Published in final edited form as:

J Child Fam Stud. 2011 June ; 20(3): 334–342. doi:10.1007/s10826-010-9397-0.

Bidirectional Relationships Between Parenting Stress and Child Coping Competence: Findings From the Pace Study

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Abstract

The present study was designed to evaluate the bidirectional relationships between parenting stress and child coping competence. Data from a diverse sample of 610 parents enrolled in the parenting our children to excellence program was used to evaluate whether parenting stress negatively contributes to affective, achievement, and social coping competence in preschoolers, as well as whether child coping competence predicts parenting stress; after accounting for child disruptive behavior. Results from cross-lagged panel analyses demonstrated a bidirectional relationship, such that parenting stress predicted later child coping competence and child coping competence predicted later parenting stress. Assessment of ethnicity differences indicated that child coping continues to have a long-term impact on parenting stress, regardless of parent ethnicity. The same relationship did not hold for earlier parenting stress on later child coping competence, however, indicating a bidirectional relationship for African American families, but not for their European American counterparts. The relationship between parenting stress and child coping competence is discussed with respect to their conceptual and clinical implications. Suggestions for parent training intervention and prevention programs are given.

Keywords

Parenting stress; Child coping; Cross-lag; Longitudinal; Ethnicity differences

Introduction

Parents are faced with multiple stressors throughout their child's development, such as decisions about effective parenting strategies, managing child behavior, financial responsibilities, health concerns, educational responsibilities, and scheduling conflicts. Parents may differ in their responses to these situations, as some parents are able to deal with challenges in an effective and prosocial manner while others display emotional intensity or become inappropriately reactive. Research has found that the ways in which parents handle, or cope with, these stressful situations are associated with outcomes for their own psychological and physical well-being (Deater-Deckard 1998; Rodgers 1998), the well-being of their children (Podolski and Nigg 2001), and the parent-child relationship (Deater-Deckard 1998).

Higher levels of parenting stress have been linked to increased depression (Anastopoulos et al. 1992), separation anxiety (Deater-Deckard et al. 1994), personality disorders (Forgays 1992), substance use (Kelley 1992), as well as child oppositional behavior (Podolski and Nigg 2001; Visconti et al. 2002) and attention problems (Anastopoulos et al. 1992; DuPaul et al. 2001). In addition, an inverse relationship has been found between parenting stress and quality of parenting behavior, such that parents with more stress display less responsive and more authoritarian parenting styles (Belsky et al. 1996), and increased potential for child maltreatment (Chan 1994; Deater-Deckard 1998). This negative parenting style can lead to increased emotional, behavioral, cognitive, and physical problems throughout the child's development (Deater-Deckard 1998).

Like their parents, children are also faced with multiple challenges in their daily environments, such as demands, developmental tasks, and major life events, which require the use of the child's coping skills (Lazarus and Folkman 1984). According to coping competence theory (Blechman et al. 1995; Moreland and Dumas 2007), the coping responses that children choose early in development may serve as precursors of later antisocial and asocial conduct. Specifically, children who exhibit high levels of prosocial coping and low levels of antisocial and asocial coping are better able to handle normative and stressful life challenges in an appropriate manner, and thus, are less likely to develop psychological problems such as externalizing disorders (Compas et al. 2001; Eisenberg et al. 1997).

Recent literature on child coping competence theory has identified three distinct domains that children may utilize: *social*, for challenges involving primarily interpersonal and social situations and demands; *achievement*, for challenges involving mainly goal-directed activities, such as physical skills, self-care tasks, and academic responsibilities; and *affective*, for challenges requiring solutions to emotional situations and demands (Moreland and Dumas 2007). Coping competence theory assumes that these distinct domains are both broad and overlapping in nature, such that they each assess a child's ability to cope in a variety of situations (e.g., school, peers, family, medical, etc.).

Researchers investigating the three separate domains have found associations with child characteristics. Specifically, children with more social competence had higher levels of self-

esteem, were more curious, displayed more confidence in pursuing early interests, showed higher trust of others, were less fearful and vulnerable to adverse events, and showed more symptoms of externalizing disorders, than children with lower levels of social competence (Moreland and Dumas 2007; Peters 1988). Children scoring high on achievement competence performed well on skills that required attention to detail, concentration, organization, motivation, problem solving, and persistence (Compas 1987). Not surprisingly, these children were more likely to perform well academically when compared to their peers. Finally, affectively competent children demonstrated more complex language and metacognitive skills, such as better ability to explain a caregivers' absence, generate solutions to challenging situations, and use self-talk to decrease current stress, and less symptoms of Attention Deficit/Hyperactivity Disorder, when compared to their less competent peers (Moreland and Dumas 2007; Normandeau and Gobeil 1998).

Research has indicated that parent and child psychological stress are closely related, suggesting that the ways in which parents and children cope with presenting challenges may also be associated. In studies involving children with medical concerns, researchers have found significant links between parenting stress and child coping strategies (Guralnick 1999; Weiss et al. 2003). For example, Kronenberger et al. (1996) found that a higher level of parenting stress was significantly correlated with maladaptive child coping strategies in the context of medical procedures, which was also significantly associated with emotional and behavioral problems.

Similar links between parent and child stress have been established within the psychological literature, which suggest a strong association between emotions exhibited by the parent and a child's coping responses (Hakim-Larson et al. 1999; Rothbart and Bates 1998). The majority of research in this area has focused on parent's emotional expressivity when faced with stressful situations, and the influence on child's emotional regulation (e.g., Dix 1991; Valiente et al. 2004). In other words, when parents are faced with stressful situations, they chose to react (or cope) with those situations in a variety of ways, ranging from positive to negative responses (Halberstadt et al. 1999).

Overall, research suggests a strong relationship between the way parents react to stressful situations and the coping responses of children. While informative, this knowledge is limited in several ways. First, the majority of research has focused on ways in which parents express their emotions in stressful situations, but not specifically on parenting characteristics such as level of parenting stress (Hardy et al. 1993). In addition, theories used to conceptualized children's coping responses are underdeveloped, as researchers have traditionally used coping theories validated for adults and extended them to include children (Compas et al. 2001). As recent literature has found evidence for three distinct coping domains in children (Moreland and Dumas 2007), more specific investigation of their relationships with parenting stress is warranted. Third, much of the existing research has identified cross-sectional relationships, rather than longitudinally investigating parenting stress and child coping, and has not accounted for the role of child disruptive behavior, which may be an important limitation given the evidence supporting a significant relationship with coping competence (Moreland and Dumas 2007). Finally, the majority of studies have utilized

samples of Caucasian children from middle-class back-grounds, which limits generalization to other populations.

The Present Study

The purpose of this study was to examine the bidirectional associations between parenting stress and child coping competence across time, which adds to the extant literature in several ways. Specifically, we address the relationship between actual levels of parenting stress and child coping using the coping competence model validated by Moreland and Dumas (2007), by investigating how level of parenting stress is related to overall coping competence as well as to the social, achievement, and affective domains. Additionally, the current study accounts for child disruptive behavior in the model, to specifically investigate parenting stress and child coping competence above and beyond the influence of child behavior. Third, we build on previous cross-sectional literature by investigating the role that parenting stress plays on later child coping and the role that child coping plays on later parenting stress, by longitudinally examining these constructs at an 8-week and 1-year follow-up. Finally, this study utilizes a racial/ethnically diverse sample from a sociodemographically disadvantaged urban area, to investigate the constructs separately among European American and African American families.

Based on previous findings, we hypothesize that higher levels of parenting stress will be related to each of the separate, yet overlapping child coping competence domains, after accounting for child disruptive behavior. Specifically, we predict a bidirectional relationship such that (1) parenting stress will predict later child coping competence and (2) child coping competence will predict later parenting stress. Exploratory analyses will investigate the relationship among parenting stress and child coping competence separately for European American and African American families, as well as ethnicity differences.

Method

The current study used data from a large intervention project, Parenting Our Children to Excellence (PACE). Analyses controlled for intervention effects resulting from attendance and participation in the program.

Participants

Demographic characteristics of the 610 participants (hereafter referred to as parents) are represented in Table 1. Overall, African American mothers comprised the largest portion of parents (46%), followed by Caucasian mothers (42%), Caucasian fathers (4%), and African American fathers (3%). In general, parents were young (52% aged 30 or younger), single (53%), employed (66%), and had obtained less than a college degree (71%). African American boys comprised the largest portion of children (31%), followed by African American girls (25%), Caucasian boys (23%), and Caucasian girls (19%). Ages ranged from 3 to 6 years (mean = 4.40, SD = .78).

Procedures

All procedures were approved by the Purdue University Institutional Review Board (IRB). Recruitment took place through the daycare centers the children attended, which began 6 weeks prior to the predetermined group start date. Parents themselves did not have to meet specific criteria to participate and were not recruited to obtain percentages from certain ethnic groups. Following enrollment, parents completed a *Parent Survey* at pre-assessment (Time 1), 8-week follow-up (Time 2), and 1-year follow up (Time 3); which included measures of sociodemographic characteristics, child coping competence and disruptive behavior, and parenting stress. The survey is a structured interview individually administered by trained staff at the parents' home or at their children's daycare center, depending on parent preference. Parents gave prior consent and received \$35 in cash at completion.

Tracking—To obtain follow-up assessments, trained research assistants implemented a standardized procedure to track all parents who enrolled in the program, whether they attended sessions or not. As necessary: (1) Up to five attempts were made to contact the parent by phone. (2) Alternate contact person(s), provided by the parent at enrollment, were contacted to request the parent's new contact information. (3) A letter was mailed to the parent's most recent address on file. (4) A letter was delivered to the daycare center, to be forwarded to the family. (5) A trained interviewer went to the parent's last known address to schedule or complete an interview.

Measures

Socioeconomic Status (SES)—A composite of demographic data including parent gender, age, race, marital status, education, and income, along with child gender and age was created to represent socioeconomic status (SES).

Child Disruptive Behavior—Each parent rated the intensity and perceived problem of the child's behavior using the 36-item *Eyberg Child Behavior Inventory-2 (ECBI)* (Boggs et al. 1990). Intensity was measured with a frequency-of-occurrence scale ranging from (1) 'never' to (7) 'always.' Parents then rated whether each behavior was seen as a perceived problem, (1) Yes or (2) No. Among clinic referred children, the ECBI has shown high concurrent validity with other externalizing measures of child behavior (i.e., CBCL—externalizing, $r = .86$; Boggs et al. 1990), and has demonstrated adequate internal consistency (Cronbach's $\alpha = .91$), inter-item correlations ($M = .23$, range = .09–.76), and inter-scale correlations (range = .07–.75) (Begle et al. 2010). Responses were summed at each time point to obtain quantitative ratings of intensity and perceived problem of child behavior problems, in which higher scores reflect more disruptive behavior.

Child Coping Competence—The *Coping Competence Scale (CCS-R)* (Moreland and Dumas 2007) consists of 26 items rating child coping competence on a 5-point Likert scale, from (1) Very good to (5) Very poor. Scores were reverse coded and averaged, so that higher scores reflect higher levels of coping competence. The scale has high internal consistency (Cronbach's $\alpha = 0.91$ in Moreland and Dumas 2007, and 0.93 in the current study) and correlates significantly with other measures of adjustment in the preschool years (Moreland and Dumas 2007).

Parenting Stress—The level of parenting stress was assessed by the 36-item *Parenting Stress Index/Short Form (PSI/SF)* (Abidin 1995). Parents rated their level of stress on a 5-point Likert scale ranging from (1) ‘Strongly agree to’ (6) ‘Strongly disagree.’ The PSI/SF was internally consistent (Cronbach’s alpha = .91) and stable over a 6-month period (.84) in a normative sample (Abidin 1997); and demonstrated adequate internal consistency (Cronbach’s alpha = .91), inter-item correlations ($M = .22$, range = .03 to .75), and inter-scale correlations (range = .23 to .65) (Begle et al. 2010).

Results

Preliminary Analyses

Data were analyzed for outliers, and 3% of parents were deleted (original $N = 631$, subsequent $N = 610$). Because several of the variables had a significantly skewed distribution (values greater 2.0; e.g., Curran et al. 1996), nonparametric Spearman correlations were applied. Bivariate correlational analyses (see Table 2) demonstrated that all three coping subscales were significantly associated with parenting stress, as well as child disruptive behavior. Of the 610 parents who enrolled in PACE, 610 completed the *Parent Survey* at Time 1, 519 (85%) at Time 2, and 437 (72%) at Time 3. No significant differences were found among parents with and without missing data on any of the study variables, showing that data was missing completely at random (MCAR). Thus, missing data were handled using listwise deletion within each time point.

Parental Influence on the Child

To explore the influence of parenting stress on child coping competence, separate hierarchical multivariate linear regression analyses were performed with parenting stress predicting overall, social, achievement, and affective competence at Times 1, 2, and 3. Variance associated with SES, as well as child disruptive behavior, was accounted for in each model prior to the inclusion of parenting stress. As seen in Table 3, results demonstrated that parenting stress significantly predicted overall child coping competence ($\beta = -.203$, $p < .000$, $R^2 = .39$). Additionally, results indicated that parenting stress significantly predicted child social, achievement, and affective competence across all three time points.

Child’s Influence on the Parent

To explore the possibility of a bidirectional relationship between parenting stress and child coping competence, similar analyses were performed with child overall, social, achievement, and affective competence predicting parenting stress. Variance associated with SES and child disruptive behavior was accounted for in each model prior to the inclusion of coping competence. As Table 4 shows, results demonstrated that overall child coping competence significantly predicted parenting stress ($\beta = -.22$, $p < .000$, $R^2 = .34$). Additionally, results indicated that child social, achievement, and affective competence significantly predicted parenting stress across all three time points.

Influence of Ethnicity

To explore possible ethnicity differences, analyses were repeated among subsamples of African American ($n = 298$) and European American parents ($n = 280$), along with t-tests and chow tests to assess differences in model prediction. Results indicated that African American parents significantly reported higher levels of child achievement (T1: $t_{(576)} = 4.82$, $p < .000$; T2: $t_{(476)} = 3.08$, $p < .01$; T3: $t_{(391)} = 2.80$, $p < .01$) and overall coping competence (T1: $t_{(574)} = 3.24$, $p < .001$; T2: $t_{(490)} = 1.98$, $p < .05$; T3: $t_{(418)} = 2.35$, $p < .05$) at all three time points, and social competence at Times 1 and 3 (T1: $t_{(573)} = 2.55$, $p < .05$; T3: $t_{(418)} = 2.23$, $p < .05$). Results on the magnitude of change between Times 1, 2 and 3 demonstrated that the amount of change in parent report did not differ between the subsamples.

For both subsamples, parenting stress was a significant predictor of child social, achievement, and affective coping competence at Time 1 (Social T1: $\beta = -.14$, $p < .05$, $R^2 = .40$; Achievement T1: $\beta = -.25$, $p < .001$, $R^2 = .25$; Affective T1: $\beta = -.17$, $p < .01$, $R^2 = .22$; and Social T1: $\beta = -.21$, $p < .001$, $R^2 = .43$; Achievement T1: $\beta = -.15$, $p < .05$, $R^2 = .32$; Affective T1: $\beta = -.21$, $p < .01$, $R^2 = .32$ for the African American and European Americans, respectively). These relationships were temporally stable for African Americans, with Time 1 parenting stress significantly predicting Time 2 and 3 social (T2: $\beta = -.16$, $p < .05$, $R^2 = .31$; T3: $\beta = -.27$, $p < .01$, $R^2 = .24$), achievement (T2: $\beta = -.27$, $p < .001$, $R^2 = .21$; T3: $\beta = -.33$, $p < .001$, $R^2 = .22$), and affective competence (T2: $\beta = -.18$, $p < .05$, $R^2 = .19$; T3: $\beta = -.28$, $p < .001$, $R^2 = .24$). Furthermore, qualitative assessment indicates that these relationships improve across time. The same, however, did not hold true for the European American subsample (Social T2: $\beta = -.21$, $p < .01$, $R^2 = .30$; Social T3: $\beta = -.08$, ns, $R^2 = .29$; Achievement T2: $\beta = -.15$, $p < .05$, $R^2 = .28$; Achievement T3: $\beta = .07$, ns, $R^2 = .18$; Affective T2: $\beta = -.16$, $p < .05$, $R^2 = .25$; Affective T3: $\beta = -.08$, ns, $R^2 = .26$), suggesting that these relationships do not maintain temporal stability in European American populations. Chow tests ($F_{\text{Criterion}} = 1.88$) conducted using the residual sum of squares gathered from the regression models indicated that parenting stress at Time 1 was a significantly greater predictor of child achievement coping competence for the African American sample than for the European American sample (T1: $F = 2.77$; T2: $F = 1.59$; T3: $F = 2.15$).

Overall, the regression models using Time 1 social, achievement, and affective child competence to predict parenting stress at Times 1, 2, and 3 indicated significant and temporally stable relationships for both the African American (Social predicting Parent Stress T1: $\beta = -.16$, $p < .05$, $R^2 = .31$; T2: $\beta = -.21$, $p < .01$, $R^2 = .29$; T3: $\beta = -.17$, $p < .05$, $R^2 = .21$; Achievement predicting Parent Stress T1: $\beta = -.22$, $p < .001$, $R^2 = .33$; T2: $\beta = -.23$, $p < .001$, $R^2 = .30$; T3: $\beta = -.16$, $p < .05$, $R^2 = .22$; Affective predicting Parent Stress T1: $\beta = -.15$, $p < .01$, $R^2 = .29$; T2: $\beta = -.22$, $p < .000$, $R^2 = .30$; T3: $\beta = -.20$, $p = .007$, $R^2 = .23$) and European American subsamples (Social predicting Parent Stress T1: $\beta = -.22$, $p < .001$, $R^2 = .41$; T2: $\beta = -.18$, $p < .05$, $R^2 = .23$; T3: $\beta = -.19$, $p < .05$, $R^2 = .30$; Achievement predicting Parent Stress T1: $\beta = -.14$, $p < .05$, $R^2 = .39$; T2: $\beta = .19$, $p < .01$, $R^2 = .23$; T3: $\beta = -.24$, $p < .001$, $R^2 = .32$; Affective predicting Parent Stress T1: $\beta = -.18$, $p < .001$, $R^2 = .40$; T2: $\beta = -.21$, $p < .01$, $R^2 = .24$; T3: $\beta = -.18$, $p < .05$, $R^2 = .30$). Chow tests ($F_{\text{Criterion}} = 1.88$) conducted using the residual sum of squares gathered from the regression models

indicated that there were no significant differences in the ability of child coping competence to predict parenting stress between these two subsamples.

Discussion

Results highlight the bidirectional relationship between parenting stress and child coping competence among preschool aged children from a disadvantaged community population. Specifically, both of the hypotheses were supported, such that (1) parenting stress predicted later child coping competence and (2) child coping competence predicted later parenting stress; both at 8-week and 1-year follow-up. These findings were in accordance with previous research among children experiencing an acute medical incident (Kronenberger et al. 1996), as well as general psychological literature (Eisenberg et al. 1997; HakimLarson et al. 1999; Rothbart and Bates 1998), and contribute to the extant research in several ways (Fig. 1).

First, we confirmed a bidirectional relationship between actual levels of parenting stress and child coping, using the model validated by Moreland and Dumas (2007). In addition to finding that parenting stress was related to overall coping competence, the study went one step further to conclude that parenting stress was related to three distinct coping domains (i.e. social, achievement, and affective coping competence). Parents with higher levels of parenting stress reported that their children had more difficulty coping with interpersonal and social demands; challenges involving goal-directed activities, such as academic responsibilities; and challenges requiring solutions to emotional situations and demands. These results support the interpretations from Kronenberger et al. (1996), that the association between parent-reported negative life stress and child adjustment may be due to daily stressors, such as general family stress, more so than individual stressors.

Second, the study accounted for child disruptive behavior, which is important given that poor child coping has been related to externalizing disorders (Compas et al. 2001). The strong association between parenting stress, child coping, and child disruptive behavior likely represent a cyclical paradigm. Specifically, child disruptive behavior may increase parenting stress, which could in turn exacerbate the child's disruptive behavior and perceived inability to cope with daily life stressors. The current results, in accordance with previous research (Wadsworth and Compas 2002; Gross et al. 1999; Deater-Deckard 2004), demonstrate the significant association between higher parenting stress and increased levels of child disruptive behavior. Controlling for child behavior eliminated covariance and reduced the likelihood of method bias or a confounding effect of child behavior on these constructs. Thus, this technique enhances the validity of the results and attests to the specific bidirectional relationship between parenting stress and child coping competence.

Additionally, these results build upon existing cross-sectional findings by demonstrating the relationships across an 8-week and 1-year timespan, and evaluate the role of ethnicity on the stability of the temporal pattern. This is especially important given the developmental changes that take place during the preschool years, along with the parenting styles that are typically forming during this period. Results demonstrated that child coping and parenting stress have a temporally stable bidirectional relationship among African American families.

This relationship remained strong over the course of an 8-weeks and 1 year. Regarding European American families, child coping competence was associated with parenting stress reported over 8-weeks and 1 year; while the impact of parenting stress on child coping competence weakened in strength over 8-weeks, but not 1 year. Thus, while child coping continues to have a longterm impact on parenting stress, regardless of parent ethnicity, the same relationship did not hold for earlier parenting stress on later child coping competence. In other words, a bidirectional relationship was supported for African American families, but not for their European American counterparts.

Implications for Future Research, Policy, and Practice

These results highlight the importance of parent intervention and prevention programs, as behaviorally oriented parenting programs have been found to reduce parenting stress and child disruptive behavior (Kazdin 2005; Lundhal et al. 2006; Serketich and Dumas 1996). Results suggest that including parent stress reduction modules within these parent training programs may enhance later child coping competence and thus, reduce additional adverse child outcomes. In addition, increasing the use of problem-focused, direct coping strategies in the parent, along with emphasizing the importance of encouraging these techniques in their children, may be helpful in designing interventions to reduce psychological risk.

Several methodological issues are relevant in understanding the study results. Data were obtained mostly from parents of 3 to 6 year-old children from a high risk population. Children in such environments may face numerous daily life stressors that may not be encountered by children in alternate environments (Moreland and Dumas 2007). To increase generalizability, future research should extend these analyses to older children living in lower risk environments. In addition, the present sample consisted of mostly mother report from African American and European American parents. Future studies should investigate these relationships among a sample of broader racial/ethnic backgrounds and multiple-informants.

In sum, parenting distress should be acknowledged and addressed as a risk factor for child distress. Support for the role of parenting stress on child coping competence expands the literature by providing researchers and clinicians with a better understanding of moderating variables in the development of child coping competence. Even more importantly, parenting stress was shown to predict child coping in all three domains (i.e., social, achievement, and affective). This bidirectional relationship has implications for the compounding effects that parenting stress and child coping may have on one another, which underscores the importance of using results to guide the development of future intervention and prevention programs aimed at reducing the risk of adverse child outcomes.

Acknowledgments

This study would not have been possible without the collaboration of Marsha Hearn-Lindsey, Director, Child Care Answers, Indianapolis, of all the parents and children who participated in various aspects of the research, and of staff members who played major roles in data collection and program implementation, including Amanda Mosby, Sharon Hampton, and Stephanie Wynder. Their help and encouragement are gratefully acknowledged. This study was supported by grant R49/CCR 522339 from the Centers for Disease Control and Prevention to the first author. The support and encouragement of Linda Anne Valle, Ph.D., and Michele Hoover is gratefully acknowledged. The study's findings and conclusions are those of the authors and do not necessarily represent the views of the Centers

for Disease Control and Prevention. Dr. Begle is supported by the National Institute of Mental Health Training Grant T32 MH18869-15.

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Fig. 1. Lag panel analysis for parent stress and child total coping competence ($N = 610$). *Note:* Values are correlation coefficients; *T* Time; *CCC* Child Coping Competence. ** $p < 0.01$

Table 1

Demographic information

Variables	
Parent	
Sex (%)	
Male	7
Female	93
Age	31 ± 7.13
Race (%)	
Caucasian	46
African American	49
Other	5
Marital status (%)	
Married	47
Not married	53
Education (%)	
Less than high school	13
High school degree/GED	23
Some college	35
College degree	29
Income (%)	
\$12,500	27
\$12,500–\$29,999	25
\$30,000–\$49,999	17
\$50,000	31
Child	
Sex (%)	
Male	52
Female	48
Age	4.4 ± 0.78

Values are mean ± SD or as otherwise indicated

Table 2

Bivariate correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. P Gender													
2. P Age	0.11**												
3. P Race	0.00	0.33**											
4. P Marital Status	-0.09*	-0.37**	-0.34**										
5. P Education	0.06	0.44**	0.27**	-0.34**									
6. P Income	0.09*	0.46**	0.39**	-0.58**	0.63**								
7. C Gender	0.01	0.04	0.06	-0.01	-0.01	0.02							
8. C Age	-0.03	0.06	0.00	0.00	-0.02	-0.03	0.06						
9. Social CC	-0.02	-0.03	-0.07	0.04	0.10*	0.01	-0.13**	0.16**					
10. Achievement CC	-0.06	-0.08*	-0.16**	0.08*	0.00	-0.08*	-0.17**	0.18**	0.65**				
11. Affective CC	-0.05	-0.02	-0.06	0.00	0.14**	0.06	-0.14**	0.20**	0.69**	0.64**			
12. Intensity of Bx	0.01	0.03	0.10*	0.00	-0.03	0.04	0.10*	-0.10*	-0.59**	-0.44**	-0.39**		
13. Bx Problem	-0.04	-0.07	0.00	0.04	-0.12**	-0.07	-0.13**	-0.04	-0.45**	-0.34**	-0.34**	0.62**	
14. Parent stress	-0.01	-0.09*	0.00	0.10*	-0.17**	-0.17**	0.09*	-0.06	-0.42**	-0.37**	-0.35**	0.50**	0.42**

P parent, *C* child, *CC* coping competence*
p < .05**
p < .01

Table 3
Hierarchical regression analysis for variables predicting child coping competence ($N = 610$)

Variables	Social			Achievement			Affective		
	T1	T2	T3	T1	T2	T3	T1	T2	T3
	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
Step 1									
Parent gender	-0.02	-0.02	-0.07	-0.05	-0.03	-0.08	-0.05	-0.03	-0.08
Parent age	-0.04	-0.06	-0.08	-0.03	-0.07	-0.11*	-0.08	-0.08	-0.11*
Ethnicity	0.00	0.02	-0.01	-0.09*	-0.04	-0.08	-0.03	0.00	-0.08
Marital status	0.06	0.10*	0.02	0.04	0.06	0.02	0.03	0.03	-0.02
Education	0.08	0.06	0.15**	0.04	0.08	0.19**	0.13**	0.17**	0.27**
Income	0.01	0.05	-0.02	-0.05	-0.02	-0.04	0.02	-0.02	-0.01
Child gender	-0.06	-0.07	-0.05	-0.11**	-0.06	-0.10*	-0.08*	-0.01	-0.07
Child age	0.11**	0.11**	0.08	0.15**	0.16**	0.08	0.18**	0.15**	0.11*
R^2	0.06**	0.06**	0.05**	0.09**	0.07**	0.09**	0.09**	0.07**	0.12**
Step 2									
Intensity of Bx	-0.43**	-0.35**	-0.28**	-0.24**	-0.23**	-0.23*	-0.19**	-0.22**	-0.17**
Bx problem	-0.11**	-0.08	-0.06	-0.09*	-0.05	-0.08	-0.12**	-0.07	-0.10
R^2	0.33**	0.22**	0.16**	0.17**	0.12**	0.07**	0.14**	0.12**	0.10**
Step 3									
Parent stress T1	-0.15**	-0.17**	-0.18**	-0.20**	-0.22**	-0.16**	-0.18**	-0.16**	-0.17**
R^2	0.02**	0.02**	0.02**	0.03**	0.03**	0.02**	0.02**	0.02**	0.02**
Model R^2	0.41**	0.30**	0.24**	0.25**	0.21**	0.24**	0.29**	0.23**	0.17**

T time, *Bx* behavior

* $p < .05$

** $p < .01$

Table 4Hierarchical regression analysis for variables predicting parenting stress ($N = 610$)

Variables	Parenting stress						Parenting stress					
	T1			T2			T1			T2		
	B	B	B	B	B	B	B	B	B	B	B	B
Step 1												
Parent gender	0.01	0.06	0.06	0.06	0.00	0.06	0.00	0.06	0.00	0.05	0.06	0.06
Parent age	-0.03	-0.06	-0.03	-0.06	-0.03	-0.06	-0.04	-0.02	-0.04	-0.07	-0.03	-0.03
Ethnicity	0.04	0.05	0.15	0.03	0.03	0.03	0.04	0.00	0.04	0.04	0.03	0.03
Marital status	-0.01	-0.05	-0.10	-0.01	-0.04	-0.11*	-0.01	-0.11*	-0.01	-0.05	-0.10*	-0.10*
Education	-0.03	-0.06	-0.06	-0.04	-0.06	-0.06	-0.02	-0.06	-0.02	-0.04	-0.04	-0.04
Income	-0.16**	-0.14*	-0.19**	-0.17**	-0.15**	-0.20**	-0.16**	-0.14*	-0.19**	-0.14*	-0.19**	-0.19**
Child gender	0.02	-0.01	-0.01	0.01	-0.02	0.02	0.02	0.02	0.02	-0.02	-0.02	-0.02
Child age	0.00	0.04	0.04	0.01	0.06	0.06	0.01	0.06	0.01	0.06	0.05	0.05
R^2	0.06**	0.06**	0.05**	0.06**	0.06**	0.05**	0.06**	0.05**	0.06**	0.06**	0.05**	0.05**
Step 2												
Intensity of Bx	0.33**	0.15**	0.25**	0.35**	0.17**	0.26**	0.37**	0.18**	0.37**	0.18**	0.28**	0.28**
Bx problem	0.12**	0.20**	0.12*	0.12**	0.20**	0.13*	0.12**	0.19**	0.12**	0.19**	0.12*	0.12*
R^2	0.25**	0.16**	0.18**	0.25**	0.16**	0.18**	0.25**	0.16**	0.25**	0.16**	0.18**	0.18**
Step 3												
Social CC T1	-0.17**	-0.17**	-0.17**	-	-	-	-	-	-	-	-	-
Achieve CC T1	-	-	-	-0.19**	-0.21**	-0.20**	-	-	-	-	-	-
Affective CC T1	-	-	-	-	-	-	-0.17**	-0.21**	-0.17**	-0.21**	-0.18**	-0.18**
R^2	0.02**	0.02**	0.02**	0.03**	0.03**	0.03**	0.02**	0.03**	0.02**	0.03**	0.03**	0.03**
Model R^2	0.33**	0.24**	0.25**	0.33**	0.25**	0.26**	0.33**	0.25**	0.33**	0.25**	0.25**	0.25**

T time, Bx behavior, Achieve achievement, PS parenting stress

* $p < .05$ ** $p < .01$