random, models were estimated using full information maximum likelihood with robust standard errors. In sensitivity analyses, the impact of receipt of public assistance and race were examined but did not alter results. For parsimony, these variables were excluded from the final models.

Given the exploratory nature of this study, we selected an LGCM approach and entered all covariates in a single model simultaneously to reduce error from multiple testing rather than examining covariates individually. As an additional check of the robustness of results, we applied the Benjamini-Hochberg step-up procedure to control the false discovery rate ($\alpha = .05$). As this adjustment did not alter the overall interpretation of findings, we report the original *p*-values. Model fit for unconditional models was examined using standard fit indices (Root Mean Square Error of Approximation [RMSEA], Comparative Fit Index [CFI], Tucker Lewis Index [TLI]). As time-varying covariates were estimated using random slopes, these fit indices were not available for adjusted models.

Transparency and Openness

Coded participant level data at the item level and the syntax used to generate analytic constructs are available from the authors. Requests require completion of data use agreements, documentation of training in protection of human subjects, and attestation of use. All measures used are available via the cited references. This study was not preregistered.

Results

Descriptive Statistics.

Descriptive information for all study variables is provided in Table 1. Results from all zero-order correlations are presented as supplementary material. Observed maternal warmth and hostility were negatively correlated ($r = -.63, p < .01$). Maternal self-reports of supportive and non-supportive statements were stable over time (r s ranged from .59 to .67 for non-supportive and .60 to .70 for supportive), as were child reports of sadness (r s range from .30 to .47) and anger (r s range from .36 to .54) regulation strategies. Observed maternal warmth was not associated with self-report of supportive and non-supportive responses, but observed hostility was negatively associated with supportive responses at ages 11 ($r = -.24, p < .01$) and 12 ($r = -.19, p < .01$).

Variability and change in girls' emotion regulation strategies.

All unadjusted models indicated good fit (RMSEA = 0.08; CFI and TLI = 0.97). Results for the unadjusted and adjusted models for each of the four measures of emotion regulation are presented in Table 2. In the unadjusted models, significant intercept means and variances indicated that girls differed from each other and that there was variability within the sample at age 11 years for all four measures of emotion regulation: adaptive regulation and inhibition of both anger and sadness. In addition, adaptive regulation of anger decreased from ages 11 to 13 as indicated by the significant slope mean (Table 2). In the adjusted models intercept means for all four measures of emotion regulation remained significant, as did the intercept variance for adaptive anger regulation, and inhibition of sadness; the slope mean for adaptive regulation of anger was no longer statistically significant.

Maternal socialization of emotion.

Observed maternal warmth during conflict resolution was positively associated with girls' adaptive regulation of anger and sadness at age 11 years (Table 2). Observed maternal hostility was not associated with any of the four measures of emotion regulation. Maternal self-reported supportive responses to girls' negative affect were positively associated with girls' adaptive regulation of anger, and non-supportive responses were negatively associated with girls' adaptive regulation of anger and sadness.

Discussion

In the present study, we found moderate stability of emotion regulation strategies from ages 11 to 13 years; only adaptive regulation of anger was observed to significantly decline over time. Both observed and self-reported maternal responses to child emotion were associated with girls' regulation of negative emotions in early adolescence, but only with adaptive regulation. Specifically, observed maternal warmth was associated with adaptive regulation of anger and sadness at age 11, increases in maternal supportive responses were associated with adaptive regulation of anger, and decreases in maternal non-supportive responses were associated with adaptive regulation of sadness and anger. Observed maternal hostility was not associated with girls' emotion regulation strategies, and none of the maternal variables examined were associated with girls' inhibition of negative affect. These findings show that

parental emotion socialization exerts effects on indices of emotion regulation across early adolescence, a sensitive period for girls' emotional health (Guyer et al., 2016).

The current findings show specificity regarding emotion socialization on adaptive emotion regulation. We expected positive and negative emotion socialization behaviors to influence adaptive and maladaptive strategies, respectively. Observed and self-reported maternal behaviors, however, were specific to adaptive regulation, and were unrelated to maladaptive regulation (i.e., inhibition or suppression of negative emotion). A potential explanation is that the conflict resolution focus of the task was more likely to elicit modeling of adaptive emotion regulation than suppressing negative emotions. Examining other dyadic contexts within which to observe emotion socialization may reveal associations with the development of other emotion regulation, such as tasks that more reliably elicit negative emotion expression. We also note that inhibited expression was the only type of maladaptive strategy examined, as subscales measuring disinhibited expression of negative emotion had low reliability in this sample. Additional empirical evidence in support of the impact of parenting on *emotional health*, however, is an important extension of the parenting literature. Generating data on how parents can support positive emotion development during early adolescence helps to balance the data on parenting behaviors associated with youth mental health problems, providing opportunities to focus on their role in health promotion.

Observed warmth during the conflict task was concurrently associated with adaptive regulation of sadness and anger at age 11 years, but not with changes over time. One interpretation is that the impact of parental warmth on emotion regulation during this period is maintained only in the context of consistent expression of warmth. Our lack of repeated measures of warmth precludes testing this interpretation. Another possibility is that expression of parental warmth is more relevant for emotional health earlier in adolescence and becomes less salient as attachment and social learning behaviors become more oriented towards peers (Allen et al., 2017). Again, longitudinal assessments of attachment to and support from parent and peers and emotional health are needed to further explore these potential transactional influences.

The findings of this study should be interpreted in the context of several limitations. First, the present study lacked breadth in our assessment of emotions. Girls' positive emotions, the socialization of which is associated with decreased emotion dysregulation and adolescent depressive symptoms (Yap et al., 2008) were not measured. Nor did we assess frequency and intensity of negative emotion in addition to regulation, and thus cannot comment on "efficacy" of adaptive regulation strategies. Second, observed maternal behavior was coded globally as opposed to capturing dynamic patterns during the interaction. Further, demand characteristics may also have diminished expressions maternal hostility versus warmth in a laboratory setting, making it harder to capture its influence on child emotion regulation. Another limitation to the study is the lack of consideration of bidirectional effects of parenting and child emotion regulation. Results from several studies indicate that child emotion regulation and behavior impact parenting. For example, in samples of early adolescents and their mothers, reports of youth emotion dysregulation predicted less perceived supportive parenting (Brenning et al., 2015), and low levels of youth self-regulation predicted increases in authoritarian parenting (Moilanen

et al., 2015). Bidirectional effects appear to be more complex, with reciprocal relations varying as a function of parent (father versus mother) and whether disruptive behavior or emotional distress and regulation strategies are being modeled (Hipwell et al., 2008; Zvara, Sheppard, & Cox, 2018). Expanding on the present analyses by including multiple socializing agents, manifestations of both behavioral and emotional dysregulation within a longer developmental period will be important to increase the specificity of the results. In addition, we recognize that the family context including mother's mental health, family conflict and stress, as well the neighborhood and broader social contexts likely impact both girls' emotion regulation and maternal socialization of emotion. Parental stress can increase parents' vulnerability to engage in harsh and reactive parenting (Masarik & Conger, 2017), and neighborhood factors, are associated with adolescent emotional health (e.g., Rowe, Zimmer-Gembeck & Hood, 2016). As such, the next step in our research is to examine the maternal, family and community level factors that are associated with maternal use of warmth and support in helping their children learn to regulate negative emotions.

The study also has several strengths and contributes to our understanding of emotion socialization in early adolescence. Careful characterization of participants drawn from a community sample bolsters the generalizability of inferences that can be drawn. The enriched sampling strategy was designed to yield sufficient power to detect significant effects with respect to depressive symptoms and disorders. A limitation of oversampling girls scoring in the upper quartile on depression symptoms for a community-based sample is that the results may be most relevant for girls who are in a specific range within the continuum of emotional functioning. An advantage of the sampling, however, is that the limitations incurred when studying a clinical sample or studying a representative community sample are avoided. Moreover, the prospective design integrating multiple assessment modalities, including parent self-report, child self-report, and observations, contribute to the rigor of the results and support continued exploration of continuities and distinctions within these processes. Such findings aid in our understanding of how the caregiving environment influences emotion regulation development prospectively. The family environment is a critical example of non-shared influence on child development, and parental warmth and support specifically are observed and perceived to vary within families (Plomin, 2001). Given the neurobiological sensitivity of early adolescence (Guyer et al., 2016; Shields et al., 2021; Vilgis et al., 2018), these findings suggest that parent emotion socialization may be a potential target for preventive interventions aimed at supporting later adolescent mental health.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1.

Descriptive statistics

<u>Maternal Behavior</u>	Minimum	Maximum	Mean	SD
Observed maternal warmth, 11 years	1.00	7.50	2.95	1.34
Observed maternal hostility, 11 years	1.00	9.00	3.81	1.83
Maternal Non-supportive Responses, 11 years	2.00	5.00	3.28	0.70
Maternal Non-supportive Responses, 12 years	2.00	5.00	3.36	0.69
Maternal Non-supportive Responses, 13 years	2.00	6.00	3.32	0.73
Maternal Supportive Responses, 11 years	3.00	7.00	5.46	0.76
Maternal Supportive Responses, 12 years	3.00	7.00	5.41	0.82
Maternal Supportive Responses, 13 years	3.00	7.00	5.44	0.75
<u>Child Responses</u>				
Sadness Inhibition, 11 years	4.00	12.00	6.68	1.97
Sadness Inhibition, 12 years	4.00	12.00	6.82	1.96
Sadness Inhibition, 13 years	4.00	12.00	7.06	1.97
Sadness Adaptive Regulation, 11 years	5.00	15.00	11.11	2.30
Sadness Adaptive Regulation, 12 years	5.00	15.00	11.26	2.14
Sadness Adaptive Regulation, 13 years	5.00	15.00	10.96	2.01
Anger Inhibition, 11 years	4.00	12.00	6.69	1.98
Anger Inhibition, 12 years	4.00	12.00	6.68	2.07
Anger Inhibition, 13 years	4.00	12.00	6.58	1.99
Anger Adaptive Regulation, 11 years	4.00	12.00	8.98	2.09
Anger Adaptive Regulation, 12 years	4.00	12.00	8.95	2.01
Anger Adaptive Regulation, 13 years	4.00	12.00	8.41	2.02

Table 2.

Parameter estimates for latent growth curve models.

	Children's Anger Management Scale				Children's Sadness Management Scale			
	Adaptive Regulation		Inhibition		Adaptive Regulation		Inhibition	
	Estimate (SE)	P	Estimate (SE)	P	Estimate (SE)	P	Estimate (SE)	P
<u>Unadjusted Model</u>								
Intercept Mean	9.05 (0.14)	<.001	6.71 (0.13)	<.001	11.18 (0.15)	<.001	11.18 (0.15)	<.001
Intercept Variance	2.85 (0.60)	<.001	2.38 (0.62)	<.001	2.63 (0.66)	<.001	2.63 (0.66)	<.001
Slope Mean	-0.28 (0.07)	<.001	-0.06 (0.08)	.44	-0.07 (0.08)	.38	-0.07 (0.08)	.38
Slope Variance	0.43 (0.27)	.11	0.26 (0.29)	.38	0.22 (0.34)	.52	0.22 (0.34)	.52
<u>Adjusted Model</u>								
Intercept Mean	7.62 (1.11)	<.001	5.39 (0.15)	<.001	11.52 (1.16)	<.001	6.26 (1.09)	<.001
Intercept Variance	1.98 (0.97)	.04	1.83 (0.15)	.11	2.45 (0.14)	0.08	1.84 (0.21)	<.001
Slope Mean	-0.22 (0.42)	.61	-0.09 (0.47)	.85	0.02 (0.43)	0.97	-0.002 (0.41)	.99
Slope Variance	0.38 (0.27)	.15	0.22 (0.31)	.47	0.01 (0.07)	.95	0.004 (0.05)	.94
<u>Observed maternal warmth</u>								
Intercept	0.27 (0.12)	.02	-0.16 (0.14)	.26	0.32 (0.16)	.04	-0.14 (0.12)	.27
Slope	-0.10 (0.08)	.89	0.02 (0.08)	.85	-0.01 (0.08)	.94	0.01 (0.07)	.88
<u>Observed maternal hostility</u>								
Intercept	-0.07 (0.10)	.49	-0.07 (0.10)	.50	0.04 (0.10)	.68	-0.07 (0.09)	.46
Slope	0.001 (0.06)	.99	-0.01 (0.06)	.92	-0.01 (0.07)	.84	0.03 (0.06)	.60
<i>Time-varying Covariates</i>								
<u>Maternal supportive responses</u>								
Mean	0.37 (0.13)	.004	0.27 (0.12)	.30	-0.05 (0.13)	.70	0.13 (0.13)	.29
Variance	0.003 (0.91)	.91	0.02 (0.02)	.48	0.003 (0.03)	.93	0.003 (0.02)	.90
<u>Maternal non-supportive responses</u>								
Mean	-0.35 (0.13)	.005	0.18 (0.13)	.18	-0.37 (0.13)	.004	0.11 (0.13)	.40
Variance	0.01 (0.05)	.88	0.01 (0.07)	.90	0.05 (0.07)	.95	0.004 (0.05)	.94

Notes. Age 11 observed parental warmth and hostility were modeled as time-invariant covariates of emotion regulation. Parental self-reported supportive and non-supportive responses to children's negative emotions were modeled as time-varying covariates from ages 11 to 13.