Maternal Influences on Youth Responses to Peer Stress

Jamie L. Abaied
University of Vermont

Karen D. Rudolph
University of Illinois, Urbana-Champaign, In press, Developmental Psychology

Abstract

Understanding how youth develop particular styles of responding to stress is critical for promoting effective coping. This research examined the prospective, interactive contribution of maternal socialization of coping and peer stress to youth responses to peer stress. A sample of 144 early adolescents (*M* age = 12.44, *SD* = 1.22) and their maternal caregivers completed questionnaires and semi-structured interviews in two waves over a one-year period. Results revealed that mothers' disengagement coping suggestions predicted maladaptive responses to stress, particularly for youth who received low levels of engagement suggestions, and engagement coping suggestions protected youth against maladaptive responses to stress. Importantly, these effects emerged only in the context of heightened peer stress. This research suggests that maternal socialization of coping has the potential to support or undermine youths' development of an effective repertoire of responses to stress.

Establishing an effective repertoire for responding to stress is a critical developmental task. Although developmental scientists have proposed that parents play a key role in youths' coping development (Power, 2004; Skinner & Zimmer-Gembeck, 2007), this domain of parenting is not well understood. Explicit suggestions about coping with stress, or socialization of coping, represent one way parents can contribute to youth responses to stress and consequent adjustment. Indeed, research indicates that maternal coping suggestions can reduce or intensify youths' prospective risk for psychopathology (Abaied & Rudolph, 2010b). Pioneering work on socialization of coping (Kliewer, Fearnow & Miller, 1996; Kliewer & Lewis, 1995; Kliewer et al., 2006; Miller et al., 1994) directly links parent coping suggestions with youth responses to stress, thereby highlighting the importance of these suggestions; however, these studies used concurrent or single-informant designs. Extending prior work, the present study applied a longitudinal, multi-informant design to examine the prospective contribution of maternal coping suggestions to youth responses to stress, as well as the moderating role of youths' stress exposure.

Theoretical Framework of Socialization of Coping and Responses to Stress

To conceptualize maternal socialization of coping and youth responses to stress, we drew from a contemporary, well-validated theoretical framework (Compas et al., 2001; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000) that incorporates two orthogonal dimensions: *engagement* versus *disengagement* and *effortful* versus *involuntary* responses to stress. Engagement responses are directed toward stress or resulting negative cognitions and emotions, whereas disengagement responses are directed away from stress or negative cognitions and emotions. Effortful coping is voluntary and purposeful, whereas involuntary responses are automatic and involve little planful action. This framework yields four categories of responses to stress: effortful engagement, effortful disengagement, involuntary engagement, and involuntary disengagement. Parents' explicit coping suggestions are

limited to effortful responses (that is, parents cannot recommend automatic responses), whereas youth responses may be effortful or involuntary.

Effortful engagement includes responses such as attempts to resolve problems, regulate one's emotions, rethink problems in a more positive light, or seek support from others. Effortful disengagement includes responses such as efforts to avoid or deny the occurrence of problems. Involuntary engagement involves excessive and uncontrolled involvement in stressors and related emotions, such as ruminating about problems or experiencing emotional arousal or intrusive thoughts. Involuntary disengagement involves uncontrolled and automatic avoidance of stress or negative emotions, such as emotional numbing or involuntary escape from stressors. Confirmatory factor analyses have supported the distinctions among these four types of responses to stress in multiple samples (Connor-Smith et al., 2000).

Generally, effortful engagement is thought to be an effective approach to resolving stressful conditions or emotions and thus preventing subsequent adjustment difficulties (Compas et al., 2001; Connor-Smith & Compas, 2002). According to the Compas et al. (2001) framework, involuntary responses such as rumination, intrusive thoughts, or emotional numbing indicate dysregulated, maladaptive stress reactivity. It should be noted that this framework does not include regulated and potentially adaptive involuntary responses, such as attentional control. Supporting this view, the involuntary responses included in Compas et al.'s (2001) framework are associated with fewer adaptive effortful responses to stress (e.g., Connor-Smith et al., 2000; Wadsworth, Raviv, Compas, & Connor-Smith, 2005). Indeed, studies examining this framework of responses to stress have revealed that effortful engagement responses typically are associated with more positive adjustment, such as fewer internalizing and externalizing symptoms and higher academic competence (Compas et al., 2006; Flynn & Rudolph, 2007; Jaser et al., 2005; 2007; 2008; Valiente, Lemery-Chalfant, & Swanson, 2009), whereas involuntary engagement and involuntary disengagement responses typically are associated with maladjustment (Flynn & Rudolph, 2007; Jaser et al., 2005; Valiente et al., 2009; Wadsworth et al., 2005).

Findings linking disengagement coping to youth adjustment are somewhat mixed. Although disengagement coping often is associated with adjustment problems, such as internalizing and externalizing symptoms (e.g., Compas et al., 2001, 2006; Connor-Smith et al., 2000; Wadsworth et al., 2005), protective effects of disengagement coping have emerged in the context of largely uncontrollable or unchangeable stressors, such as economic disadvantage, neighborhood violence, parental conflict, or abuse (Chaffin, Wherry, & Dykman, 1996; Dempsey, Overstreet, & Moely, 2000; Gonzales, Tein, Sandler, & Friedman, 2001; O'Brien, Bahadur, Gee, & Balto, 1997; O'Brien, Margolin, & John, 1995).

The present study focused on stress in peer relationships. Although youths' exposure to the peer group often occurs in compulsory settings such as school, the content of peer stressors potentially includes a mixture of controllable (e.g., conflictual relationships with friends) and uncontrollable (e.g., exclusion) negative conditions. Indeed, research has revealed considerable variability in youths' perceptions of the controllability of peer stressors (Bowker, Bukowski, Hymel, & Sippola, 2000; Farrell et al., 2006). Furthermore, in the specific context of peer stress, research reveals that disengagement coping is associated with adjustment problems such as heightened aggression (Jaser et al., 2007) and internalizing and externalizing symptoms (Connor-Smith et al., 2000). Finally, an approach to coping with stress that emphasizes the benefits of addressing problems directly and expressing/sharing emotions rather than avoiding problems is likely to be consistent with the cultural values of our predominantly White Midwestern sample (Tweed & Conway, 2006; Tweed, White, & Lehman, 2004); for example, disengagement coping is associated more strongly with

adjustment problems in individualistic Western samples compared to more collectivistic Eastern samples (Sinha & Watson, 2007). Thus, we conceptualized disengagement coping with peer stress as a maladaptive strategy in our sample, both in terms of parent coping suggestions and youth coping responses.

Although much is known about the consequences of youth's responses to stress, the origins are not well understood. Youth could develop a repertoire of responses to stress over time as a function of individual characteristics such as temperament (Compas, Connor-Smith, & Jaser, 2004; Rueda & Rothbart, 2009) and social motivation (Rudolph, Abaied, Flynn, Sugimura, & Agoston, in press), or as a result of external factors such as parent socialization. Developmental theories of responses to stress propose that interactions with social partners represent the primary context in which youth learn how to manage stress (Power, 2004; Skinner & Zimmer-Gembeck, 2007). Consistent with this view, the goal of this study was to elucidate the role of maternal coping suggestions in shaping the development of youths' responses to peer stress over time. Specifically, we hypothesized that (a) maternal disengagement suggestions would predict fewer adaptive youth responses (less effortful engagement) and more maladaptive youth responses (more effortful disengagement, involuntary engagement and disengagement), and (b) maternal engagement suggestions would predict more adaptive youth responses and fewer maladaptive youth responses.

Moderation by Exposure to Peer Stress

This study also examined whether youths' level of stress exposure moderated the contribution of maternal socialization of coping to youth responses to stress. When parents engage in socialization of coping, they provide cognitive, affective, and behavioral strategies that either reinforce or redirect youths' typical coping behaviors. According to the psychological resource principle, parents' influence upon youth development is strongest under conditions of stress or challenge, when youths' resources are most strained (Pomerantz & Thompson, 2008). In the domain of responses to stress, frequent or severe stress exposure is likely to overwhelm youths' independent coping resources, leading youth to rely more heavily on the coping suggestions provided by their parents. In contrast, youth exposed to minor stress may have little need to draw from parental coping guidance.

In particular, we focused on the moderating role of chronic or ongoing stressful conditions in peer relationships, such as consistently unsupportive or conflictual friendships or exclusion, rejection, or victimization by peers (Conley & Rudolph, 2009; Davila, Hammen, Burge, Paley, & Daley, 1995). Peer relationships represent a particularly salient social context for early adolescents (Brown & Larson, 2009). Given that youth spend increasing amounts of unsupervised time with peers as they transition into adolescence (Larson & Richards, 1991), early adolescents are more frequently faced with the challenge of independently negotiating hassles and conflicts with peers. Ongoing stress in peer relationships likely taxes youths' personal coping resources; for example, highly stressed youth may have difficulty regulating their frequent negative emotions or may become overwhelmed by their frequent need to select and implement strategies to manage stressful experiences. To compensate for their reduced ability to cope independently, youth who experience heightened peer stress may rely more upon external guidance and resources, such as mothers' coping suggestions.

Indicating the importance of how youth respond to peer stress, research suggests that these responses have notable consequences for subsequent social, emotional, and academic functioning. For example, maladaptive responses to peer stress predict heightened subsequent symptoms of depression (Flynn & Rudolph, 2007; Sontag, Graber, Brooks-

Gunn, & Warren, 2008), whereas adaptive responses are associated with less aggression (Jaser et al., 2007) and peer victimization (Kochenderfer-Ladd, 2004; Kochenderfer & Ladd, 1997). In addition, a recent meta-analysis revealed that primary control engagement coping (referred to as active coping) with interpersonal stressors is associated with general psychosocial health among youth, including higher social and academic competence and fewer internalizing and externalizing symptoms (Clarke, 2006).

Thus, drawing from the psychological resource principle, we expected that maternal coping suggestions would make a stronger contribution (both protective and risk-promoting) to youth responses to peer stress in the context of heightened than dampened chronic peer stress. Consistent with this proposed moderating role of stress exposure, one study found that socialization of coping predicted subsequent depression among youth exposed to high but not low or moderate levels of stress (Abaied & Rudolph, 2010b). More broadly, youth exposed to severe chronic stressful conditions, such as economic disadvantage or dangerous neighborhoods, are most susceptible to the beneficial and harmful effects of parenting (Beyers et al., 2003; Brody et al., 2003; Natsuaki et al., 2007; Plybon & Kliewer, 2001).

Study Overview

This study used a multi-informant design to examine the prospective, interactive contributions of maternal coping suggestions and chronic peer stress to youth responses to peer stress. We expected that maternal disengagement suggestions would predict subsequent maladaptive responses whereas engagement suggestions would predict subsequent adaptive responses, particularly in the context of heightened chronic peer stress. Mothers reported the coping suggestions they commonly make to their youth, and youth reported their effortful coping and involuntary responses to peer stress. Youth and mothers completed a life stress interview, and a team of coders provided ratings of youths' exposure to chronic stress in peer relationships.

Method

Participants

Participants included 144 youth (79 girls, 65 boys, 9 to 14 years old, M age = 12.44, SD = 1.22; 77.8% White) and their primary female caregivers involved in a longitudinal study examining development across the adolescent transition (for previous reports on this study, see Rudolph & Troop-Gordon, 2010; Rudolph, Flynn, Abaied, Groot, & Thompson, 2009). Primary female caregivers included 129 biological mothers, 4 adoptive mothers, 3 stepmothers, and 8 other female family members; for simplicity the terms "mother" and "maternal" are used. Mothers were selected for inclusion in the study because 16% of the participants lived in single-parent households and fathers often were not available for participation. Families represented a wide range of socioeconomic classes as reflected in annual income (16% below $30,000; 51.1% $30-59,999; 32.4% over $60,000).

Of 167 families who participated in the study at Wave 1 (W_1), 161 had socialization of coping data. At Wave 2 (W_2), relevant data were available for 144 families (86.2% of the total sample). Participants with complete data did not differ from those with incomplete data in ethnicity, $\chi^2(N = 167, df = 1) = .00$, ns, age, $t(165) = .59$, ns, W_1 engagement coping suggestions, $t(159) = .54$, ns, W_1 disengagement coping suggestions, $t(159) = .01$, ns, W_{1-2} peer stress, $t(165) = −1.64$, ns, W_1 effortful disengagement coping, $t(163) = −.76$, ns, or W_1 involuntary engagement responses, $t(163) = −1.21$, ns. Compared to participants with incomplete data, participants with complete data were more likely to be girls, $\chi^2(N = 167, df = 1) = 4.74$, $p < .05$, and reported slightly more effortful engagement, $t(163) = 2.01$, $p < .05$, and less involuntary disengagement, $t(163) = −2.44$, $p < .05$.

Procedure

Mothers and youth separately completed an in-person, three- to four-hour initial assessment. Caregivers provided written informed consent, and youth provided written assent. Follow-up interviews occurred one year later. At each assessment, caregivers received a monetary reimbursement, and youth received a gift certificate. Life stress interviews were conducted by a post-doctoral student in clinical psychology, psychology graduate students, a post BA-level research assistant, or advanced undergraduate students. Interviewers underwent extensive preliminary training with an experienced interviewer, and received detailed feedback based on audiotapes of their interviews and consensual coding sessions. All interviews and questionnaires were administered at both waves.

Measures

Socialization of coping—Mothers completed the Socialization of Coping Questionnaire (Abaied & Rudolph, 2010b), a measure of coping suggestions that mothers commonly make to their child. This measure was designed to tap coping suggestions in accordance with the engagement-disengagement framework of responses to stress (Compas et al., 2001). Mothers were prompted with: "When your child has a problem or is upset, how much do you do each of the following?" Mothers rated each item on a five-point scale (1 = Not at all to 5 = Very much).

Confirmatory factor analyses have supported a two-factor model (for a previous report on measure development, see Abaied & Rudolph, 2010b). The first factor reflects *engagement* suggestions (7 items), which encourage the child to direct resources toward the source of stress or related cognitions and emotions. This factor includes strategies such as problem solving (e.g., "Encourage him/her to do something to try to fix the problem or take action to change things."), regulating emotions (e.g., "Encourage him/her to discuss his/her feelings with me or others."), thinking positively (e.g., "Encourage him/her to think about things he/she is learning from the situation."), or seeking support from others (e.g., "Encourage him or her to ask me or other people for help or for ideas about how to make the problem better."). The second factor reflects *disengagement* suggestions (9 items), which encourage the child to direct resources away from stress or related cognitions and emotions. This factor includes strategies such as avoidance (e.g., "Encourage him/her not to focus on his/her negative feelings."), denial (e.g., "Encourage him/her to just act like the problem never happened and go on with his/her life."), or distraction (e.g., "Encourage him/her to keep his/her mind off of the problem by getting involved in other activities").

Connor-Smith et al. (2000) initially hypothesized that distraction coping (e.g., redirecting attention away from stress or emotions toward more positive stimuli) would load with effortful disengagement coping; however, in their study distraction loaded with secondary control engagement coping, a subset of engagement coping that involves adapting oneself to stressful conditions. The engagement factor of our socialization of coping measure mainly included primary control engagement coping, which focuses on changing rather than adapting to stressful conditions. Thus, our distraction items most likely loaded on the disengagement factor due to greater comparative similarity to our disengagement coping items (e.g., avoidance) than our engagement coping items (e.g., problem solving).

Mean scores for engagement ($\alpha = .87$) and disengagement ($\alpha = .89$) suggestions were computed. Construct validity has been established for this measure in terms of both expected antecedents and consequences of engagement and disengagement suggestions (Abaied & Rudolph, 2010a; 2010b).

Responses to stress—Youth completed the Peer Stressor Version of the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). Drawing from Compas and colleagues' (2001) conceptual framework, the RSQ taps two orthogonal dimensions: (a) effortful coping versus involuntary responses to stress, and (b) engagement with, versus disengagement from, stressors, thereby yielding four subscales: effortful engagement (e.g., problem-solving, emotion regulation, positive thinking, acceptance; 21 items, $\alpha = .86$), effortful disengagement (e.g., avoidance, denial, wishful thinking; 12 items, $\alpha = .81$), involuntary engagement (e.g., emotional or physiological arousal, rumination; 15 items, $\alpha = .90$), and involuntary disengagement (e.g., emotional numbing, inaction, escape; 12 items, $\alpha = .89$). Confirmatory factor analyses support the proposed conceptual framework in multiple samples, and excellent convergent and discriminate validity have been established through correlations with other commonly used measures of coping and laboratory assessments of stress reactivity (Connor-Smith et al., 2000). Test-retest reliability and internal consistency also have been established in multiple samples (e.g., Connor-Smith et al., 2000; Jaser et al., 2005; 2007).

Youth rated how much they engaged in each type of response to peer stress (e.g., problems in friendships, conflicts with peers) on a 4-point scale (1 = Not at All to 4 = A Lot). In light of base-rate differences in the endorsement of responses to stress (Compas et al. 2001) and consistent with previous research (Connor-Smith et al., 2000; Flynn & Rudolph, 2007), proportion scores were calculated as the total score for each subscale divided by the total score on the RSQ.

Peer stress—To assess youths' exposure to chronic stress in peer relationships, youth and their mothers separately completed the chronic peer stress section of the Youth Life Stress Interview (Rudolph & Flynn, 2007), an adaptation of the Child Life Stress Interview (Rudolph & Hammen, 1999; Rudolph et al., 2000). This semi-structured interview uses the contextual threat method (Brown & Harris, 1978) to assess the nature and severity of stress encountered by youth during the preceding year. To assess chronic peer stress, interviewers asked a standard set of questions about ongoing stressful aspects of peer relationships (e.g., persistent fights, teasing, social exclusion) and friendships (e.g., lack of or infrequent contact with friends; lack of closeness, trust, or support; presence, severity, and poor resolution of conflict). In addition to a series of structured prompts, interviewers asked follow-up questions as needed to elicit a detailed picture of youths' exposure to chronic stress within their peer relationships.

Integrating information from youth and mothers, interviewers compiled a narrative summary of the ongoing stressful conditions in each youth's peer relationships during the past year, providing an assessment of exposure to chronic peer stress over the course of the study (i.e., between the W_1 and W_2 assessments; referred to as W_{1-2} peer stress). Ratings based on youth and caregiver reports were highly correlated ($r = .84$, $p < .001$). If youth and maternal report differed, a best-estimate approach was used to combine information from the two reports; weight was given to reports involving specific and objectively supported details. Individual youths' subjective responses to the stressors (e.g., feeling sad or overwhelmed) were omitted from the narrative summary to ensure that coders were not biased by these perceptions. A team of coders rated each youth's exposure to chronic stress on a five-point scale (1 = No stress to 5 = Severe stress). Higher chronic stress ratings reflect more stressful peer conditions (e.g., fighting, teasing, poor quality friendships) and less positive peer conditions (e.g., low support and acceptance). For example, youth with a score of 1 had several close, high-quality friendships (e.g., high support and trust, low conflict and good conflict resolution), were well-liked at school, and frequently spent time with friends outside of school; youth with a score of 3 were average in popularity and either had no close friends or had a few close friends with occasional conflicts and/or inadequate support; youth with a

score of 5 were completely isolated from peers and/or experienced frequent, poorly resolved conflicts or peer rejection and had no or very poor quality friendships. To assess reliability, 41 interviews were coded by two independent teams, and high reliability was found for chronic peer stress (ICC = .96).

Results

Correlational Analyses

Table 1 presents intercorrelations among maternal socialization of coping, peer stress, and youth responses to stress. Consistent with prior research on coping and responses to stress (e.g., Connor-Smith et al., 2000; Wadsworth et al., 2005), engagement and disengagement suggestions were moderately positively correlated, reflecting base-rate differences in the overall number of coping suggestions that mothers endorsed. There were few significant zero-order correlations between socialization of coping and youth responses to stress, with two exceptions: W_1 disengagement suggestions were significantly associated with less W_1 effortful engagement and more W_1 involuntary disengagement. The composite of W_{1-2} peer stress was significantly associated with less effortful engagement and more of all other types of responses to stress at both waves (with the exception of W_2 effortful disengagement). Youth responses to stress were moderately stable across waves. Overall, intercorrelations among responses to stress were consistent with theoretical expectations. Adaptive responses (i.e., effortful engagement) were negatively associated with maladaptive responses (i.e., effortful disengagement, involuntary engagement, involuntary disengagement) within and across waves, and intercorrelations among maladaptive responses were generally significant and positive, albeit moderate, within and across waves.

Overview of Central Analyses

Four hierarchical multiple linear regressions were conducted to examine the interactive contributions of W_1 socialization of coping and W_{1-2} peer stress to W_2 responses to stress (Table 2). Each analysis adjusted for W_1 responses to stress at the first step. The mean-centered main effects of disengagement suggestions, engagement suggestions, and peer stress were entered at the second step; the two-way interactions and three-way interactions were entered at the third and fourth steps, respectively[3]. Following Aiken and West (1991), significant two-way interactions were interpreted by solving the regression equation to predict W_2 responses to stress at low (−1 SD), moderate (mean), and high (+1 SD) levels of the moderator.

In the initial set of analyses, sex was examined as a moderator of the effects of socialization of coping on youth responses to stress. However, no significant two or three-way interactions with sex were found. A marginal two-way disengagement suggestions x sex interaction emerged predicting involuntary disengagement; decomposition of this interaction revealed that disengagement suggestions marginally predicted more involuntary disengagement among boys but not girls. In light of the lack of significant effects, sex was excluded from the analyses.

Socialization of Coping x Stress Predicting W_2 Responses to Stress

Regression analysis predicting W_2 effortful engagement revealed a significant negative main effect of Peer Stress, a marginal Disengagement Suggestions x Engagement Suggestions interaction, a significant Engagement Suggestions x Peer Stress interaction, and a significant Disengagement Suggestions x Engagement Suggestions x Peer Stress interaction; no other main effects or interactions were significant (see Table 2). To decompose this three-way interaction, the two-way Disengagement Suggestions x Engagement Suggestions interaction

was examined separately in youth exposed to low (equal to or below the median) versus high (above the median) levels of peer stress.

For youth exposed to low peer stress, the analysis revealed nonsignificant main effects for Disengagement Suggestions (β = −.04, *ns*), Engagement Suggestions (β = .01, *ns*), and a nonsignificant Disengagement Suggestions x Engagement Suggestions interaction (β = .06, *ns*). For youth exposed to high peer stress, the analysis revealed a marginal negative main effect for Disengagement Suggestions (β = −.20, *p* < .10), a significant positive main effect for Engagement Suggestions (β = .26, *p* < .05), and a significant Disengagement Suggestions x Engagement Suggestions interaction (β = .33, *p* < .01). Decomposition of this interaction (see Figure 1) revealed that, in the context of high peer stress, W_1 disengagement suggestions predicted lower levels of W_2 effortful engagement for youth who received low (β = −.52, *p* < .01) or moderate (β = −.21, *p* < .10) but not high (β = .14, *ns*) levels of engagement suggestions.

Regression analysis predicting W_2 effortful disengagement revealed no significant main effects or interactions. Thus, maternal socialization of coping did not contribute to effortful disengagement coping (see Table 2).

Regression analysis predicting W_2 involuntary engagement revealed a marginal positive main effect of Disengagement Suggestions, a significant positive main effect of Peer Stress, a significant Disengagement Suggestions x Engagement Suggestions interaction, a significant Engagement Suggestions x Peer Stress interaction, a marginal Disengagement Suggestions x Peer Stress interaction, and a significant Disengagement Suggestions x Engagement Suggestions x Peer Stress interaction (see Table 2). To decompose this three-way interaction, the two-way Disengagement Suggestions x Engagement Suggestions interaction was examined separately in youth exposed to low (equal to or below the median) versus high (above the median) levels of peer stress.

For youth exposed to low peer stress, the analysis revealed nonsignificant main effects for Disengagement Suggestions (β = .06, *ns*) and Engagement Suggestions (β = .02, *ns*), and a nonsignificant Disengagement Suggestions x Engagement Suggestions interaction (β = −.10, *ns*). For youth exposed to high peer stress, the analysis revealed a significant negative main effect for Engagement Suggestions (β = −.27, *p* < .05), a significant positive main effect for Disengagement Suggestions (β = .29, *p* < .05), and a significant Disengagement Suggestions x Engagement Suggestions interaction (β = −.38, *p* <.01). Decomposition of this interaction (see Figure 2) revealed that, in the context of high peer stress, W_1disengagement suggestions predicted higher levels of W_2 involuntary engagement for youth who received low (β = .55, *p* < .01) or moderate (β = .29, *p* < .05) but not high (β = −.11, *ns*) levels of engagement suggestions.

Regression analysis predicting W_2 involuntary disengagement revealed a marginal negative main effect of Engagement Suggestions, a significant positive main effect of Peer Stress, and a significant Engagement Suggestions x Peer Stress interaction. No other main effects or interactions were significant (see Table 2). Decomposition of the Engagement Suggestions x Peer Stress interaction (see Figure 3) revealed that W_1 engagement suggestions predicted lower levels of W_2 involuntary disengagement responses for youth exposed to high (β = −.27, *p* < .01) or moderate (β = −.15, *p* < .10) but not low (β = .01, *ns*) peer stress.

Discussion

This research presents the first rigorous test of the longitudinal association between maternal socialization of coping and youth responses to stress. The findings suggest that socialization of coping prospectively contributes to youth responses to peer stress. Moreover, this study

expanded upon previous work identifying links between parent coping suggestions and youth responses to stress, revealing that engagement and disengagement dimensions of socialization interacted with each other and with youths' level of stress exposure to predict how youth respond to problems with peers.

Engagement suggestions include encouragement to direct resources toward stressful conditions and negative cognitions and emotions via strategies such as problem solving, emotion regulation, and positive thinking. As expected, when mothers provided more engagement suggestions, youth showed fewer maladaptive responses to peer stress. In particular, youth were less likely to report involuntary disengagement responses, such as feeling emotionally numb or behaviorally paralyzed. However, as expected, engagement suggestions predicted less involuntary disengagement only among youth exposed to heightened peer stress; in the context of low peer stress, youth showed low levels of involuntary disengagement regardless of mothers' suggestions. Automatic, dysregulated avoidance responses may emerge when youth are overwhelmed by stressful conditions or negative emotions. By encouraging purposeful engagement, mothers convey the belief that directing attention toward stressors is safe and that youth are capable of doing so. Thus, engagement suggestions may prevent involuntary disengagement responses by fostering youths' feelings of agency and efficacy in the face of peer stress.

Also as expected, disengagement suggestions, such as encouragement to deny or avoid peer problems, predicted maladaptive responses to stress. However, the impact of disengagement suggestions on youth responses to stress was moderated by engagement suggestions and exposure to peer stress. In the context of high peer stress, disengagement suggestions predicted less effortful engagement and more involuntary engagement for youth who received low levels of engagement suggestions. Engagement coping with peer stressors (e.g., attempting to resolve conflicts with peers, reflecting on the positive aspects of ending a friendship) places marked demands upon youths' cognitive and emotional resources. High levels of stress quickly deplete such resources, such that purposeful engagement becomes increasingly difficult as stress levels rise. However, frequent maternal encouragement to employ engagement strategies helped youth overcome this challenge; highly stressed youth who received the most engagement suggestions showed similar levels of effortful engagement at all levels of disengagement suggestions. Youth who primarily receive maternal encouragement to disengage from peer stress perhaps lack adequate resources to purposefully problem solve or think positively in the face of stress. Furthermore, by encouraging more disengagement than engagement, mothers might socialize the belief that engagement coping is impractical or overly difficult. In contrast, mothers who provide high levels of both disengagement and engagement suggestions appear to nurture a flexible repertoire of responses that enable youth to engage adaptively with peer stress.

The results for effortful and involuntary engagement responses were consistent with prior research (Abaied & Rudolph, 2010b), which revealed that disengagement suggestions predicted heightened depressive symptoms in the context of low engagement suggestions and high interpersonal stress. Given that many peer interactions occur in compulsory settings such as school, it may be difficult for youth to effectively employ disengagement strategies such as avoidance or denial; it is also possible that such strategies are not consistent with how teachers and schools encourage children to cope with peer problems. Thus, disengagement suggestions perhaps do not provide highly stressed youth with adequate resources for keeping their stress in check. In fact, such suggestions seem to backfire, as youth become less likely to employ active strategies such as problem solving and positive thinking, and are more vulnerable to dysregulated engagement responses such as rumination and physiological arousal. Consistent with this idea, avoidance coping is prospectively linked to involuntary engagement responses (e.g., intrusive thoughts) in adults

(e.g., Primo et al., 2000). It appears that maternal suggestions to purposefully engage with stress are necessary to protect youth from responding to disengagement suggestions with involuntary, dysregulated patterns of engagement.

As expected, the effects of mothers' coping suggestions for youth responses to peer stress – both beneficial and harmful – emerged only in the context of heightened stress. This pattern is consistent with the psychological resource principle, which proposes that exposure to stress or challenge increases youths' sensitivity to parental influence (Pomerantz & Thompson, 2008). Socialization of coping targets youths' behaviors in the specific context of stressful experiences. Youth exposed to relatively minor stress may be less reliant on parental guidance either because they can effectively generate their own responses or because they have little occasion to enact parents' coping suggestions. The sensitivity of highly stressed youth, however, presents both heightened opportunity to benefit from adaptive coping suggestions and heightened risk of suffering the harmful effects of maladaptive suggestions.

This study makes several important conceptual and empirical contributions. Through a rigorous multi-informant, prospective design, this study provides much-needed evidence for longitudinal links between socialization of coping and subsequent youth responses to stress. Furthermore, this study represents the first investigation of exposure to stressful conditions as a moderator of the effects of socialization of coping on youth responses to stress. This approach is consistent with theories of youth responses to stress, which emphasize that the utility of particular responses is a function of the stressful context in which they are embedded (Compas et al., 2001; Skinner & Zimmer-Gembeck, 2007), as well as with contemporary perspectives on parenting, which highlight the need to consider contextual moderators of parenting behavior (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). This research also provides empirical support for recently proposed theories of parent socialization, which call for empirical attention to the contribution of domain-specific parent socialization to children's development (Grusec & Davidov; 2010). It should be noted, however, that these findings were observed among a predominantly White sample in the Midwest and may not be generalizable to other populations.

Limitations and Future Directions

A few limitations of the present study should be noted. First, the study focused on maternal socialization of coping yet fathers also are likely to contribute to youths' coping development. A growing body of research reveals that fathers contribute to children's development of emotion and self-regulation (e.g., Cassano et al., 2007; McDowell & Parke, 2005; McElwain, Halberstadt, & Volling, 2007). As observed in investigations of emotion socialization, fathers and mothers may offer distinct forms of coping guidance or youth may respond differently to their two parents (Cassano & Zeman, 2010; Zeman & Shipman, 1997). One study found that fathers' coping suggestions were less consistently associated than mothers' coping suggestions with youth-reported coping behavior (Kliewer et al., 1996), but other research reveals concurrent links between fathers' coping and children's adjustment (Foster, Reese-Weber, & Kahn, 2007). To our knowledge, no other work has specifically examined fathers' socialization of coping. Thus, longitudinal investigation of fathers' role in socialization of coping remains an important task for future research.

Second, mothers reported their coping suggestions and children reported their responses to stress via self-reports. Self-reports are commonly used to assess low-base rate behaviors that may occur infrequently during observations, such as particular types of socialization of coping (e.g., Kliewer et al., 1996) and socialization of emotion (e.g., Eisenberg et al., 1999, Spinrad et al., 2007). Self-reports also are a useful tool for assessing responses to stress that are difficult to observe, such as cognitive processes (Compas et al., 2001). Yet, self-reports

may be subject to reporting biases, suggesting the utility of complementing these reports with alternate approaches, such as parent-child discussions (Kliewer et al., 2006) or semi-structured laboratory tasks (e.g., exposing children to a mild stressor with the parent present; Moorman & Pomerantz, 2008). Such approaches would provide critical information about how parents communicate socialization of coping messages to their children and how youth explicitly respond to these messages.

Third, although we used a multi-informant state-of-the-art method for assessing life stress, which limits subjective reporting biases and yields a more objective assessment of chronic stress than do self-reports, individual coders' own biases might have influenced their interpretation of the narratives. However, it is important to note that codes were assigned based on specific behavioral anchors for each point on the five-point scale, as well as a consensus among the coding team; these characteristics of the coding process likely minimized biases introduced by the perspectives of individual coders, as reflected in the high inter-rater reliability.

Future research also is needed to address factors that influence youths' responsiveness to parent socialization of coping. For example, youths' willingness to internalize socialization messages communicated by parents might depend upon the quality of the parent-child relationship (Kochanska, Aksan, Prisco, & Adams, 2008). Previous research suggests that parent-child relationship quality does not predict mothers' coping suggestions over time (Abaied & Rudolph, 2010a), suggesting that mothers do not necessarily offer more adaptive coping guidance in the context of a supportive relationship with their child. However, it is possible that youth will be most amenable to following parents' coping suggestions in the context of a trusting, supportive parent-child relationship.

Of note, the current study focused on mothers' suggestions for coping with general stressors. Another potentially fruitful approach is to assess parents' suggestions for coping within particular domains of stress (e.g., academic difficulties or problems within family relationships), or for specific stressful situations (e.g., getting teased at school, difficult homework assignments). It is possible that parental coping guidance is more important for children's coping in the context of certain types of stressors than others. Research assessing parents' suggestions for coping with multiple, distinct types of stress is needed to examine whether the influence of parents' coping suggestions on youth responses is similar across different domains of stress.

In addition to explicit messages communicated through coping suggestions, parents are likely to communicate implicit messages about managing stress by modeling their own coping behavior to their children. Kliewer et al. (1996) found moderate concordance between parents' coping modeling and coping suggestions, as well as small, concurrent associations between both types of socialization of coping and child-reported coping behavior. Longitudinal research is needed to examine the joint contributions of explicit and implicit socialization of coping to the development of youth responses to stress.

Finally, an important next step for this line of inquiry is to examine the ensuing consequences of mothers' contributions to youth responses to stress. Given that youth responses to stress are associated with various indicators of adjustment, including psychopathology and social functioning (Kochenderfer-Ladd, 2004; Jaser et al., 2007; 2008; Valiente et al., 2009), it is possible that these responses represent a mechanism through which maternal socialization of coping shapes trajectories of risk and resilience over time. Future studies examining whether responses to stress mediate the prospective links between coping suggestions and youth psychopathology (e.g., depression, anxiety, antisocial

behavior) and social adjustment (e.g., victimization, rejection, social cognitions) will shed light upon this issue.

In sum, depending upon the type of coping suggestion and the severity of stress exposure, socialization of coping may be harmful or beneficial to youths' development of an adaptive repertoire of responses to stress. These findings suggest that, at least in youth with similar demographics to those of the current sample, prevention and intervention efforts targeting the enhancement of coping skills would benefit from a family-wide approach that addresses both parent socialization and youth responses to stress. Training parents to effectively support adaptive coping will be particularly important for youth exposed to chronic stressful environments.

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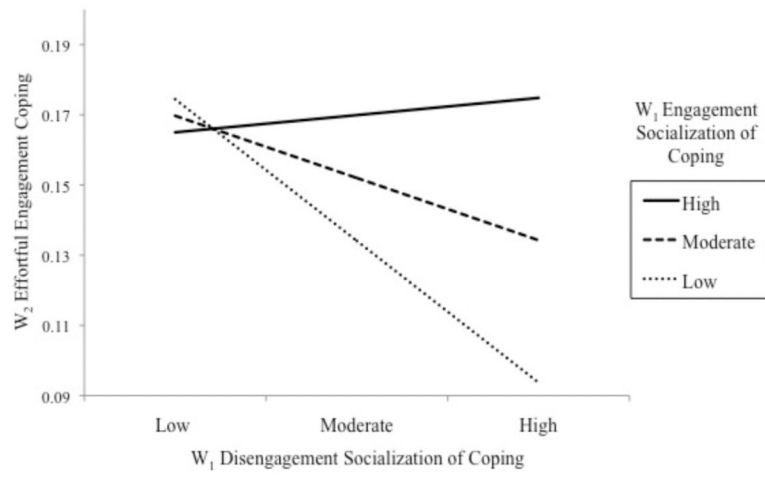
Figure 1.
Disengagement SOC x Engagement SOC interaction predicting subsequent effortful engagement coping in the context of high peer stress.
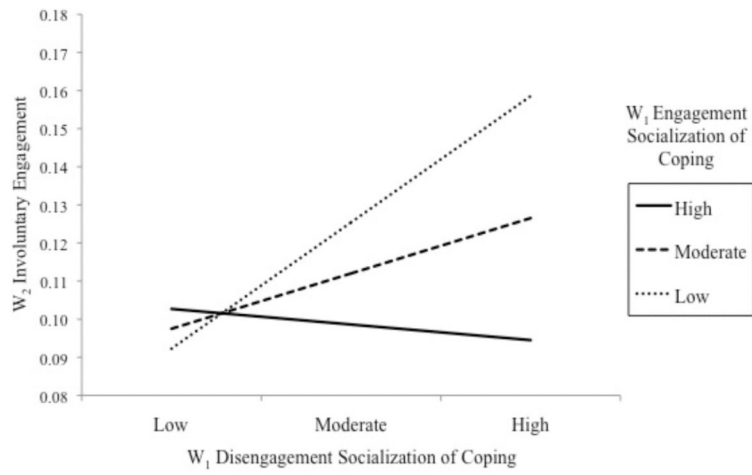
Figure 2.
Disengagement SOC x Engagement SOC interaction predicting subsequent involuntary engagement coping in the context of high peer stress.
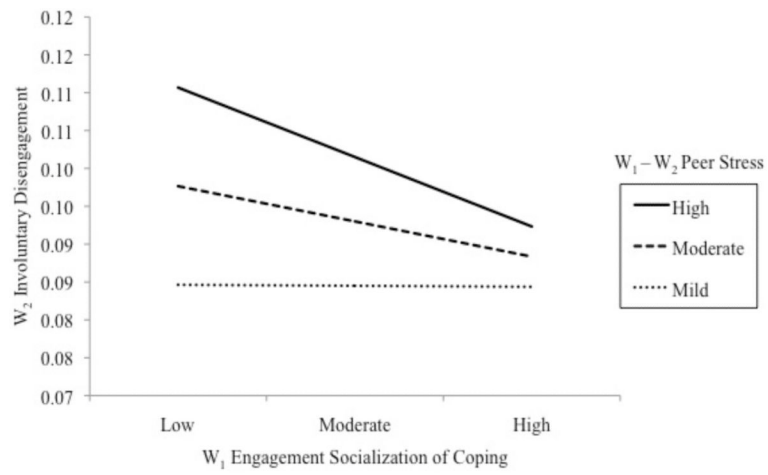
Figure 3.
Engagement SOC x Peer Stress interaction predicting subsequent involuntary disengagement responses.

Table 1

Descriptive Statistics and Intercorrelations among Socialization of Coping, Peer Stress, and Responses to Stress

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. W_1 Disengagement Suggestions	4.08	.66	--	.40***	.09	-.18*	.12	.07	.22**	-.11	.05	.08	.13
2. W_1 Engagement Suggestions	2.77	.80		--	.00	.01	-.02	-.01	.01	.07	-.02	-.02	.13
3. W_{1-2} Peer Stress	2.13	.85			--	-.46***	.26**	.42***	.31***	-.42***	.09	.45***	.37***
4. W_1 Effortful Engagement	.47	.08				--	-.55***	-.80***	-.81***	.64***	-.36***	-.54***	-.59***
5. W_1 Effortful Disengagement	.14	.03					--	.08	.35***	-.41***	.48***	.20*	.36***
6. W_1 Involuntary Engagement	.22	.04						--	.46***	-.50***	.16*	.52***	.42***
7. W_1 Involuntary Disengagement	.16	.03							--	-.50***	.23**	.40***	.51***
8. W_2 Effortful Engagement	.49	.08								--	-.56***	-.87***	-.87***
9. W_2 Effortful Disengagement	.14	.03									--	.16	.37***
10. W_2 Involuntary Engagement	.22	.04										--	.66***
11. W_2 Involuntary Disengagement	.16	.03											--

Note. W_1 = Wave 1. W_2 = Wave 2.

^
$p < .10$.

*
$p < .05$.

**
$p < .01$.

***
$p < .001$.

Table 2

Socialization of Coping x Peer Stress Predicting Wave 2 Responses to Stress

Predictors	W_2 Effortful Engagement			W_2 Effortful Disengagement			W_2 Involuntary Engagement			W_2 Involuntary Disengagement		
	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
W_1 Responses to Stress	.57***	.50	.03	.49***	.24	.01	.46***	.40	.04	.42***	.38	.01
W_1 Disengagement SOC	−.10			−.01			.14^			.13		
W_1 Engagement SOC	.08			.02			−.06			−.15^		
W_1-W_2 Peer Stress	−.17*			.00			.23***			.28**		
W_1 Disengagement SOC x W_1 Engagement SOC	.14^			.05			−.19*			−.09		
W_1 Disengagement SOC x W_1-W_2 Peer Stress	.07			.02			.13^			.00		
W_1 Engagement SOC x W_1-W_2 Peer Stress	.17*			−.08			−.17*			−.15*		
W_1 W_1 Disengagement SOC x Engagement SOC x W_1-W_2 Peer Stress	.20**			−.14			−.23**			−.11		

Note. W_1 = Wave 1. W_2 = Wave 2. βs represent regression coefficients for the final step of the hierarchical regression. R^2 represents overall varianc accounted for by the hierarchical regression. ΔR^2 represents variance accounted for by the final step of the hierarchical regression.

^
$p < .10$.

*
$p < .05$.

**
$p < .01$.

***
$p < .001$.