



## Regular Article

# Developmental trajectories of adolescent internalizing symptoms and parental responses to distress

Jason D. Jones<sup>1,2</sup> , R. Chris Fraley<sup>3</sup>, Jessica A. Stern<sup>4</sup> , Carl W. Lejuez<sup>5</sup> and Jude Cassidy<sup>6</sup>

<sup>1</sup>Children's Hospital of Philadelphia, Philadelphia, PA, USA, <sup>2</sup>University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, USA, <sup>3</sup>University of Illinois at Urbana-Champaign, Urbana, IL, USA, <sup>4</sup>University of Virginia, Charlottesville, VA, USA, <sup>5</sup>Stony Brook University, Stony Brook, NY, USA and <sup>6</sup>University of Maryland, College Park, MD, USA

### Abstract

Parents' responses to their children's negative emotions are a central aspect of emotion socialization that have well-established associations with the development of psychopathology. Yet research is lacking on potential bidirectional associations between parental responses and youth symptoms that may unfold over time. Further, additional research is needed on sociocultural factors that may be related to the trajectories of these constructs. In this study, we examined associations between trajectories of parental responses to negative emotions and adolescent internalizing symptoms and the potential role of youth sex and racial identity. Adolescents and caregivers ( $N = 256$ ) completed six assessments that spanned adolescent ages 13–18 years. Multivariate growth models revealed that adolescents with higher internalizing symptoms at baseline experienced increasingly non-supportive parental responses over time (punitive and distress responses). By contrast, parental responses did not predict initial levels of or changes in internalizing symptoms. Parents of Black youth reported higher minimization and emotion-focused responses and lower distress responses compared to parents of White youth. We found minimal evidence for sex differences in parental responses. Internalizing symptoms in early adolescence had enduring effects on parental responses to distress, suggesting that adolescents may play an active role in shaping their emotion socialization developmental context.

**Keywords:** Adolescence; internalizing symptoms; longitudinal; parental responses to negative emotions

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Emotion socialization is a multi-faceted construct that captures the ways in which parents shape how their children understand, experience, and express emotions (Eisenberg et al., 1998). One extensively studied aspect of emotion socialization is how parents respond to their children's expressions of distress or negative emotions. Parents vary in how they respond to child distress and convention in the field has been to loosely categorize these different responses as supportive and non-supportive, although this categorization may be overly simplistic. Examples of supportive responses include encouraging the child's emotional expressions and suggesting constructive ways to resolve the issue that caused the upset. Examples of non-supportive responses from parents include minimizing or invalidating the child's negative emotions or becoming upset themselves. Decades of research on emotion socialization suggest that parental responses to child distress are associated with a host of important developmental outcomes, including emotion regulation, social competence, academic achievement, and attachment security (Ainsworth et al., 1978; Eisenberg et al., 1998; Leerkes et al., 2011; Morris et al., 2017; Nelson et al., 2013). In addition, compelling evidence has emerged indicating that parental responses to distress have transdiagnostic implications for the development of youth psychopathology

(Breux et al., 2022; Chronis-Tuscano et al., 2021). For example, parental invalidation of adolescents' emotion expressions has been associated with both internalizing and externalizing problems (Buckholdt et al., 2014). In addition, non-supportive parental responses to youth distress have been found to prospectively predict conduct problems (Johnson et al., 2017) and the onset of major depressive disorder (Schwartz et al., 2011).

It is important to note, however, that several studies have not found main effects of parental responses to distress on youth psychopathology (e.g., Dunbar et al., 2022; Felton et al., 2022; Hale & Zeman, 2023; McQuade et al., 2021). One possible interpretation of these null main effects is that supportive reactions may not be universally "good" and non-supportive reactions may not be universally "bad." Rather, the effects of parental responses on psychopathology might depend on characteristics of the parent, child, or their environment (i.e., moderators). Alternatively, it is possible that the effects of parental responses may be better conceptualized as indirect through mediating factors such as child emotion regulation or coping skills. Each of these possibilities highlights the need for a more nuanced examination of parental emotion socialization.

Despite decades of study on the links between parental emotion socialization and child psychosocial development, there remain some noteworthy gaps in the literature. A recent two-part special issue on the transdiagnostic implications of parental emotion socialization (Breux et al., 2022; Chronis-Tuscano et al., 2021) highlighted several key areas for future research to advance the

**Corresponding author:** J. D. Jones; Email: [jonesjd@chop.edu](mailto:jonesjd@chop.edu)

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field, including: (a) greater attention to bidirectional and transactional effects, (b) more longitudinal studies, and (c) greater attention to individual and sociocultural factors such as youth sex and racial identity.

Consistent with the larger literature on parenting, much of the research on emotion socialization has focused on the unidirectional effects of parental responses to distress on child outcomes (e.g., symptoms). However, it has long been recognized that children and adolescents actively shape their developmental context and elicit responses from caregivers (e.g., Bell, 1968; Davidov *et al.*, 2015; Scarr & McCartney, 1983). Accumulating evidence suggests that children play a role in shaping caregivers' responses to their emotional expressions. For example, Eisenberg *et al.* (1999) found that children's externalizing symptoms predicted subsequent punitive parental responses to children's negative emotions. Similarly, in an adolescent sample, Nelis *et al.* (2019) found that youth depressive symptoms prospectively predicted less supportive parental responses to adolescents' positive emotional expressions. Further evidence comes from research with clinical samples of youth. Compared to parents of non-depressed youth, parents of adolescents with major depression engaged in less supportive and more non-supportive responses to adolescents' negative and positive emotions (Katz *et al.*, 2014; Shortt *et al.*, 2016). These findings suggest that youth symptoms may elicit less supportive responses from parents which may, in turn, exacerbate youth symptoms. Additional research is needed to further unpack these dynamic and transactional processes.

Elucidating such transactional processes requires longitudinal research designs which, although increasing, are still lacking in research on parental emotion socialization (Chronis-Tuscano *et al.*, 2021; Zahn-Waxler, 2010). Further, there is evidence that emotion socialization practices change as children get older and even evolve within certain developmental periods (e.g., early adolescence vs. middle adolescence). Results from several studies suggest that supportive responses decrease and non-supportive responses increase from early/middle childhood to late childhood/early adolescence (Eisenberg *et al.*, 1999; McKee *et al.*, 2022) and again from early adolescence to middle adolescence (Klimes-Dougan *et al.*, 2007). The entry into adolescence marks a period characterized by changes in the parent-adolescent relational dynamic, increased negative emotionality, emotional lability, and the emergence of many of forms of psychopathology (Allen, 2008; Larson *et al.*, 2002; Merikangas *et al.*, 2010). In the face of such social and emotional changes, parents are confronted with the task of figuring out how to respond to their adolescent's expressions of negative emotion. Although early research on emotion socialization focused on younger children, more studies have begun to focus on the adolescent period (e.g., Felton *et al.*, 2022; Klimes-Dougan *et al.*, 2007). Additional longitudinal research is needed to characterize developmental trajectories of parental responses to distress during adolescence and associations with the development of psychopathology.

It is important to consider the sociocultural context in which emotion socialization occurs (Klimes-Dougan & Zeman, 2007). Although emotion socialization theory emphasizes the role of culture and context (Eisenberg *et al.*, 1998), until recently most studies have included majority-White samples and there has been limited examination of the role of racial identity in how parents respond to their children's negative emotions (Labella, 2018). Race and culture shape views and beliefs about emotional

expression and there is recent evidence for racial differences in how parents respond to their children's negative emotions. For example, compared to parents of White children, parents of Black children are more likely to encourage suppression of negative emotions (Dunbar *et al.*, 2017, 2021). Although minimization or suppression responses have traditionally been viewed as non-supportive responses in the emotion socialization literature, it has been proposed that Black parents' tendency to encourage suppression in some contexts evolved as an adaptive response to racial discrimination and biases their children may encounter (Dunbar *et al.*, 2017; Labella, 2018). Both real world examples and empirical evidence suggest that emotional displays from Black children can be perceived negatively and have negative consequences. For example, compared to White children, the emotional expressions of Black children are more likely to be interpreted as angry or hostile (Halberstadt *et al.*, 2022) and such implicit biases have been associated with differential treatment of children and negative outcomes (Denessen *et al.*, 2022). Black parents may be trying to help their children avoid the potential negative consequences of these misattributions by encouraging their children to suppress negative emotional expressions. There is also evidence that suppression responses to negative emotions are often accompanied by supportive responses from Black parents and that the combination of high support and moderate suppression in response to child distress is adaptive for Black children (Dunbar *et al.*, 2022). The research by Dunbar and colleagues, and most other studies on racial differences in emotion socialization, have focused on younger children. It will be important to examine racial differences in parental responses to distress among parents of adolescents because adolescents have more autonomy and greater exposure to societal biases and threats.

Youth sex, gender stereotypes, and societal expectations about gender roles also shape the ways in which emotions are expressed and responded to (Brody & Hall, 2010). Boys and girls express emotions differently. Girls exhibit more positive emotions and internalizing emotions (e.g., sadness) than boys, and boys exhibit more externalizing emotions (e.g., anger) than girls (Chaplin & Aldao, 2013). This difference has led researchers to investigate whether parents socialize emotions differently in sons versus daughters. Overall, the empirical evidence is mixed. For example, a study with mothers and fathers of preschoolers found that parents' self-reported and observed reactions to emotions did not differ for sons and daughters (Denham *et al.*, 2010). Similarly, Klimes-Dougan *et al.* (2007) found that parents of adolescents generally respond to emotional expressions from girls and boys in much the same way. By contrast, others have found differences based on child sex for certain types of emotions (Cassano *et al.*, 2007; Chaplin *et al.*, 2005). For example, Cassano *et al.*, found that parents responded more supportively to daughters' versus sons' expressions of sadness. Notably, in the recent special issue on emotion socialization (Chronis-Tuscano *et al.*, 2021), only one study found differences in parental emotion socialization based on child sex (Jordan *et al.*, 2021). In this study of 8–15-year-old children, parents of boys responded more punitively to negative emotional expression than parents of girls. An important caveat is that most research on emotion socialization has focused on youth biological sex or used sex as a proxy for youth gender. Additional research on how child gender identity as well as sex influence parental emotion socialization practices is warranted.

## Present study

The goal of the present study was to address the important gaps identified above using data from a diverse sample of adolescents and caregivers participating in a longitudinal study of adolescent development. Specifically, we had two aims. First, we used multivariate latent growth curve models to examine associations between the developmental trajectories of parental responses to adolescent distress and adolescent internalizing symptoms. Expanding on prior cross-sectional work and longitudinal studies with only a few time points, in the present study parents reported responses to adolescent distress and adolescents rated their internalizing symptoms over six annual assessments that spanned adolescent ages 13–18 years. Second, we examined how adolescent race and sex shape initial levels of symptoms and parental responses to distress as well as change over time in these constructs. Based on the literature reviewed above, we predicted bidirectional associations such that parental responses to distress will predict changes in adolescent internalizing symptoms and vice versa. In line with the work of Dunbar et al. (2021, 2022), we hypothesized that parents of Black youth would report more minimization (i.e., suppression) responses than parents of White youth. We did not make any other specific predictions about race. Given the inconsistencies in the literature, we did not make specific predictions about child sex.

## Method

### Participants

Participants were enrolled in a longitudinal study of adolescent development. The initial community sample included 277 adolescents and their caregiver(s) residing in the Washington, D.C. metropolitan area. Families were recruited through media and print advertisements distributed to community centers, schools, and libraries. Adolescents who were proficient in English and in 5<sup>th</sup> or 6<sup>th</sup> grade were eligible to enroll in the longitudinal study. Participants were not recruited on the basis of elevated internalizing symptoms. After the initial study visit (Year 1), families were assessed at annual intervals. In this paper, we focus on study Years 3 through 8 because these are the years during which parental emotion socialization and youth internalizing symptoms were both assessed. For simplicity, in this article we refer to these time points as T1 through T6. The present analyses included 256 youth-caregiver dyads with data available for analysis during these assessment years. Mean adolescent age was 13.06 years ( $SD = .89$ ) at T1 and 18.03 years ( $SD = .97$ ) at T6. The sample was 44% female and racially/ethnically diverse: 49% White ( $n = 125$ ), 36% Black ( $n = 91$ ), 11% other races ( $n = 27$ ), 3% Hispanic/Latino ( $n = 8$ ), 1% Asian ( $n = 3$ ), and 0.4% Native American/American Indian ( $n = 1$ ). The models that examined the effects of race included the 216 participants who identified as White or Black. Parental emotion socialization practices were largely based on mother or mother-figure reports (92% at T1) with the remaining based on father or father-figure reports. Mean parent age at T1 was 42.26 years ( $SD = 6.02$ ). Mean household income at T1 was \$103,624 ( $SD = \$55,803$ ). The majority of parents (61%) had a four-year college degree or higher and 74% of parents were married.

### Procedure

At the initial study visit, parents provided written consent for their own and their child's participation and adolescents provided written assent. Adolescents and caregivers completed annual

evaluations during which they completed questionnaires and tasks. Families received monetary compensation for each visit (see Jones et al., 2014, 2015, for further details about the sample and study procedures). All study procedures were approved by the University's Institutional Review Board.

## Measures

### Parental responses to distress

Parents' responses to their adolescents' expressions of distress were assessed with the Coping with Children's Negative Emotions Scale-Adolescent Version (CCNES-A; Fabes & Eisenberg, 1998). On this measure, parents are presented with 9 hypothetical scenarios in which their adolescent is expressing negative emotion (e.g., "My teenager gets mad at a family member"). For each scenario, parents rate how likely they are to respond in each of six different ways on a scale from 1 (*very unlikely*) to 7 (*very likely*). Responses were averaged across items to create six subscale scores: three subscales reflect non-supportive parental responses to distress (punitive responses, minimization responses, and distress responses) and three subscales reflect supportive parental responses to distress (emotion-focused responses, problem-focused responses, and expressive encouragement). The internal consistency of all six subscales was high across time points ( $\alpha$  ranged from .74 to .91). Principal components analysis with T1 data supported a two-factor solution that explained 74% of the variance among the variables. The supportive component had an eigenvalue of 2.63 and an average item loading of .87. The non-supportive component had an eigenvalue of 1.83 and an average item loading of .79. Thus, we calculated composite supportive and non-supportive scores by averaging across the three subscales of each.

### Adolescent internalizing symptoms

Internalizing symptoms were assessed with the Revised Child Anxiety and Depression Scale (RCADS; Chorpita et al., 2000), a widely used 47-item measure of anxiety and depression symptoms. Youth rate how often they experienced each symptom from 0 (*never*) to 3 (*always*). In the present study, we utilized the total internalizing symptom score by calculating the mean score across all 47 items. The RCADS has demonstrated good psychometric properties in various studies with both clinical and non-clinical samples (e.g., Chorpita et al., 2005; Donnelly et al., 2018). In this study, internal consistency of the total internalizing symptoms scale was high across time points ( $\alpha$  ranged from .94 to .95).

### Analytic approach

We used multivariate latent growth curve models to examine the relationship between parental emotion socialization and youth internalizing symptoms over time. These models can be used to address several important questions about the developmental trajectories of these two constructs. First, do youth who experience more non-supportive parental responses to distress also report more internalizing symptoms at the initial assessment (i.e., correlated intercepts)? Second, are increases in non-supportive parental responses over time associated with increases in internalizing symptoms over time (i.e., correlated slopes). Third, do initial levels of non-supportive parental responses predict changes in internalizing symptoms over time (i.e., intercept-slope covariance)? And, relatedly, do initial levels of internalizing symptoms predict changes in non-supportive parental response

over time? Fourth, are people's deviations from their overall trajectories of non-supportive responses associated with their deviations from their overall trajectories of internalizing symptoms (i.e., correlated residuals)? In other words, do youth who experience more or less non-supportive parental responses than expected, given their trajectory, also report more or less internalizing symptoms than expected, given their trajectory? These examples are for non-supportive parental responses to distress, but the same logic applies to supportive parental responses.

We tested separate latent curve models for non-supportive and supportive parental responses and their respective subscales. We first estimated univariate growth curve models for each construct separately to determine the most appropriate model for each (Curran et al., 2014). This allowed us to evaluate, for example, whether autoregressive paths among the structured residuals should be included.<sup>1</sup> Then, we estimated separate multivariate latent curve models for non-supportive and supportive responses and their respective subscales.

First, we tested unadjusted models for each construct without any covariates included ( $N = 256$ ). Second, we tested models that included adolescent race (0 = White, 1 = Black) as a predictor of intercepts and slopes of parental responses to distress and youth internalizing symptoms ( $n = 216$ ). Third, we tested models that included adolescent sex (0 = female, 1 = male) as a predictor of intercepts and slopes ( $N = 256$ ). The models with the covariates enabled us to evaluate the extent to which race and sex are associated with the initial values of these constructs as well as rates of change in these constructs over time. We tested race and sex in separate models for ease of interpretation. Specifically, if race and sex were included in the same model, White females (0, 0) would be the reference group for interpreting model-based average estimates of intercepts and slopes as well as the extent to which sex and race coefficients increment (or decrement) those average estimates. Using separate models for race and sex allows for more straightforward comparisons. To represent the average intercept and slope values for the groups coded as 0, we follow Curran et al. (2014) and use the symbol  $\mu$ . To represent changes from those values for people in groups coded as 1, we use the symbol  $\gamma$ . All analyses were conducted in R (Version 4.0.0; R Core Team, 2020) using the *lavaan* package for structural equation modeling (Rosseel, 2012).

## Results

### Preliminary results

Means, standard deviations, and correlations among the key variables are presented in Table 1. Test-retest correlations across assessment waves were moderate to high for non-supportive parental responses (mean  $r = .77$ ), supportive parental responses (mean  $r = .63$ ), and adolescent internalizing symptoms (mean  $r = .69$ ). We examined missing data patterns among key study variables using Little's (1988) missing completely at random test. The results of this test suggested that the data are missing

<sup>1</sup>Our original plan was to estimate latent curve models with structured residuals (LCM-SR; Curran et al., 2014). These models are similar to latent curve models, but include phantom residuals with autoregressive paths between them, thereby allowing for estimates of cross-lagged effects among those residuals. However, our initial modeling indicated that either there was no evidence for autoregressive relations among residuals or that, when there was, the LCM-SR models did not converge. As such, we omitted the autoregressive paths which, in turn, removes the structured residuals component of the model. The LCM-SR with such constraints reduces to a multivariate latent curve model.

completely at random,  $\chi^2(455) = 495.26$ ,  $p = .09$ . Maximum likelihood estimation was used to handle missing data in the growth models. Fit statistics for all multivariate models are reported in Table 2.

### Univariate models

We estimated univariate growth models for each construct separately to evaluate the average trajectories of the constructs and to determine whether certain parameters (i.e., autoregressive paths among the residuals) should be retained in the more complex multivariate models. In some models (internalizing symptoms, minimization responses, expressive encouragement), the autoregressive paths were not statistically significant and were therefore not included in the multivariate models. In other models (non-supportive responses, supportive responses, distress responses, punitive responses, emotion-focused responses, problem-focused responses), the autoregressive paths were statistically significant. However, the inclusion of these autoregressive paths in the multivariate models prevented them from converging and were therefore excluded. Thus, the models we present below reduce to multivariate latent growth models. With the exception of expressive encouragement, which did not display much change over time, the average slopes of the non-supportive and supportive responses composites and their respective subscales were negative and statistically significant suggesting that both supportive and non-supportive responses decreased over time, on average. Parameter estimates for the univariate growth models are reported in Supplemental Materials (Table S1).

### Non-supportive parental responses and youth internalizing symptoms

#### Non-supportive composite

Parameter estimates for the non-supportive parental responses composite and subscales are reported in Tables 3 and 4, respectively. For the non-supportive composite, covariances among intercepts, slopes, and residuals were non-significant. However, there was a significant positive association between the intercepts of youth internalizing symptoms and the slopes of non-supportive parental responses ( $\text{cov}[I_y, S_x] = .01$ ,  $SE = .004$ ,  $p = .02$ ): adolescents who reported higher levels of internalizing symptoms at the initial assessment experienced increasingly non-supportive parental responses to distress over time. There were no other significant associations among the growth parameters.

We also observed associations with youth race and sex. The slope of non-supportive parental responses was negative for parents of White youth ( $\mu = -.10$ ,  $SE = .01$ ,  $p < .001$ ), but this decrease in non-supportive responses over time was attenuated among parents of Black youth ( $\gamma = .06$ ,  $SE = .02$ ,  $p = .004$ ). In terms of youth sex, the slope of non-supportive parental responses to distress was negative for parents of girls ( $\mu = -.05$ ,  $SE = .02$ ,  $p = .001$ ) and this decrease in non-supportive responses over time was accelerated among parents of boys ( $\gamma = -.05$ ,  $SE = .02$ ,  $p = .03$ ). In addition, boys started with significantly lower initial levels of internalizing symptoms compared to girls in this model ( $\gamma = -.13$ ,  $SE = .04$ ,  $p = .001$ ) and across all non-supportive subscales.

#### Punitive responses

We observed a significant intercept-slope covariance, ( $\text{cov}[I_y, S_x] = .01$ ,  $SE = .004$ ,  $p = .03$ ): adolescents who reported higher levels of internalizing symptoms at the initial assessment experienced increasingly more punitive responses from parents

**Table 1.** Correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. Non1	–																		
2. Non2	<b>.71</b>	–																	
3. Non3	<b>.72</b>	<b>.77</b>	–																
4. Non4	<b>.66</b>	<b>.71</b>	<b>.74</b>	–															
5. Non5	<b>.67</b>	<b>.68</b>	<b>.75</b>	<b>.87</b>	–														
6. Non6	<b>.59</b>	<b>.69</b>	<b>.69</b>	<b>.78</b>	<b>.78</b>	–													
7. Sup1	–.11	–.19	–.14	–.08	–.06	–.04	–												
8. Sup2	–.11	–.17	–.18	–.11	–.10	–.003	<b>.65</b>	–											
9. Sup3	–.03	–.09	–.06	.001	–.01	–.03	<b>.60</b>	<b>.55</b>	–										
10. Sup4	.03	–.07	–.05	.04	.03	.10	<b>.61</b>	<b>.67</b>	<b>.75</b>	–									
11. Sup5	.12	–.01	–.07	.07	–.001	.12	<b>.43</b>	<b>.61</b>	<b>.44</b>	<b>.60</b>	–								
12. Sup6	.09	–.02	–.07	.15	.02	.09	<b>.41</b>	<b>.59</b>	<b>.39</b>	<b>.59</b>	<b>.61</b>	–							
13. Int1	–.02	.02	.08	.06	.14	.10	.04	–.03	.02	–.002	–.12	–.15	–						
14. Int2	.02	.08	<b>.14</b>	.12	<b>.20</b>	.12	–.04	–.12	–.06	–.16	–.12	–.22	<b>.62</b>	–					
15. Int3	.06	.08	<b>.14</b>	.12	<b>.19</b>	.11	–.02	–.11	–.04	–.05	–.11	–.15	<b>.57</b>	<b>.67</b>	–				
16. Int4	.01	.10	.11	.10	.14	.05	–.15	–.15	–.18	–.18	–.23	–.24	<b>.52</b>	<b>.62</b>	<b>.71</b>	–			
17. Int5	.15	<b>.21</b>	<b>.20</b>	<b>.19</b>	<b>.23</b>	<b>.18</b>	–.09	–.06	–.12	–.05	–.05	–.18	<b>.50</b>	<b>.63</b>	<b>.73</b>	<b>.74</b>	–		
18. Int6	<b>.17</b>	.11	.16	<b>.21</b>	.14	.12	–.11	–.16	–.16	–.14	–.10	–.23	<b>.39</b>	<b>.52</b>	<b>.62</b>	<b>.60</b>	<b>.72</b>	–	
Mean (SD)	2.54 (.87)	2.41 (.88)	2.35 (.86)	2.21 (.83)	2.18 (.84)	2.16 (.91)	5.82 (.74)	5.87 (.70)	5.74 (.79)	5.79 (.86)	5.84 (.69)	5.76 (.79)	.57 (.36)	.55 (.35)	.53 (.31)	.51 (.33)	.51 (.34)	.54 (.37)	

Notes. Coefficients in bold are statistically significant at  $p < .05$ . Non = Non-supportive parental responses to youths' distress (range 1–7). Sup = Supportive parental responses to youths' distress (range 1–7). Int = Youth internalizing symptoms (range 0–3).

**Table 2.** Model fit indices

Model	$\chi^2$	df	p	CFI	RMSEA
<b>Unadjusted Models (N = 256)</b>					
Non-supportive Responses	73.87	62	.14	.99	.03 (.00, .05)
Punitive Responses	121.12	62	<.001	.96	.06 (.05, .08)
Minimization Responses	79.49	62	.07	.99	.03 (.00, .05)
Distress Responses	67.67	62	.29	.995	.02 (.00, .04)
Supportive Responses	122.38	62	<.001	.95	.06 (.05, .08)
Emotion-Focused Responses	92.54	62	.01	.98	.04 (.02, .06)
Problem-Focused Responses	140.49	62	<.001	.93	.07 (.06, .09)
Expressive Encouragement	76.36	62	.10	.99	.03 (.00, .05)
<b>Race (n = 216)</b>					
Non-supportive Responses	76.60	70	.28	.995	.02 (.00, .05)
Punitive Responses	113.56	70	.001	.96	.05 (.04, .07)
Minimization Responses	82.43	70	.15	.99	.03 (.00, .05)
Distress Responses	87.76	70	.07	.98	.03 (.00, .06)
Supportive Responses	124.98	70	<.001	.94	.06 (.04, .08)
Emotion-Focused Responses	98.59	70	.01	.97	.04 (.02, .06)
Problem-Focused Responses	145.48	70	<.001	.92	.07 (.05, .09)
Expressive Encouragement	82.08	70	.15	.99	.03 (.00, .05)
<b>Sex (N = 256)</b>					
Non-supportive Responses	82.64	70	.14	.99	.03 (.00, .05)
Punitive Responses	127.61	70	<.001	.96	.06 (.04, .07)
Minimization Responses	90.70	70	.05	.99	.03 (.00, .05)
Distress Responses	75.52	70	.31	.996	.02 (.00, .04)
Supportive Responses	129.56	70	<.001	.95	.06 (.04, .07)
Emotion-Focused Responses	100.09	70	.01	.98	.04 (.02, .06)
Problem-Focused Responses	151.79	70	<.001	.93	.07 (.05, .08)
Expressive Encouragement	84.03	70	.12	.99	.03 (.00, .05)

Notes. CFI = comparative fit index. RMSEA = root mean square error of approximation.

over time. In addition, adolescent sex was associated with the slopes of punitive responses. The slope of punitive parental responses to distress was negative for parents of girls ( $\mu = -.05$ ,  $SE = .02$ ,  $p = .001$ ) and this decrease in punitive responses over time was accelerated among parents of boys ( $\gamma = -.05$ ,  $SE = .02$ ,  $p = .02$ ). No other significant associations emerged.

#### Minimization responses

There were no statistically significant associations among the growth parameters or among the residuals. Adolescent race was associated with intercepts and slopes of minimization responses. Parents of Black youth reported significantly higher minimization responses at the initial assessment compared to parents of White youth ( $\gamma = .85$ ,  $SE = .17$ ,  $p < .001$ ). In addition, the slope of minimization responses was negative for parents of White youth ( $\mu = -.15$ ,  $SE = .02$ ,  $p < .001$ ), but this decrease in minimization responses over time was attenuated among parents of Black youth ( $\gamma = .08$ ,  $SE = .03$ ,  $p = .01$ ). There were no associations with adolescent sex.

**Table 3.** Parameter estimates for multivariate growth models of youth internalizing symptoms: non-supportive and supportive composites

	Non-supportive			Supportive		
	Estimate	SE	p	Estimate	SE	p
<b>Unadjusted Model (N = 256)</b>						
Cov(Intercepts)	.001	.02	.94	-.01	.02	.51
Cov(Slopes)	-.001	.001	.17	.00	.001	.55
Cov(Ix, Sy)	.01	.01	.11	-.003	.004	.42
Cov(Iy, Sx)	.01	.004	.02	-.01	.003	.14
Cov(Residuals)	.001	.003	.66	-.003	.004	.47
<b>Race (n = 216)<sup>a</sup></b>						
Race → I(x)	.17	.11	.12	.17	.10	.08
Race → I(y)	-.06	.04	.12	-.07	.04	.12
Race → S(x)	.06	.02	.004	.04	.02	.06
Race → S(y)	.002	.01	.83	.002	.01	.83
<b>Sex (N = 256)<sup>a</sup></b>						
Sex → I(x)	.12	.10	.25	.01	.09	.88
Sex → I(y)	-.13	.04	.001	-.13	.04	.002
Sex → S(x)	-.05	.02	.03	.02	.02	.37
Sex → S(y)	-.004	.01	.68	-.01	.01	.63

Notes. X = parental responses to distress. Y = youth internalizing symptoms. Cov = covariance. I = intercept. S = slope. Sex (female = 0; male = 1). Race (White = 0; Black = 1). <sup>a</sup>Estimates for all growth parameters for the models including race and sex are reported in supplemental tables S2 and S3.

#### Distress responses

We observed a significant intercept-slope covariance, ( $\text{cov}[I_y, S_x] = .01$ ,  $SE = .01$ ,  $p = .03$ ): adolescents who reported higher levels of internalizing symptoms at the initial assessment experienced increasingly more distress responses from parents over time. In addition, the slopes of parental distress responses and youth internalizing symptoms were significantly associated ( $\text{Cov}[S_x, S_y] = -.002$ ,  $SE = .001$ ,  $p = .03$ ), suggesting that changes in parental distress responses were associated with changes in internalizing symptoms over time, but in opposing directions. There were no associations with youth sex; however, youth race was significantly associated with intercepts of distress responses. Parents of Black youth reported significantly lower initial levels of distress responses than parents of White youth ( $\gamma = -.40$ ,  $SE = .13$ ,  $p = .003$ ).

#### Supportive parental responses and youth internalizing symptoms

##### Supportive composite

Parameter estimates for the supportive parental responses composite and subscales are reported in Tables 3 and 5, respectively. For the supportive composite, there were no statistically significant associations among the growth parameters or among the residuals. There were also no associations with adolescent race. Consistent with non-supportive responses, we found that boys started with significantly lower initial levels of internalizing symptoms compared to girls in this model ( $\gamma = -.13$ ,  $SE = .04$ ,  $p = .002$ ) and all supportive subscales.

**Table 4.** Parameter estimates for multivariate growth models of youth internalizing symptoms: subscales for non-supportive parental responses to distress

	Punitive			Minimization			Distress		
	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>
<b>Unadjusted Model (N = 256)</b>									
Cov(Intercepts)	.001	.02	.95	-.01	.03	.59	.02	.02	.35
Cov(Slopes)	-.002	.001	.07	.00	.001	.74	-.002	.001	.03
Cov(Ix, Sy)	.01	.01	.06	.004	.01	.59	.01	.01	.08
Cov(Iy, Sx)	.01	.004	.03	.01	.01	.20	.01	.01	.03
Cov(Residuals)	.002	.003	.50	.004	.01	.41	-.003	.004	.49
<b>Race (n = 216)<sup>a</sup></b>									
Race → I(x)	.07	.11	.52	.85	.17	< .001	-.40	.13	.003
Race → I(y)	-.06	.04	.13	-.06	.04	.12	-.06	.04	.13
Race → S(x)	.04	.02	.07	.08	.03	.01	.05	.03	.10
Race → S(y)	.002	.01	.83	.002	.01	.86	.002	.01	.88
<b>Sex (N = 256)<sup>a</sup></b>									
Sex → I(x)	.14	.11	.17	.14	.16	.40	.09	.13	.49
Sex → I(y)	-.13	.04	.001	-.13	.04	.001	-.13	.04	.001
Sex → S(x)	-.05	.02	.02	-.06	.03	.08	-.03	.03	.34
Sex → S(y)	-.004	.01	.69	-.004	.01	.69	-.01	.01	.60

Notes. X = parental responses to distress. Y = youth internalizing symptoms. Cov = covariance. I = intercept. S = slope. Sex (female = 0; male = 1). Race (White = 0; Black = 1).

<sup>a</sup>Estimates for all growth parameters for the models including race and sex are reported in supplemental tables S2–S7.

**Table 5.** Parameter estimates for multivariate growth models of youth internalizing symptoms: subscales for supportive parental responses to distress

	Emotion-focused			Problem-focused			Expressive encouragement		
	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>
<b>Unadjusted Model (N = 256)</b>									
Cov(Intercepts)	-.01	.02	.54	-.01	.01	.53	-.01	.02	.67
Cov(Slopes)	.001	.001	.51	.001	.001	.32	-.00	.001	.92
Cov(Ix, Sy)	-.01	.01	.31	-.004	.004	.28	-.001	.01	.82
Cov(Iy, Sx)	-.01	.004	.09	-.003	.003	.45	-.01	.004	.25
Cov(Residuals)	-.003	.004	.52	-.004	.004	.26	-.002	.004	.70
<b>Race (n = 216)<sup>a</sup></b>									
Race → I(x)	.28	.12	.02	.09	.10	.35	.14	.12	.24
Race → I(y)	-.07	.04	.12	-.07	.04	.12	-.06	.04	.12
Race → S(x)	.09	.03	.002	.02	.02	.49	.02	.03	.47
Race → S(y)	.002	.01	.84	.003	.01	.79	.002	.01	.85
<b>Sex (N = 256)<sup>a</sup></b>									
Sex → I(x)	-.05	.11	.67	.07	.09	.41	.02	.11	.85
Sex → I(y)	-.13	.04	.001	-.13	.04	.002	-.13	.04	.001
Sex → S(x)	.02	.03	.40	-.02	.02	.42	.05	.02	.05
Sex → S(y)	-.004	.01	.69	-.01	.01	.61	-.01	.01	.63

Notes. X = parental responses to distress. Y = youth internalizing symptoms. Cov = covariance. I = intercept. S = slope. Sex (female = 0; male = 1). Race (White = 0; Black = 1).

<sup>a</sup>Estimates for all growth parameters for the models including race and sex are reported in supplemental tables S2–S7.

### Subscales of supportive responses

Similar to the supportive responses composite model, there were no statistically significant associations among growth parameters or among the residuals for the individual subscales of emotion-focused responses, problem-focused responses, or expressive

encouragement. However, youth race was associated with intercepts and slopes of emotion-focused responses. Parents of Black youth reported significantly higher emotion-focused responses at the initial assessment compared to parents of White youth ( $\gamma = .28$ ,  $SE = .12$ ,  $p = .02$ ). In addition, the slope

of emotion-focused responses was negative for parents of White youth ( $\mu = -.07$ ,  $SE = .02$ ,  $p < .001$ ), but the coefficient for race in the model ( $\gamma = .09$ ,  $SE = .03$ ,  $p = .002$ ) suggests that the slope is slightly positive for parents of Black youth.

## Discussion

Parents' responses to child distress are central to parent-child relationship quality and shape how children and adolescents manage emotion. Yet few studies have examined bidirectional associations between parental response to distress and youth psychopathology across adolescence. We used a diverse longitudinal sample with repeated assessments at six annual time points from age 13 to 18 to address important gaps in the literature, with particular attention to youth race and sex. We discuss each of our findings in turn, contextualize them in light of previous research, and outline directions for further investigation.

### Developmental trajectories in adolescence

Building on previous research that focused on younger children, we focused on adolescence as a particularly important developmental period characterized by increased negative emotionality, greater autonomy, and shifts in the parent-adolescent relationship (e.g., increased conflict, changes in parents' expectations; e.g., Allen, 2008). Previous work suggests that parental supportive responses decrease and non-supportive responses increase as children enter adolescence (Eisenberg et al., 1999; McKee et al., 2022).

In the present study, parents' responses to distress and adolescent internalizing symptoms were moderately stable from one year to the next, as illustrated by high test-retest correlations. With one exception (expressive encouragement, which remained stable), all dimensions of parental emotion socialization showed negative slopes, suggesting that parents may decrease their use of *both* supportive and non-supportive responses, on average, as teens grow and gain independence. This pattern differs from previous studies demonstrating increases in parents' use of non-supportive responses during adolescence (Klimes-Dougan et al., 2007); importantly, however, the present study extends later into adolescence, when parents may provide teens with more autonomy in preparation for adulthood.

Interestingly, trajectories of parental distress responses and trajectories of adolescent internalizing symptoms were negatively related. Thus, increases in adolescent internalizing were associated with decreases in parents' distress in response to teens' negative emotions. We speculate that this pattern may reflect compensatory processes. For example, as teens become more distressed over time, parents may compensate by showing less distress or becoming more emotionally avoidant; alternately, as parents become more distressed by teens' negative emotions, teens may adapt by focusing less on their own anxiety or sadness. Critically, however, long-term slopes cannot elucidate short-term compensatory processes. Future work with shorter time intervals or experience sampling approaches could better capture these possibilities.

### Enduring effects of adolescent internalizing symptoms on parental response to distress

A large body of research demonstrates that parents' socialization of children's emotions has long-term implications for developmental psychopathology (e.g., Chronis-Tuscano et al., 2021). Critically, however, children also *elicit* responses from parents (Davidov et al.,

2015). Child-driven effects may be especially salient in adolescence, as teens mature in their capacity for emotion expression, establish increasing autonomy (often arousing increased conflict within the parent-teen relationship), and become more active participants in driving parent-adolescent interactions (e.g., Branje et al., 2012; Soenens & Vansteenkiste, 2020).

The present findings add to the literature on teen-driven effects by demonstrating that adolescents' experiences of internalizing symptomatology in early adolescence predicted increasingly non-supportive responses (punitive and distress responses) from parents over mid- to late adolescence. This type of relationship has been referred to as a catalytic developmental process (Khan et al., 2020), in which the early level of adolescents' internalizing symptoms has an enduring effect on parental responses to distress, controlling for potential changes in symptoms. This suggests that symptom levels in early adolescence may shape the emotion socialization context of the next several years of the adolescent's life.

These results build upon earlier cross-sectional research showing that youth symptoms elicit less supportive responses from caregivers (Katz et al., 2014; Shortt et al., 2016). Youth internalizing symptoms may activate parents' own negative emotions (such as frustration, helplessness, and worry), which drive their non-supportive behavior. This is consistent with research demonstrating that teen depressive symptoms predict decreased parent-child connectedness among adolescent girls (Boutelle et al., 2009), and that parents of depressed adolescents may respond to depressive symptoms in ways that inadvertently reinforce them (see Schwartz et al., 2012).

We did not find evidence for the reverse prediction. Neither parents' non-supportive nor their supportive responses predicted initial levels or long-term changes in adolescent internalizing symptoms. This is consistent with other studies that did not find main effects of parental responses on psychopathology (Dunbar et al., 2022; Felton et al., 2022; Hale & Zeman, 2023; McQuade et al., 2021). It is possible that as teens' social lives shift away from parents and toward peers, parents may cede influence to the teen's peer group (Allen et al., 2022a). Thus, the quality of adolescent *friendships* may be a more robust predictor of changes in internalizing symptoms during this developmental period (see Allen et al., 2022b). Another possibility is that parental responses to distress *do* predict long-term changes in adolescent internalizing symptoms, but indirectly (via mediators such as emotion regulation or coping) or in heterogeneous ways best captured by moderating factors. A third consideration is that the present study drew on a low-risk community sample that was not selected on the basis of elevated internalizing symptoms or other risk factors for psychopathology. As such, the level of youth internalizing symptoms was relatively low, on average. Associations between parental responses to distress and youth symptoms may be more likely to emerge in clinical samples that have more variability in internalizing scores. Evidence suggests that depressed adolescents elicit more extreme (e.g., more punitive) emotion socialization responses from parents, on average, compared to non-depressed adolescents (Shortt et al., 2016). These more extreme responses may reciprocally predict changes in youth symptoms. Notably, in the recent special issue on links between parental emotion socialization and youth psychopathology, the editors concluded that the evidence for associations is stronger in clinical samples than community samples (Chronis-Tuscano et al., 2021). Future research with both clinical and non-clinical samples of youth can shed further light on this issue.



### Adolescent racial identity

Key differences emerged as a function of adolescents' racial identity. Parents' non-supportive responses waned over time — but less so for parents of Black teens versus White teens. Specifically, parents of Black youth reported significantly higher *minimizing* of teens' distress at the initial assessment, and these minimizing responses decreased more slowly for parents of Black compared to White youth. For Black teens, the costs of expressing negative emotion may be greater (Halberstadt et al., 2022; Lozada et al., 2022). Moderate levels of minimization may not be as detrimental for Black youth: research suggests that adolescents' own minimizing strategies to manage emotion in relationships (i.e., attachment avoidance) predict more depressive symptoms for White teens but not for Black teens (Stern et al., 2022). Similarly, African American young adults reported feeling less hurt and more loved than Euro-American participants when mothers engaged in minimizing practices (Perry et al., 2017). Thus, parents' minimizing responses may remain higher across teens' development as part of a protective strategy in the context of racism-related threat (Dunbar et al., 2017; Stern et al., 2023).

Parents of Black youth also demonstrated significantly less distress at the initial assessment compared to parents of White youth. This may point to a pattern of intergenerational transmission or modeling of emotion control; Black parents may themselves have been socialized to minimize emotion and thus model lower levels of distress, and in turn use minimization with their own children.

In addition, parents of Black youth engaged in greater emotion-focused responses at the initial assessment. Furthermore, the slope of emotion-focused responses was negative for parents of White youth but slightly positive for parents of Black youth. The emotion-focused scale focuses on providing comfort, calming negative emotions, and helping teens feel better by shifting attention. Thus, minimization and emotion-focused responses represent different, but related, ways of reducing the outward expression of negative emotion. Use of such responses may remain higher and stable for protective reasons, as older Black teens navigate increasingly complex social and racialized situations with peers, teachers, and others. Similarly, emotion-focused responses may be part of a broader pattern of greater parental monitoring or involvement in lives of Black teens, such that multiple parental emotion socialization strategies (i.e., emotional support and minimization) remain influential for longer periods of youth development.

Together, lower parental distress and increasing emotion-focused responses highlight the strengths of Black families (American Psychological Association, Task Force on Resilience and Strength in Black Children and Adolescents, 2008). For teens, parents' low distress models calm presence, while emotion-focused responses provide a sense of being loved, supported, and nurtured in times of distress. Findings point to a broader constellation of parental socialization of Black teens' emotions that involves the use of minimization *in combination with* lower parental distress and sustained emotional support. These results are remarkably consistent with Dunbar et al. (2017) integrative model of racial and emotion socialization in African American families, which holds that parents of Black children may combine high support with moderate minimization, as well as preparation for bias, to scaffold children's healthy emotion expression and its flexible regulation in a racist society.

### Adolescent sex

Replicating previously observed differences, girls reported higher initial levels of internalizing symptoms than boys (e.g., Salk et al., 2017). We found minimal evidence for differences in parental responses to distress as a function of child sex. There were no differences in the initial levels of any of the parental response scales between parents of boys versus girls. However, sex was associated with the slopes of non-supportive parental responses: although parents' non-supportive responses generally declined with age, this decline occurred faster for boys than girls. Given that girls reported higher initial internalizing symptoms, and teens with higher initial symptoms elicited increasingly non-supportive responses from parents over time, it makes sense that girls would experience more sustained patterns of non-supportive responses to their expressions of emotional distress. Results were driven by sex differences in trajectories of *punitive* responses, such that parents' punitive responses to negative emotion remained somewhat more stable and elevated for girls.

These findings diverge somewhat from previous work demonstrating greater parental punishment of *boys'* negative emotions, on average (Jordan et al., 2021; Klimes-Dougan et al., 2007), as well as few sex differences in developmental trajectories of parental emotion socialization from age 13 to 15 (Miller-Slough & Dunsmore, 2019). Notably, however, the present study examined trajectories of emotion socialization into later periods of adolescence than previous work. One explanation is that parents may engage in less emotionally controlling and more autonomy-supportive strategies toward boys compared to girls, particularly as teens enter late adolescence. Findings were specific to non-supportive responses; there were no differences in parents' supportive responses to girls' vs. boys' distress.

### Strengths, limitations, and future directions

Strengths of the present study include its prospective longitudinal design, diverse sample, and use of multi-informant assessments across six waves of data collection spanning early to late adolescence—an advance from previous work using fewer time points.

We note several important caveats to these findings. First, we did not examine parents' responses to specific types of negative emotions (anger vs. sadness vs. anxiety); future work examining specific emotions may reveal further sex differences, given gendered norms regarding the internalizing versus externalizing forms of emotion expression (Chaplin & Aldao, 2013). Second, although we included race and sex as predictors of intercepts and slopes, we did not formally test moderation within the multivariate growth models due to limited statistical power; future work in larger samples could examine moderation and intersectional identities using multigroup models and could include other important identity groups such as Asian and Latinx populations. Third, consistent with most prior research on emotion socialization, our analyses included youth biological sex rather than gender identity. As more research is conducted on emotion socialization in adolescence, a critical period of identity development, an important next step is to consider youth gender identity as well as biological sex. Fourth, although our findings highlight the role of racial identity in emotion socialization practices, which we interpret in terms of broader societal and cultural influences, race is an insufficient proxy for culture (Betancourt & López, 1993). In line with recent calls to further integrate culture into

developmental psychopathology research (e.g., Causadias & Cicchetti, 2018), future research should examine in greater detail how individual-level and societal-level cultural processes relate to parental emotion socialization practices and their associations with youth psychopathology. Fifth, the present sample of mostly mothers limited our ability to examine interactive effects with parent sex (e.g., father-daughter vs. mother-daughter dyads) and the potentially unique role of fathers. Although data suggest that mothers are more involved in socializing negative emotions (Klimes-Dougan et al., 2007), fathers may engage in different emotion socialization strategies that merit further examination (Brand & Klimes-Dougan, 2010). Finally, although previous theory and research (Bell, 1968; Davidov et al., 2015; Scarr & McCartney, 1983) provide support for child-driven effects on parental responses to distress, the correlational nature of the present study precludes us from drawing causal conclusions. We cannot rule out the possibility that other, unmeasured variables were influencing both parental responses to distress and youth internalizing symptoms.

These findings have potential implications for intervention, in that they provide support for family systems and attachment perspectives that emotion is co-regulated through family social interactions (for a review see Paley & Hajal, 2022). Initial evidence from the Tuning in to Teens program suggests that interventions targeting parents' emotion awareness and socialization practices are effective at both reducing parents' dismissing responses to teens' emotions and ameliorating teens' internalizing symptoms (Kehoe et al., 2014). Our findings also highlight that parents of teens with early-emerging internalizing symptoms may experience increasing distress themselves, and could benefit from supports to help cope with their own negative emotions. Furthermore, early identification and intervention supports for young teen girls with sub-clinical symptoms may be important for preventing later psychopathology and family stress. Additionally, it is critical to recognize the unique context and strengths of Black teens and families. Understanding (vs. pathologizing) moderate levels of minimizing, as well as reinforcing positive emotion-focused responses, may be one component of culturally responsive approaches with Black families (Dunbar et al., 2022).

In conclusion, we observed enduring catalytic effects of teen internalizing symptoms on parenting behavior, as well as important racial and sex differences in patterns of parental emotion socialization across adolescence. Results provide further evidence that there is no "one size fits all" when it comes to emotion socialization and highlight the need for more nuanced examination of social-contextual factors that may shape developmental trajectories.

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