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Appraisal and coping styles account for the effects of temperament on preadolescent adjustment

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Abstract

Temperament, appraisal, and coping are known to underlie emotion regulation, yet less is known about how these processes relate to each other across time. We examined temperamental fear, frustration, effortful control, and impulsivity, positive and threat appraisals, and active and avoidant coping as processes underpinning the emotion regulation of pre-adolescent children managing stressful events. Appraisal and coping styles were tested as mediators of the longitudinal effects of temperamental emotionality and self-regulation on adjustment using a community sample ($N=316$) of preadolescent children (8–12 years at T1) studied across one year. High threat appraisals were concurrently related to high fear and impulsivity, whereas effortful control predicted relative decreases in threat appraisal. High fear was concurrently related to high positive appraisal, and impulsivity predicted increases in positive appraisal. Fear was concurrently related to greater avoidant coping, and impulsivity predicted increases in avoidance. Frustration predicted decreases in active coping. These findings suggest temperament, or dispositional aspects of reactivity and regulation, relates to concurrent appraisal and coping processes and additionally predicts change in these processes. Significant indirect effects indicated that appraisal and coping mediated the effects of temperament on adjustment. Threat appraisal mediated the effects of fear and effortful control on internalizing and externalizing problems, and avoidant coping mediated the effect of impulsivity on internalizing problems. These mediated effects suggest that one pathway through which temperament influences adjustment is pre-adolescents' appraisal and coping. Findings highlight temperament, appraisal and coping as emotion regulation processes relevant to children's adjustment in response to stress.

Keywords

appraisal; coping; preadolescents; temperament

Emotion regulation has been shown to have important implications for psychopathology (Cicchetti, Ackerman, & Izard, 1995). However, few studies have elucidated specific processes underlying emotion regulation in response to stressful experiences. The introduction to this special issue defines emotions as “automatic processes” that are “biologically endowed,” whereas emotion regulation is a process involving the modulation

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This research was conducted at the University of Washington

of emotional arousal and its behavioral expression in the service of a goal (e.g. Cole, Martin, & Dennis, 2004). This study examined how temperament, appraisal and coping styles, constructs inherent to how children react and regulate their emotions in stressful situations, predict adjustment problems in preadolescence, a developmental period when children are increasingly independent in their efforts to deal with stress.

Temperament is defined as relatively stable, individual differences in emotionality and self-regulation (Rothbart, 1981, 1989). Emotionality includes differences in the arousal of fear and frustration, which are known to predict internalizing and externalizing problems (Bates, 2001). Self-regulation refers to differences in shifting and focusing attention and in inhibition of thoughts and behaviors. Self-regulation is often assessed with measures of effortful control and impulsivity (reversed) and is related to lower adjustment problems (Eisenberg et al., 2000; Lengua, West, & Sandler, 1998; Rothbart & Bates, 1998). The relation between temperament and adjustment is evident in very young children (Gartstein, Putnam, & Rothbart, 2012). Emotional tendencies and the ability to modulate emotional and behavioral responses likely shape patterns of appraisal and coping as these processes emerge and change across preadolescence.

The appraisal that an event is stressful, taxing, or exceeding ones resources as opposed to manageable partially determines the efforts employed to alter the situation or regulate the emotions that arise (Lazarus & Folkman, 1984). Threat appraisal refers to an individual's assessment of harm or future loss. Positive appraisals include challenge appraisal, the assessment that the event may yield a positive outcome, and resource appraisals, the assessment that the individual has sufficient resources to deal with the event. This is similar to antecedent-focused links in existing process models of emotion regulation (Gross, 2001), however occurs at the point the stressor is experienced. Threat appraisal has been linked with adjustment problems (Lengua, Sandler, West, Wolchik, & Curran, 1999; Sheets, Sandler, & West, 1996), whereas positive appraisals are related to fewer adjustment problems (Jackson & Warren, 2000; Lengua & Long, 2002).

Coping, referring to the cognitive and behavioral efforts to manage the demands of a situation that are appraised as exceeding the resources of the individual (Lazarus & Folkman, 1984), is inherent to the regulation of emotions. Active coping is problem focused and oriented toward altering the situation, thoughts or emotions in response to a stressful situation. These efforts include problem solving, positive cognitive restructuring, and acceptance. Avoidant coping strategies involve trying to stay away from the problem or repressing thoughts or feelings about it, and is similar to suppression suggested by models of emotion regulation (Gross, 2001). Generally, active coping strategies tend to relate to lower adjustment problems (Ayers, Sandler, West, & Roosa, 1996; Eisenberg et al., 2000; Sandler, Tien, & West, 1994) and avoidant strategies relate to higher levels of adjustment problems (Causey & Dubow, 1992; Eisenberg et al., 2000).

Temperament may shape children's appraisal and coping responses to stress. Children low in negative emotionality tend to appraise interactions more positively (Eisenberg et al., 1995), and higher self-regulation predicts constructive coping in children (Eisenberg et al., 1996). One set of studies tested appraisal and coping as mediators of the relation of

temperament to adjustment, finding that negative emotionality predicted greater reliance on threat appraisal and avoidant coping, whereas self-regulation predicted greater use of active coping. In turn, temperament, appraisal and coping predicted internalizing and externalizing problems (Lengua et al., 1999, Lengua & Long, 2002). Negative emotionality is thought to increase the likelihood of intense or overwhelming emotional arousal in response to negative events, increasing children's reliance on threat appraisals and avoidance, potentially as a result of narrowed attentional focus or cognitive inflexibility. One study of children with cancer found that the relation between negative affectivity and anxiety was mediated by active coping (Miller et al., 2009). These associations have not been previously tested using longitudinal data. In addition, we tested if fear and frustration differentially relate to appraisal and coping. Given that the basis of individual differences in fearfulness lie in the behavioral inhibition system, which motivates passive withdrawal and avoidance (Rothbart, Ahadi, & Evans, 2000), we hypothesized that fear would relate to greater use of threat appraisals and avoidant coping. With regard to self-regulation, one study found that the relation of attentional control and internalizing was mediated by active coping strategies, suggesting that greater control over attentional processes facilitates the use of more complex coping strategies (Compas, Connor-Smith, & Jaser, 2004). Therefore, we predicted that effortful control would be associated with active coping. Impulsivity is thought to stem from the behavioral activation system (Fowles, 1987) associated with active withdrawal from adverse experiences, which may increase the likelihood of efforts aimed at immediate relief from distress through avoidant coping rather than planned, effortful responses that may be more effective in managing emotional or behavioral responses to stress over time.

This study tested the hypothesis that appraisal and coping styles would partially mediate the association of temperament with adjustment problems, representing emotion regulation processes relevant to children's experiencing negative life events (see Figure 1). Aim I was to examine the specific associations of temperament dimensions with appraisal and coping, and as predictors of rank-order changes in appraisal and coping. Above the effects of negative life events, we expected that fear and impulsivity would predict greater reliance on threat appraisals and avoidant coping, and that effortful control would predict more use of active coping. The relations of frustration to appraisal and coping were explored, as well. Aim II was to examine the effects of temperament, appraisal and coping on adjustment, controlling for age, gender, and prior levels of adjustment. We expected temperament negative emotionality, threat appraisal, and avoidant coping to relate to higher problems, whereas we expected self-regulation, positive appraisal, and active coping to relate to lower problems. Aim III was to explore if the relation between temperament on adjustment in preadolescence was partially mediated by appraisal and coping. We tested these associations in community sample of preadolescents using longitudinal path modeling to allow tests of relative changes in appraisal and coping over time.

Method

Participants

Participants were a community sample of 316 children and their mothers assessed at two time points, separated by one year. T1 interviews began when child participants were in the

3rd–5th grades (M age=9.6 years, range=7.8–12). Participants were recruited through children's public school classrooms selected to represent the range of sociodemographic characteristics of the U.S. Pacific Northwest urban area surrounding the university. Children were 53% female. Annual family income was evenly distributed with 12% less than \$20,000; 23% \$21,000 to \$40,000; 18% \$41,000 to \$60,000; 14% \$61,000 to \$80,000; 16% \$81,000 to \$100,000, and 17% over \$100,000. Mothers' modal educational attainment was college/university graduate, and ranged from nine individuals with less than a high school diploma to 20 individuals with advanced degrees. Seventy-two percent of families consisted of two-parent households. The sample included 29% African American, 2% Asian/Pacific Islander, 59% European/White, 2% Hispanic, 1% Native American, and 7% multiple/other ethnicities.

Procedures

Structured 2.5-hour interviews were conducted in families' homes. After confidentiality was explained, mothers signed informed consent forms, and children signed assent forms. Mothers and children were interviewed individually. T2 assessments were scheduled one year after the initial assessment. Families received \$40 and \$50 compensation at T1 and T2, respectively.

Measures

When both mother- and child-reports were available, a cross-reporter measure was created to partially address the impact of shared method variance and reduce the number of statistical tests conducted. Descriptive statistics are presented in Table 1.

Temperament—Children's emotionality and self-regulation were assessed at T1 using mothers' and children's reports on the fear, irritability, and attention regulation subscales of the Early Adolescent Temperament Questionnaire (EATQ; Capaldi & Rothbart, 1992), and the impulsivity and inhibitory control subscales of the Child Behavior Questionnaire (CBQ; Goldsmith & Rothbart, 1991). Internal consistency reliabilities (α s) for mother- and child-report fearfulness were .47 and .63, respectively, and the reports were correlated .26. Alpha reliabilities for mother and child report of frustration were .76 and .71, respectively, and the reports were correlated .11. The composite α s for the fearfulness and frustration measures combined across reporter were .65 and .76, respectively. Effortful control consisted of the EATQ attention regulation subscale and the CBQ inhibitory control subscale. Alpha reliabilities for mother report of attention and inhibitory control were .76 and .82, respectively, and for child report were .61 and .62, respectively. The correlations between mother- and child-report attention and inhibitory control were .18 and .27, respectively. The composite α s for the attention and inhibitory control measures combined across reporter were .72 and .80, respectively. A measure of effortful control was the average of the attention and inhibitory control measures combined across reporter, which were correlated .59. Alpha reliabilities for mother and child report on the CBQ impulsivity subscale were .68 and .65, respectively. The correlation between mother and child report of impulsivity was .28, and the composite α for the impulsivity measure combined across reporter was .74.

Appraisal and Coping—At T1 and T2 children reported on their tendencies toward threat and positive appraisal styles and their active and avoidant coping styles. *Threat appraisal* was measured using an adaptation of the 24-item “What I Felt Scale” (Sheets et al., 1996). The scale assesses six dimensions of negative thoughts about life events: negative self-evaluation, negative evaluation by others, rejection, criticism of others, harm to others, loss of desired objects or activities. Children were prompted to think about three of the “biggest problems” they had during the past month and rate how much they thought each of the thoughts related to those problems. Problems children generated included stressors ranging from moderate (e.g. sibling, family, peer, and school-related problems) to major life events (e.g. parents’ separation or the death of a loved one). The measure of threat appraisal style was the mean-weighted sum of the items across the six threat dimensions, and the alpha reliability was .88 at both time points. *Positive appraisal* was measured using a scale with a format parallel to that of the threat appraisal measure (Lengua & Long, 2002). Seven items assessed challenge appraisals, children’s evaluation of the potential for gain or positive outcome (e.g. “You thought that you would be able to figure the problem out”). Six items assessed resource appraisals, children’s evaluation that they had resources to deal with the problem (e.g. “You thought about all the people and things in your life that could help with the situation”). The challenge and resource subscales were correlated .76 and .75 at T1 and T2. A positive appraisal style scale was calculated as the mean-weighted sum of the 13 challenge and resource appraisal items, and the α s were .83 and .84 at T1 and T2, respectively.

Coping styles were assessed using the Children’s Coping Strategies Checklist (CCSC; Ayers et al., 1996). Children rated how often they used each coping behavior when they had a problem during the previous month. Active strategies (cognitive decision making, control, direct problem solving, positive cognitive restructuring, optimism, seeking understanding) and avoidant strategies (cognitive avoidance, avoidant actions; Ayers et al., 1996; Sandler et al., 1994) were examined given their consistent associations with adjustment. The α s for T1 and T2 active and avoidant coping were .88, .89 and .76, .82, respectively.

Negative Life Events—Negative life events were assessed at T1 and T2 using the General Life Events Schedule for Children (Sandler, Ramirez, & Reynolds, 1986). Mothers reported whether the 28 moderate to major negative life events occurred during the previous year, and the total score was the number of events.

Child Adjustment—Both mother’s and children’s reports of internalizing and externalizing problems were obtained at T1 and T2. Mothers reported on children’s adjustment using the Child Behavior Checklist (CBCL; Achenbach, 1991). Alpha reliability for maternal report of internalizing was .86 and for externalizing was .88. The Child Depression Inventory (CDI; Kovacs, 1981) and the Youth Self-Report (YSR; Achenbach, 1991) were used to obtain children’s report on their own adjustment problems. The CDI is a 27-item self-report scale, and in this sample α was .81. The delinquent and aggressive behavior subscales of the YSR were used to assess child-report conduct problems. Alpha in this sample was .82. Scores on the child and mother subscales were averaged into internalizing and externalizing problems scores. The correlations between mother and child

report of internalizing and externalizing were .18 and .39, respectively. The composite α s for the internalizing and externalizing measures combined across reporter were .85 and .90, respectively.

Results

Analytic Plan

First, correlations were examined to identify covariates and assess the plausibility of the hypothesized associations. Next, path analyses were conducted to test whether temperament prospectively predicted children's appraisal and coping above the effects of negative life events and whether appraisal and coping mediated effects of temperament on internalizing and externalizing problems. We tested whether a) temperament was concurrently related to appraisal and coping and whether temperament predicted rank order changes in appraisal and coping, b) temperament, appraisal and coping predicted internalizing and externalizing problems, and c) appraisal and coping mediated the effects of temperament on adjustment problems. Path models were tested using Full Information Maximum Likelihood Estimation in Mplus 6.11 (Muthén & Muthén, 2010). Sobel tests of indirect effects were used to evaluate appraisal and coping as mediators of the temperament-adjustment relation.

Correlations

Correlations were examined to identify covariates and determine the plausibility of the hypotheses. Boys demonstrated higher levels of externalizing problems. Older children demonstrated lower levels of fear, positive appraisal, and avoidance. Child gender and age were included as covariates in subsequent analyses. There were positive inter-correlations of the forms of appraisal as well as the forms of coping. These correlations are consistent with previous evidence and reflect the increased employment of appraisal and coping when experiencing stress. However, on balance, individuals who use more threat appraisal and avoidant coping tend to demonstrate poorer adjustment outcomes (Ayers, Sandler, West & Roosa, 1996; Sandler, Tien, & West, 1994). In this study, high threat appraisals and high avoidant coping were related to higher levels of internalizing and externalizing problems.

High fear was related to greater use of positive appraisal, threat appraisal, avoidant coping, and higher levels of internalizing problems. High frustration and high impulsivity were related to greater use of threat appraisal, avoidant coping, and higher levels of internalizing and externalizing problems. High effortful control was related to lower threat appraisal as well as internalizing and externalizing. The pattern of correlations suggested the hypothesized associations were plausible.

Effects of Temperament on Appraisal and Coping

The effects of temperament on appraisal and coping, and in turn, the effects of temperament, appraisal and coping on adjustment were tested in a path model that demonstrated reasonable fit to the data ($\chi^2(66) = 256.03, p < .001$; CFI = .89, RMSEA = .09). This single path model tested the full model shown in Figure 1, and allowed us to test all study aims in a single model. The possibility of differences in the patterns of relations across gender was tested by comparing a cross-group path model in which all parameters were free to differ

across gender to one in which all paths and covariances were constrained to be equal across gender. The nonsignificant χ^2 -difference test indicates that there were no significant differences in the structural paths or covariances across gender (χ^2 -difference (96) = 99.39, *ns.*).

To address Aim I we tested the independent concurrent and prospective effects of the temperament on appraisal and coping (Table 3). Controlling for negative life events, T1 fear predicted greater use of positive and threat appraisal and avoidant coping, but was unrelated to T2 appraisal and coping. T1 frustration was related to relative decreases in active coping at T2. T1 impulsivity was related to greater use of threat appraisal concurrently, and predicted rank-order increases in positive appraisal and avoidance at T2. Effortful control was related to less use of threat appraisal at T1 and relative decreases in threat appraisal at T2.

Effects of Temperament, Appraisal and Coping on Adjustment

To address Aim II we tested the effects of temperament, appraisal and coping on adjustment, controlling for child age, gender and prior levels of adjustment. All effects were unique, controlling for all other temperament, appraisal and coping dimensions simultaneously. Fear and effortful control predicted lower externalizing problems, whereas frustration predicted higher externalizing problems. T2 threat appraisal was related to higher levels of internalizing and externalizing problems, and active and avoidant coping were related to lower and higher levels of internalizing problems, respectively.

Indirect Effects

To address Aim III, the indirect effects of temperament on adjustment through appraisal and coping were tested to determine whether appraisal and coping partially mediated the effects of temperament on adjustment. Significant indirect effects of fear, impulsivity and effortful control emerged. There was a significant indirect effect of fear on T2 internalizing ($\beta=.02$, $p=.01$) and T2 externalizing ($\beta=.01$, $p=.05$) through T1 and T2 threat appraisal, and a trend toward an indirect effect of fear on T2 internalizing through T1 and T2 avoidant coping ($\beta=.01$, $p=.06$). There was a significant indirect effect of impulsivity on T2 internalizing through T2 avoidant coping ($\beta=.05$, $p=.05$), and a trend toward an indirect effect of impulsivity on T2 internalizing through T1 and T2 threat appraisal ($\beta=.01$, $p=.07$). Finally, there was a significant indirect effect of effortful control on T2 internalizing ($\beta=-.02$, $p=.02$) and a trend toward an indirect effect on T2 externalizing ($\beta=-.01$, $p=.06$) through T1 and T2 threat appraisal.

Discussion

This study sought to elucidate specific processes underlying emotion regulation in response to stressful experiences among pre-adolescents. Aim I was to examine the relation of temperament to appraisal and coping. Aim II was to examine the effects of temperament, appraisal, and coping on adjustment. Aim III was to test whether appraisal and coping styles mediated the effects of temperament on adjustment. Together, these aims sought to explicate processes intrinsic to emotion regulation during stressful experiences.

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Temperamental negative emotionality represents automatic emotional tendencies that may promote the use of threat-oriented appraisals and avoidant coping strategies, whereas self-regulation might facilitate more volitional efforts to manage stress and emotional arousal. The reactive components of temperament represent stylistic reactions to change in the external environment, whereas self-regulatory components may affect one's efficiency in modulating these experiences. These components of temperament are proposed to underlie emotion regulation (Rothbart & Sheese, 2007). Appraisal is a process that alters the experience of stress by influencing how one assesses the situation (Lazarus & Folkman, 1984), thereby altering its emotional significance (Gross & Thompson, 2007). Coping is the employment of behavioral and cognitive responses to a stressor, including altering one's appraisals or managing the situation and emotions. This study sought to examine whether appraisal and coping processes play a role in how negative emotionality and self-regulation predict children's adjustment.

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One aim of this study was to test whether appraisal and coping mediated the effects of temperament on adjustment. There was some support for the hypothesized mediating effects. Threat appraisal and avoidant coping mediated the relations of fear, impulsivity and effortful control to adjustment problems. These findings are consistent with a behavioral inhibition system model that emphasizes avoidance in maintaining fear processes (Rothbart, Ahadi, & Evans, 2000). Preadolescents with fearful dispositions were more likely to view situations as threatening and cope using cognitive and behavioral forms of avoidance, patterns that increase the likelihood of emotional and behavioral problems (Eisenberg et al., 2000; Lengua et al., 1999). In contrast, preadolescents higher in effortful control, which consists of attention regulation and inhibitory control, may have been better able to shift attention away from threatening interpretations of situations, focus on more constructive interpretations and problem-solving efforts, which in turn, relate to lower internalizing problems. A recent study found that effortful control was related to the tendency to experience negative affect and articulated that "cognitive change" emotion regulation processes may mediate the observed effects (Bridgett, Oddi, Laake, Murdock, & Bachmann, 2013). As a corollary, preadolescents who are unable to shift their attention from the negative qualities of their problems are at risk for developing cognitive styles such as rumination and negative attributional bias that are inherent to internalizing and externalizing problems (Lyubomirsky & Nolen-Hoeksema, 1995). These findings suggest that the influence of a child's constitutionally-based, individual differences in negative emotionality and self-regulation on adjustment may be partially explained by their influence on appraisal and coping.

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Further highlighting the influence of temperament on children's appraisal and coping processes, temperament predicted rank-order changes in appraisal and coping, suggesting that temperament might shape children's styles of responding to stress. Effortful control was related to relative decreases in threat appraisal, consistent with the hypothesis that the ability to shift attention away from negative aspects of a stressor towards more positive aspects, or perhaps inhibit automatic negative thoughts, might support more adaptive responses to stress. Frustration was associated with relative decreases in active coping. This finding contradicts existing studies based on laboratory challenge and frustration paradigms, in which children who exhibited frustration enacted more active emotion regulation strategies (Dennis, Cole, Wiggins, Cohen, & Zalewski, 2009) and more positive adjustment (Zalewski,

Lengua, Wilson, Trancik, & Bazinet, 2011). This discrepancy may pertain to the nature of the stressor. In the laboratory paradigms, emotion regulation processes were tested with a frustrating task that was time-limited and had a clearly defined goal. In contrast, the present study assessed appraisal and coping in the context of current life problems the preadolescent identified, which were often complex, relationally-oriented, and persisting. In these scenarios, it is possible that a frustrated disposition may thwart the use of effective strategies. Finally, impulsivity was associated with increases in both positive appraisal and avoidant coping. Impulsive dispositions are signified by quick, automatic responses (Goldsmith & Rothbart, 1991). Impulsive preadolescents may focus on short-term gains and immediate relief from distress, rather than being able to view more long-term consequences resulting from unattended problems. This explanation is consistent with theory, as active avoidance is associated with the behavioral activation system from which impulsivity likely stems. The finding that temperament shapes children's responding to stress highlights how automatic responses to stressors influence more volitional aspects of dealing with stress.

Study strengths include the use of longitudinal data to explicate processes underpinning emotion regulation, and the role of temperament in shaping of these processes over time. An additional strength was examination of unique contributions of several temperament dimensions to help clarify processes in the emergence of appraisal and coping styles. Future research could be strengthened by the use of ecological momentary assessments that have children report daily on their coping mechanisms or the inclusion of objective or physiological measures. The modest indirect effects observed in this study suggest that there are likely many complicated causal mechanisms in the relation between temperament and children's adjustment, and that appraisal and coping are perhaps just some of the potential mechanisms.

Unpacking the processes underlying children's emotion regulation might help identify children at risk for developing adjustment problems, particularly in the face of negative life events. In examining the unique effects of specific temperament dimensions, it appears that children high in effortful control may have a constitutional protective factor against the use of threat appraisals and the subsequent adjustment problems, whereas children high in fear and impulsivity appear to be at heightened risk for developing adjustment problems, in part through their appraisals of situations as threatening and use of avoidant coping. The direct effects of coping on internalizing problems indicate that children, independent of their temperament, may benefit from interventions that promote adaptive coping strategies.

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Table 1

Descriptive statistics for study variables.

	M	SD	Min	Max	Skew
Child Age T1	9.64	0.97	7.80	12.00	0.14
Fear	18.79	3.53	8.00	27.50	-0.04
Frustration	26.45	4.17	14.50	37.00	-0.14
Impulsivity	21.19	3.69	10.00	30.00	-0.12
Effortful Control	28.80	3.88	14.50	37.25	-0.49
Neg. Life Events T1	5.84	2.88	0.00	17.00	0.33
Neg. Life Events T2	5.75	3.10	0.00	17.00	0.06
Pos. Appraisal T1	21.22	7.70	0.00	37.00	-0.15
Pos. Appraisal T2	14.96	8.11	1.30	37.70	-0.07
Threat Appraisal T1	9.74	7.06	0.00	34.00	1.06
Threat Appraisal T2	6.56	6.42	0.00	28.36	1.28
Active Coping T1	39.11	13.69	4.00	69.00	-0.12
Active Coping T2	38.42	14.41	0.00	72.00	-0.20
Avoidant Coping T1	18.58	6.53	1.00	36.00	-0.12
Avoidant Coping T2	16.99	6.96	2.00	36.00	0.16
Internalizing T1	6.38	3.82	0.00	23.50	1.04
Internalizing T2	7.51	4.35	0.00	22.50	0.50
Externalizing T1	4.67	3.30	0.00	23.50	1.61
Externalizing T2	4.29	3.16	0.00	21.00	1.76

* $p < .05$

Table 2

Correlations among study variables.

	Time 2														
	NLE	FEA	FRU	IMP	EC	POS	THT	ACT	AVD	POS	THT	ACT	AVD	INT	EXT
Child Sex	.08	-.09	.00	.07	-.08	.05	-.04	.07	.07	-.10	.05	-.07	-.01	.06	.20*
Child Age	-.06	-.14*	-.06	-.09	.01	-.11*	-.09	-.06	-.22*	-.05	-.08	-.03	-.12	.11	-.01
T1 NLE	--	.16*	.25*	.19*	-.04	.04	.23*	.00	.15*	.03	.14*	.02	.08	.05	.34*
T2 NLE	.36*	.06	.16*	.14*	-.16*	-.11*	.10	-.12*	-.03	-.02	.06	.02	.01	.16*	.31*
T1 Fear	--	.50*	.17*	.17*	-.22*	.15*	.35*	.03	.31*	.05	.17*	.05	.14	.16*	.09
T1 Frustration	--	.41*	.41*	.41*	-.31*	.01	.30*	-.02	.19*	.11	.22*	.02	.22*	.14*	.36*
T1 Impulsivity	--	-.44*	--	--	-.44*	.03	.30*	-.02	.19*	.11	.22*	.02	.22*	.14*	.36*
T1 EC	--	--	--	--	--	-.04	-.31*	.09	-.12*	.06	-.24*	.07	-.09	-.29*	-.42*
T1 Pos. Appraisal	--	--	--	--	--	--	.30*	.73*	.50*	.28*	.12	.31*	.10	.10	.03
T1 Threat Appr.	--	--	--	--	--	--	--	.14*	.43*	.11	.40*	.11	.32*	.20*	.28*
T1 Active Coping	--	--	--	--	--	--	--	--	.57*	.25*	.02	.32*	.07	.03	-.05
T1 Avoid. Coping	--	--	--	--	--	--	--	--	--	.15*	.14*	.13	.26*	.11	.12*
T2 Pos. Appraisal	--	--	--	--	--	--	--	--	--	--	.16*	.70*	.41*	.00	.00
T2 Threat Appr.	--	--	--	--	--	--	--	--	--	--	--	.20*	.50*	.53*	.42*
T2 Active Coping	--	--	--	--	--	--	--	--	--	--	--	--	.50*	-.04	-.05
T2 Avoid. Coping	--	--	--	--	--	--	--	--	--	--	--	--	--	.29*	.21*

Note. NLE=Negative Life Events, FEA=fear, FRU=frustration, IMP=impulsivity, EC=effortful control, POS=positive appraisal, THT=threat appraisal, ACT=active coping, AVD=avoidant coping.

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p .05

Table 3

Standardized regression coefficients from path analyses testing the effects of temperament and stress on appraisal, coping and adjustment.

	Time 1				Time 2					
	<u>POS</u>	<u>THT</u>	<u>ACT</u>	<u>AVD</u>	<u>POS</u>	<u>THT</u>	<u>ACT</u>	<u>AVD</u>	<u>INT</u>	<u>EXT</u>
Child Sex	.07	-.05	.08	.09	-.10	.05	-.07	-.02	-.03	.13*
Child Age	-.10	-.04	-.05	-.18*	.03	.00	-.05	-.01	.08	-.03
T1 Symptoms	--	--	--	--	--	--	--	--	.36*	.53*
T1 Neg. Events	.02	.14*	-.00	.06	--	--	--	--	--	--
T2 Neg. Events	--	--	--	--	-.04	-.06	.07	-.08	--	--
T1 Fear	.19*	.21*	.09	.22*	.03	.05	.13	.08	-.04	-.12*
T1 Frustration	-.11	.11	-.08	.10	-.09	.04	-.17*	-.07	.11	.20*
T1 Impulsivity	.01	.12*	.04	.08	.21*	.05	.06	.21*	-.10	-.02
T1 Effortful	-.02	-.17*	.11	.01	.13	-.15*	.08	.00	-.07	-.11*
Control										
T1 Pos. Appraisal					.30*					
T1 Threat Apprais.						.28*				
T1 Active Coping							.24*			
T1 Avoid. Coping								.21*		
T2 Pos. Appraisal									.12	.05
T2 Threat Apprais.									.41*	.19*
T2 Active Coping									-.35*	-.07
T2 Avoid. Coping									.25*	.05

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p .05