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Contributions of socialisation of coping to physiological responses to stress

Jennifer D. Monti,[1] Jamie L. Abaied,[2] and Karen D. Rudolph[1]

[1]Psychology, University of Illinois, Urbana-Champaign, Champaign, Illinois, and [2]Psychology, University of Vermont, Burlington, Vermont, USA

Abstract

The messages mothers communicate to their children about coping may play an important role in children's emotional development by shaping children's responses to stress. Building on prior research demonstrating associations between maternal socialisation of coping (SOC) and children's self-reported coping and emotional functioning, we examined the contribution of SOC to children's physiological responses to stress. Mothers completed a measure of SOC with peer victimisation. Children ($N = 118$; M age = 9.46 years, $SD = .33$) completed a measure of peer victimisation and participated in a laboratory social challenge task. Saliva samples were collected prior to and following the task and were assayed for alpha-amylase (sAA), a marker of autonomic nervous system (ANS) activation. Hierarchical linear modelling analyses revealed that SOC contributed to sAA reactivity. Peer victimisation predicted greater sAA reactivity when mothers made few engagement suggestions (orienting towards stress and associated emotions and cognitions) but not when mothers made many engagement suggestions. Mothers' distress responses predicted greater sAA reactivity. These findings provide novel evidence that the messages parents communicate about coping have implications for children's physiological reactivity to stress during middle childhood.

Key words: responses to stress, sAA, socialisation of coping

Parents play a key role in children's emotional development (Eisenberg, Cumberland, & Spinrad, 1998). One important parenting task is teaching children how to cope with stress and ensuing negative emotions. Indeed, parents' coping suggestions have implications for children's self-reported responses to stress (Abaied & Rudolph, 2011) and emotional functioning (Abaied & Rudolph, 2010). However, research has not yet examined whether these coping messages contribute to children's *physiological* responses to stress. This is a significant question as physiological responses have implications for the development of emotional functioning (Blandon, Calkins, Keane, & O'Brien, 2008; El-Sheikh, 2005). To address this gap, this research examined whether maternal socialisation of coping (SOC) is associated with children's physiological reactivity to a laboratory social stressor. SOC was assessed in the context of peer victimisation—a common childhood stressor—and associations between peer victimisation and reactivity also were explored.

SOC represents the messages parents communicate to their children about how to cope with stress (Abaied & Rudolph, 2010, 2011; Kliewer, Fearnow, & Miller, 1996). Because SOC takes place in the context of stressful or arousing experiences, it is a domain of parenting with particular relevance to emotional reactivity. SOC can be explicit, in that parents directly coach their children to cope in specific ways, or implicit, in that parents passively communicate messages about coping through their own behaviour. Drawing from Compas' (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001) theoretical framework of responses to stress, we examined two types of explicit SOC: *engagement* suggestions, which encourage children to orient resources towards the stressor (e.g., problem solving) or stress-related emotions and cognitions (e.g., emotion expression, positive thinking); and *disengagement* suggestions, which encourage children to avoid or deny stress or negative emotions. Drawing from Fabes' (Fabes, Leonard, Kupanoff, & Martin, 2001) work on parent reactions to children's negative emotions, we examined two forms of implicit SOC: *distress responses*, in which parents themselves experience distress when their child is upset; and *minimising-punitive* responses, in which parents tell the child s/he is overreacting or scold the child for being upset.

Correspondence: Jennifer D. Monti, MA, Department of Psychology, University of Illinois at Urbana-Champaign, 603 E. Daniel St., Champaign, Il 61821, USA. Email: schmid41@illinois.edu

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These forms of SOC are related to children's coping and emotional well-being. Engagement suggestions are associated with more engagement coping, and disengagement suggestions are associated with less engagement coping (Abaied & Rudolph, 2011; Kliewer et al., 1996, 2006). In the context of high interpersonal stress, a combination of low engagement and high disengagement suggestions predicts depression over time (Abaied & Rudolph, 2010). Fabes et al. (2001) conceptualise distress and minimising-punitive responses as unsupportive reactions to negative emotions that are expected to worsen children's negative arousal. Indeed, distress responses are associated with children's internalising symptoms (Eisenberg et al., 1999), and punitive responses are associated with emotion dysregulation, less engagement coping, and more disengagement coping (Eisenberg, Fabes, & Murphy, 1996; Fabes et al., 2001; Jones, Eisenberg, Fabes, & MacKinnon, 2002). Thus, engagement suggestions support children's coping and emotional well-being, whereas disengagement suggestions, distress responses, and minimising-punitive responses undermine adjustment.

Biological stress response systems are thought to represent a key mechanism through which caregiving environments shape development (e.g., Repetti, Taylor, & Seeman, 2002). To examine whether SOC contributes to physiological reactivity, this study focused on the autonomic nervous system (ANS), which is activated in times of psychological stress (Lundberg & Frankenhaeuser, 1980). Stressors presenting threat trigger the sympathetic nervous system (SNS), the branch of the ANS responsible for the 'fight or flight' response (Chrousos & Gold, 1992). Heightened SNS reactivity may reflect hypersensitivity to challenge or threat in the environment (Boucsein, 1991), with implications for maladaptive emotional functioning (Cummings, El-Sheikh, Kouros, & Keller, 2007; El-Sheikh, 2005). This study examined SNS reactivity as indicated by salivary alpha-amylase (sAA) reactivity (Granger, Kivlighan, El-Sheikh, Gordis, & Stroud, 2007a). sAA serves as a non-invasive surrogate marker of individual differences in SNS activation (Nater et al., 2006; Rohleder & Nater, 2009). Elevated levels of sAA reflect a biological response to psychological stress (Nater & Rohleder, 2009) and are correlated with other markers of ANS activation (e.g., heart rate and blood pressure; Stroud et al., 2009) and specific markers of SNS activation (e.g., pre-ejection period, skin conductance; El-Sheikh, Buckhalt, Erath, Granger, & Mize, 2008; West, Granger, Kivlighan, & Hurston, 2006). Moreover, sAA reactivity is associated with negatively valenced arousal (e.g., fear; Buchanan, Bibas, & Adolphs, 2010), suggesting the potential relevance of SOC for this index of physiological reactivity

In young children, ANS responses to social challenges are associated with characteristics of parenting environments, including mother–child relationship quality (Calkins, Graziano, Berdan, Keane, & Degnan, 2008), maternal sensitivity (Moore & Calkins, 2004), and authoritarian parenting (Miller et al., 2013). Investigations of links between parenting and ANS reactivity in middle childhood typically conceptualise reactivity as a moderator of broad aspects of family relationships rather than a correlate of specific parenting behaviours (for a review, see Obradovic, 2012). However, one study found that family stress and support were associated with profiles of ANS reactivity in 8–10-year olds (Del Giudice, Hinnant, Ellis, & El-Sheikh, 2012), supporting main effects of parenting environments on ANS reactivity in middle childhood. Several studies indicate that negative parenting environments are linked specifically with heightened sAA reactivity to social stress (Gordis, Margolin, Spies, Susman, & Granger, 2010; Hill-Soderlund et al., 2008). In addition, maltreated youth show reduced symmetry between sAA and cortisol reactivity to social stress, suggesting compromised physiological regulation (Gordis, Granger, Susman, & Trickett, 2008).

In sum, although SOC predicts children's self-reported responses to stress and adjustment, associations between SOC and physiological reactivity remain unexplored. Furthermore, few studies have examined main effects of specific parenting behaviours on ANS reactivity in middle childhood, and little is known regarding parent contributions to sAA reactivity. To address these limitations, this study explored links between maternal SOC and sAA reactivity to a laboratory social stressor in middle childhood. Because SOC occurs in the context of a specific stressor, we examined SOC with peer victimisation, a salient and common childhood stressor (Hanish & Guerra, 2002).

Peer victimisation encompasses exposure to overt aggression (e.g., being physically hurt or threatened) and relational aggression (e.g., being the target of rumours or intentionally excluded). Peer victimisation has consequences for children's emotional well-being (Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011a) and social cognition. Compared to non-victimised youth, victimised youth perceive interpersonal stress as more threatening (Taylor, Sullivan, & Kliewer, 2013) and report more social anxiety (Siegel, La Greca, & Harrison, 2009) and hostile intent attributions (Hoglund & Leadbeater, 2007). By enhancing children's perceptions of social threat, peer victimisation may stimulate greater ANS reactivity to challenging peer interactions.

Although there is a growing interest in the association between peer relationships and physiological processes (for a review, see Murray-Close, 2013), a limited number of studies have explored links between peer victimisation and autonomic reactivity. The few studies examining peer victimisation and sAA reactivity have yielded mixed findings. Rudolph and colleagues (Rudolph, Troop-Gordon, & Granger, 2010, 2011b) found no association between children's *prior* (i.e., one year earlier) peer victimisation and their sAA reactivity to a social challenge. However, Kliewer,

Dibble, Goodman, and Sullivan (2012) found that adolescents' *recent* (i.e., past month) peer victimisation predicted greater sAA reactivity when recalling stressful social experiences.

This study investigated the independent and interactive contributions of SOC and peer victimisation to children's physiological (sAA) responses to a laboratory social stressor. Because engagement suggestions support adaptive coping, we anticipated that mothers' use of engagement SOC would be associated with dampened sAA reactivity to the social challenge task. Because disengagement suggestions, distress responses, and minimising-punitive responses undermine adjustment, we hypothesised that mothers' use of these forms of SOC would be associated with heightened sAA reactivity. We also expected that peer victimisation would be associated with heightened sAA reactivity. However, we hypothesised that maternal SOC might moderate this association such that engagement SOC mitigates the effect of peer victimisation, whereas disengagement, distress, and minimising-punitive SOC exacerbate the effect of peer victimisation.

METHODS

Participants and procedures

Participants included 118 children (52% female; *M* age = 9.46 years, *SD* = .33; 72% White), and their maternal caregivers initially recruited in the 2nd grade for a larger study of peer victimisation. In the 3rd grade, families in the larger study were contacted in random order until 318 (50%) were reached and invited to participate in a supplemental study. Of these families, 239 expressed interest, and 132 participated; non-participating families had scheduling conflicts or were excluded due to medication usage that may impact biological assessments (Granger, Hibel, Fortunato, & Kapelewski, 2009). Of the 132 child participants, 118 had parent data on SOC available. The majority of children were White (72%; 12% African American, 9% Asian, and 7% other) and families represented a range of income levels (20% < $30,000, 43% $30,000–75,000, 37% > $75,000) and education levels (of participating mothers, 9% earned a high school degree or less, 46% had completed some college or an associate's degree, 25% held a bachelor's degree, and 20% had completed some graduate school, a master's degree, or a professional degree).

Mothers completed a survey by mail, and children visited the lab for a 3–4 hr session. In the lab, children completed a survey of peer victimisation and participated in a social challenge task with an unfamiliar peer (Rudolph et al., 2010, 2011b). Children were paired with study participants of the same sex but from different school districts to ensure lack of familiarity. In the first phase, children were told that whoever constructed a copy of a block model would win a prize. Children were provided with a set of blocks sufficient for only one complete model and worked on their models for 9 min. In the second phase, a research assistant informed the children they would each receive a prize for their effort and provided the children with a bag containing two prizes of unequal value (e.g., an art set and a plain pad of paper). Children were instructed to decide on the prize distribution.

Measures

Table 1 presents descriptive and psychometric information.

Socialisation of coping (SOC)

The year prior to the lab visit, mothers completed a measure adapted from the Coping with Children's Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990), a parent self-report measure with well-established reliability and predictive validity (Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). Mothers were provided with six hypothetical scenarios involving peer victimisation and rated how likely they were to respond in various ways (1 = very unlikely to 7 = very likely). Two of the original CCNES scenarios that involved peer victimisation were reworded slightly (e.g., the phrase 'becomes tearful' was replaced with the phrase 'becomes upset'), and four peer victimisation scenarios were added (e.g., 'If my child comes home from school upset because another kid at school has spread a false rumour about her/him . . .'). Additional response subscales were added to reflect Compas' responses to stress framework (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000), including two forms of explicit SOC: *Engagement* (addressing the stressor or stress-related emotions and cognitions; 18 items, e.g., 'Help my child think of ways to deal with the bully.') and *Disengagement* (active avoidance of the problem; six items, e.g., 'Suggest that my child stay away from those children.'). Two forms of implicit SOC were assessed, each of which was included on the original CCNES: *Distress Responses* (experiencing distress when children express negative emotions; six items, e.g., 'Feel upset and uncomfortable because of my child's distress.') and *Minimising-Punitive Responses* (minimising the problem or emotions or scolding; six items, e.g., 'Tell my

Table 1 Descriptive statistics

Measure	*M*	*SD*	α
Pre-task sAA	102.65	72.82	–
Post-task sAA	96.22	72.69	–
Victimisation	1.78	.67	.94
Engagement	.60	.06	.82
Disengagement	.17	.02	.61
Distress	.15	.04	.69
Minimising-Punitive	.08	.04	.77

child s/he is overreacting.'). Mean scores for each subscale were computed. To correct for base-rate differences in endorsement of responses to stress (Compas et al., 2001; Connor-Smith et al., 2000), proportion scores were created by dividing each subscale score by the total score on the measure.

The reliability and validity of the implicit SOC scales (distress and minimising-punitive responses) are supported by previous research (e.g., Fabes et al., 2002; Nelson, O'Brien, Blankson, Calkins, & Keane, 2009). Supporting construct validity of the revised explicit SOC scales, Abaied (2010) found moderate to strong correlations between this measure and another measure of SOC that tapped similar constructs.

Peer victimisation

Children completed a revised version (Rudolph et al., 2011a) of the Social Experiences Questionnaire (Crick & Grotpeter, 1996), which assesses overt victimisation (e.g., 'How often do you get hit by another kid?') and relational victimisation (e.g., 'How often does another kid leave you out on purpose?'). Eleven items were added to the original measure to provide a more comprehensive assessment of victimisation, resulting in a 22-item measure. Children rated how much they experienced victimisation on a 5-point scale (*Never* to *All the time*). Scores on the overt and relational victimisation subscales were highly correlated ($r = .77$). Given this strong correlation and the fact that we did not have distinct hypotheses for the two types of victimisation, scores were computed as the mean of the 22 items. Children's reports of victimisation using this scale correspond with teacher reports, and this measure has established predictive validity (Rudolph et al., 2011a; Rudolph, Troop-Gordon, Monti, & Miernicki, in press).

sAA reactivity

Saliva samples were collected and handled following Granger et al. (2007b). Children provided two saliva samples through passive drool, one immediately prior to the task and one 5 min after the task. Samples were assayed for sAA; detail regarding saliva analysis can be found in Rudolph et al. (2010, 2011b). sAA reactivity was computed as the difference between the post-task and pre-task assessments. Higher scores reflected greater reactivity.

Covariates

Because children participated in the social challenge in pairs, there was dyad-level variability in the quality of children's experiences during the task, which may impact children's physiological reactivity. To adjust for differences in this dyad-level quality of the interactions, children completed four items assessing *dyad negativity*. Parents reported on children's *medication usage*. Several children ($n = 7$) had taken medication within the past 24 hr that could interfere with biological assessments. Research assistants recorded the *Time of day* of saliva samples.

RESULTS

Paired-sample *t*-tests revealed no mean change in sAA in response to the social challenge task, $t(114) = 1.24$, *ns* (Table 1). This finding is in line with prior research examining sAA responses to social stress (Stroud et al., 2009; Yim, Granger, & Quas, 2010). However, follow-up analyses indicated that 43 (36.44%) of participants showed a substantial (at least 10%) increase in sAA post-task, and 46 (38.98%) showed a decrease, enabling us to examine predictors of individual differences in sAA reactivity. Table 2 presents intercorrelations among the variables.

Hierarchical linear modelling analyses were conducted with Hierarchical Linear and Nonlinear Modeling (HLM) 7 (Scientific Software International Inc., Skokie, IL, USA) (Raudenbush & Bryk, 2002). Three per cent of participants ($n = 4$) had missing data for one or two study variables. Because HLM handles missing data using listwise deletion, these cases were excluded. Analyses examined the independent and interactive contributions of SOC and victimisation to sAA reactivity (Table 3). Each analysis predicted sAA reactivity from one specific form of SOC, victimisation, and their interaction, adjusting for sex and the covariates. The

Table 2 Intercorrelations among the measures

Measure	1.	2.	3.	4.	5.	6.	7.
1. Pre-task sAA	–						
2. Post-task sAA	.70***	–					
3. sAA reactivity	−.40***	.37***	–				
4. Victimisation	−.11	−.03	.10	–			
5. Engagement SOC	.07	.08	.01	.12	–		
6. Disengagement SOC	−.00	−.05	−.06	.05	−.37***	–	
7. Distress SOC	−.19*	−.05	.18*	−.11	−.68***	−.05	–
8. Minimising-punitive SOC	.11	−.04	−.20*	−.10	−.58***	.01	−.04

*$p < .05$, **$p < .01$, ***$p < .001$.

Table 3 Contributions of socialisation of coping, victimisation, and their interaction to the prediction of sAA reactivity

	Engagement Coef.(*SE*)	Disengagement Coef.(*SE*)	Distress Coef.(*SE*)	Minimising-Punitive Coef.(*SE*)
Intercept	.83 (.51)	.73 (.53)	.58 (.54)	.74 (.53)
Dyad negativity	−.27 (.38)	−.24 (.38)	−.17 (.39)	−.26 (.37)
Sex	−.01 (.17)	−.03 (.18)	−.06 (.18)	.02 (.18)
Medication (0 = no medication; 1 = medication)	.65 (.64)	.63 (.58)	.75 (.61)	.55 (.61)
Time	−.00 (.00)	−.00 (.00)	−.00 (.00)	−.00 (.00)
SOC	−.06 (.09)	−.06 (.07)	.20 (.10)*	−.15 (.09)^
Victimisation	.23 (.08)*	.10 (.08)	.14 (.08)^	.10 (.08)
Victimisation × SOC	−.27 (.11)*	.07 (.07)	.04 (.07)	.10 (.08)

^$p < .10$, *$p < .05$.

Figure 1 Mothers' engagement suggestions moderate the effect of victimisation on sAA reactivity.

intercept was treated as a random factor, and the slopes were treated as fixed factors. Across all of the analyses, there were no significant effects of the covariates.[1]

Engagement SOC

In the model predicting sAA reactivity from engagement, victimisation significantly positively predicted sAA reactivity. This effect was qualified by a significant victimisation × engagement interaction. This interaction was decomposed by examining the effect of victimisation on sAA reactivity at 1 *SD* above and below the mean of engagement (Aiken & West, 1991). As displayed in Fig. 1, victimisation predicted greater sAA reactivity when mothers used relatively few (B = .50, *SE* = .17, $p < .01$) engagement suggestions but not when mothers used many (B = −.05, *SE* = .09, *ns*) engagement suggestions.

Disengagement SOC

In the model predicting sAA reactivity from disengagement, the main and interactive effects of disengagement and victimisation were non-significant.[2]

Distress SOC

In the model predicting sAA reactivity from distress, there was a significant positive effect of distress and a marginal positive effect of victimisation. The victimisation × distress interaction was non-significant.

Minimising-punitive SOC

In the model predicting sAA reactivity from minimising-punitive, there was a marginally significant negative effect of minimising-punitive. The main effect of victimisation and the victimisation × minimising-punitive interaction were non-significant.

DISCUSSION

This study investigated whether the explicit and implicit messages mothers convey about coping are associated with children's physiological responses to stress. The findings indicate that different forms of maternal SOC with peer victimisation either are independently associated with children's ANS reactivity to a laboratory social challenge or can buffer children from the adverse effect of victimisation. These results extend research on the effects of SOC and inform research on parenting and child psychophysiology.

Consistent with expectations, mothers' engagement suggestions attenuated the positive association between peer victimisation and sAA reactivity such that victimisation did not predict reactivity when mothers generally suggested their children engage with peer stress. Victimised children may perceive challenging social situations as threatening given their past negative social experiences. When mothers encourage victimised children to respond to peer stress with adaptive strategies such as emotional expression, problem solving, or positive thinking, children may experience a sense of self-efficacy rather than threat when faced with social stress, dampening SNS reactivity.

Although disengagement suggestions did not predict children's sAA reactivity in the central analyses, supplemental

analyses excluding participants on medication supported the hypothesis that victimisation would predict greater sAA reactivity when mothers used many but not few disengagement suggestions.[2] However, both the null main effect in the central analyses and the interaction in the supplemental analyses should be interpreted cautiously as the disengagement subscale had questionable reliability, which may account for the inconsistent results.

Mothers' distress responses predicted greater sAA reactivity to the social challenge regardless of children's level of victimisation. Distress responses may convey to children that stressful peer interactions are overwhelming, thereby heightening SNS reactivity. In contrast, minimising-punitive responses were marginally associated with lower sAA reactivity—counter to our hypothesis. Home environments characterised by harsh parenting and conflict predict both vigilant (hyper-arousal) and unemotional (hypo-arousal) profiles of ANS reactivity (Del Giudice et al., 2012). Mothers' minimising-punitive responses may be a component of a broader negative parenting environment, which can lead to blunted stress responses in children over time.

Peer victimisation was modestly but not consistently associated with greater sAA reactivity. Exposure to peer victimisation may enhance children's perceptions of social threat, heightening SNS reactivity to peer stress. In the current study, however, perceptions of threat may have been reduced because children interacted with unfamiliar peers who were not involved in their prior victimisation experiences. Peer victimisation may evoke greater reactivity when recalling prior experiences (e.g., Kliewer et al., 2012) or when interacting with peers associated with victimisation experiences. Alternatively, it may be that victimisation only predicts heightened physiological reactivity when mothers have not encouraged engagement coping (or, perhaps, have encouraged disengagement coping) in the past.

This study extends prior research on SOC and children's emotional functioning. Although several studies (e.g., Abaied & Rudolph, 2010, 2011) suggest that SOC predicts children's self-reported coping and adjustment, this study is novel in its examination of SOC and children's physiological stress responses. Calkins and colleagues (e.g., Fox & Calkins, 2003) have conceptualised emotion regulation as consisting of two dimensions: emotional reactivity and management of emotional responses. Prior research has examined associations between SOC and the management of emotional responses, including coping (e.g., Abaied & Rudolph, 2011) and regulation of emotional expression (e.g., Padgett, 2001). The current findings indicate that SOC also is associated with children's physiological reactivity. Because management of emotional responses and emotional reactivity uniquely predict internalising and externalising problems over time (Rydell, Berlin, & Bohlin, 2003), these findings have significant implications for the development of psychopathology. Furthermore, several studies indicate that elevated SNS reactivity heightens children's vulnerability to psychopathology in the face of environmental risk factors, such as parent depression and marital conflict (Cummings et al., 2007; El-Sheikh, 2005). It will be important for future research to examine whether physiological stress reactivity mediates between SOC and subsequent psychopathology, particularly in the context of ongoing stress.

More broadly, this study makes noteworthy contributions to the child psychophysiology literature. First, expanding upon previous investigations focusing on broad parenting environments in infancy and early childhood, these findings provide evidence that specific parenting behaviours are associated with ANS reactivity in middle childhood. Furthermore, this study is one of very few to examine sAA as an indicator of the ANS. Collectively, the current findings are consistent with the notion that children's biological systems are shaped in part by parent socialisation along with experiences with peers.

This study had several limitations that raise important questions to be addressed by future research. First, due to the non-experimental design of this study, the causal direction of effects cannot be determined. It is possible that the observed associations between SOC and sAA reactivity are due in part to shared characteristics of mothers and their children. For example, a trait such as negative emotionality may underlie both mothers' distress responses and children's sAA reactivity. Moreover, children's reactivity to stress may elicit certain forms of SOC from mothers, or parent SOC and children's reactivity may mutually reinforce each other over time. Longitudinal research adjusting for earlier levels of reactivity or SOC is needed to explore these possibilities.

It also is important to consider that this study used an ecologically valid social stress task. An advantage of this approach is that it allowed naturalistic interactions to unfold between children. As a result, however, there was variability in the nature and stressfulness of the interactions, as reflected in the absence of mean level increases in sAA. Although variability in children's reactivity enabled us to examine predictors of individual differences, future research is needed to determine if a similar pattern of associations between SOC and sAA reactivity is observed when the stressor is highly salient and uniform across children.

It also will be important to expand beyond this study's specific focus on SOC with peer victimisation and SNS reactivity. Because the effects of particular coping strategies may vary depending on the type of stress children face (Compas et al., 2001), associations between SOC and physiological reactivity within alternate domains of childhood stress (e.g., academics) should be examined. Future research also should explore whether SOC predicts physiological responses to stress beyond SNS activation. SNS activation reflects heightened arousal in response to challenge and threat. SOC also

may have implications for the parasympathetic nervous system (PNS), the branch of the ANS that *reduces* physiological arousal. PNS activation is thought to reflect self-regulatory processes, including emotion regulation, which enable adaptive responses to stress (Porges, 2007). PNS responses may be important to understanding the contribution of SOC to children's adjustment.

In conclusion, this study provides novel evidence that SOC may influence children's emotional development by contributing to children's physiological stress responses. These findings also suggest that certain coping suggestions, such as those encouraging engagement coping, may attenuate the negative effects of some stressors on children's physiological reactivity. Thus, applied efforts to improve children's emotional functioning and adjustment may benefit from addressing mothers' SOC.

NOTES

1. An additional set of HLM analyses was conducted, excluding participants on medication ($n = 7$) rather than including medication as a covariate. All of the significant effects from the central analyses held.
2. When excluding participants on medication, a significant victimisation × disengagement interaction emerged. Decomposition of this interaction revealed that victimisation predicted greater sAA reactivity when mothers used many (B = .16, $SE = .06$, $p < .05$) disengagement suggestions but not when mothers used few (B = −.04, $SE = .10$, *ns*) disengagement suggestions.

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