

DEVELOPMENT OF COGNITIVE DIATHESSES FOR DEPRESSION IN CHILDREN:
PARENTING AND NEGATIVE LIFE EVENTS AS PREDICTORS

By

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CHAPTER I

INTRODUCTION

Many studies suggest that the origins of depression in children consist of certain cognitive diatheses; the current study examines the developmental origins of these cognitive diatheses. Among these cognitive diatheses are such factors as depressogenic attributional style (Abramson, Alloy, & Metalsky, 1988; Abramson, Seligman, & Teasdale, 1978), depressive cognitive schemas (Beck, 1963, 1972), and low self-perceived competence (Cole, 1990). People who make more internal, stable, and global attributions for the causes of negative events in their lives, who maintain negative beliefs about the self, world, and future (negative cognitive triad), and who possess low levels of self-perceived competence are at higher risk for the development of depression (Cole, Martin, Peeke, Seroczynski, & Hoffman, 1998; Cole, Martin, & Powers, 1997; Cole & Turner, 1993; Hilsman & Garber, 1995; Panak & Garber, 1992; Robinson, Garber, & Hilsman, 1995; Seroczynski, Cole, & Maxwell, 1997; Turner & Cole, 1994). Whereas research has implicated these cognitive variables as risk factors for depression, only a few studies have explored their developmental origins. Exploring the developmental origins of a depressogenic attributional style, depressive cognitive schemas, and low self-perceived competence is an important next step in understanding the etiology of depression.

For the most part, depression theorists have only vaguely alluded to childhood as a time when the cognitive diatheses for depression develop. In their hopelessness theory

of depression, Abramson and colleagues recognized the need to identify the developmental origins of depressogenic attributional style; however, they made no suggestions as to what these origins might be (Abramson, Metalsky, & Alloy, 1989). In his cognitive model of depression, Beck (1963, 1972) suggested that real or perceived losses during childhood play a role in the development of negative schemas, which in turn facilitate the storage and processing of information in a dysfunctional manner. Childhood has also been identified as an important time for the development of positive (and negative) competency beliefs about the self (Cole, 1990, 1991; Harter, 1982, 1985, 1988), beliefs that protect against (or predispose) depression.

The experience of problematic parenting and negative life events during childhood are two important factors that may foment the development of cognitive diatheses for depression. Developmental theories support this contention in that parents provide a context in which children learn about themselves, their abilities, and the world around them. Beck and Young (1985) suggested that a “child learns to construct reality through his or her early experiences with the environment, especially with significant others. Sometimes, these early experiences lead children to accept attitudes and beliefs that will later prove maladaptive” (p. 207). From a cognitive-developmental perspective, parenting consists of a collection of patterned behaviors that convey information to the child, which may then be internalized by the child during self-concept development. Parenting characterized by warmth, acceptance, allowance of autonomy, and high levels of positive reinforcement provides children with positive experiences and feedback that engenders the development of positive views of self and the world. In contrast, parenting characterized by criticism, rejection, control, and low levels of warmth and positive

reinforcement conveys negative self-relevant information, thereby engendering more depressogenic views (Cole, 1990; McCranie & Bass, 1984; see also Ainsworth, 1979; Bowlby, 1980, 1988). Negative life events also convey information pertinent to the development of cognitive diatheses for depression. Janoff-Bulman (1992) suggested that people's views about themselves, the world, and the future are influenced by the experience of chronically aversive life circumstances and major traumatic life events. Abramson and colleagues (1989) suggested that the likelihood of developing depressogenic cognitions such as helplessness and hopelessness are even greater when the events are uncontrollable and result in multiple bad outcomes. Cole and Turner (1993) reminded us it is normative for young children to assume blame for negative life events, thereby constructing self-relevant information out of hardships for which they may have not had any real responsibility.

Preliminary empirical evidence supports the effect of parenting and negative life events on the various cognitive diatheses for the development of depression. One set of studies described the relation of parenting to attributional style. Low levels of parental care and acceptance and high levels of criticism and control correlated with the emergence of an internal-stable-global attributional style in children (Alloy et al., 2001; Garber & Flynn, 2001; Jaenicke et al., 1987; Whisman & Kwon, 1992). A second set of studies supported the relation between parenting and depressive cognitive schemas. High levels of parental control, indifference, and criticism, plus low levels of care and acceptance, were related to cognitive errors and dysfunctional attitudes in youth (Alloy et al.; Garber & Flynn; Liu, 2003; Randolph & Dykman, 1998; Whisman & Kwon). A third collection of studies described the relation between parenting and self-concept. High

levels of parental acceptance, care, and autonomy granting were associated with a more positive self-concept in children, whereas high levels of parental rejection, restrictiveness, and inconsistent love were associated with a more negative self-concept (Garber & Flynn; Jaenicke et al.; Koestner, Zuroff, & Powers, 1991; Litovsky & Dusek, 1985; Liu; McCranie & Bass, 1984).

Other research has examined the relation between negative life events and cognitive diatheses for depression. These studies have examined the effects of particular types of negative life events (i.e., bereavement, sexual abuse, and parental divorce) as well as the cumulative effects of multiple stressors. Some studies document the relation between negative life events and a dysfunctional attributional style. Children who are exposed to more frequent or more serious negative life events tend to make internal, stable, global attributions (Cole & Turner, 1993; Garber & Flynn, 2001; Gold, 1986; Haine, Ayers, Sandler, Wolchik, & Weyer, 2003; Kliwer & Sandler, 1992; Nolen-Hoeksema, Girgus, & Seligman, 1992; Wenninger & Ehlers, 1998). Other studies suggest that negative life events are associated with cognitive errors and negative views of self, world, and future (Cole & Turner; Garber & Flynn; Martin, Kazarian, & Breiter, 1995; Mazur, Wolchik, Virdin, Sandler, & West, 1999). Finally, several studies suggest that negative life events are associated with poorer self-perceptions (Abel, 1996; Cheng & Lam, 1997; Conger, Jewsbury Conger, Matthews, & Elder, 1999; Fenzel, 2000; Garber & Flynn; Gold; Haine et al.; Jaenicke et al., 1987; Kliwer & Sandler; Lengua, Wolchik, & Braver, 1995; McLoyd, Epstein Jayaratne, Ceballo, & Borquez, 1994; Tram and Cole, 2000; Wyman, Cowen, Hightower, & Pedro-Carroll, 1985; Youngs, Rathge, Mullis, & Mullis, 1990).

In general, research supports our contention that parenting and negative life events help to generate the various cognitive diatheses to depression. Nevertheless, a number of methodological limitations of these studies need to be considered. In many of these studies, the predictor and the dependent variable derived from the same informant. To the degree that measures share some degree of method variance, their correlation may overestimate the actual relation between the constructs of interest. Also common are data analytic strategies that focus on only one predictor variable at a time. Individually, these studies permit a relatively narrow examination of the relation of negative parenting, positive parenting, or negative life events to depressive cognitions and limit the ability to assess the combined and unique effects of these predictors. Parenting and negative life events variables are almost certainly correlated. Examining parenting and life events together represents an important next step toward understanding the emergence of depressive cognitions.

Finally, the majority of the studies either focused on a relatively narrow age range or collapsed across a wide range of ages for data analyses. Such studies cannot test the possibility that the effects of parenting and negative life events vary with age. Developmental theories suggest that these effects may increase with development. Harter (1990) theorized that as children move from early to middle childhood they become more aware of the evaluations of others. During this transition they also begin to describe themselves in terms of more global, trait-like characteristics (Harter, 1986). As children grow older, they become more aware of parental evaluations and begin to integrate these evaluations into more global and stable views of themselves. From another perspective, young children tend to be globally positive about themselves and their abilities (Crain,

1996; Wigfield et al., 1997) therefore, it may take more profoundly negative parenting or more serious negative life events to override this tendency in younger children than in older children. From a third perspective, we know that it simply takes time for parenting and negative life events to affect children. Children are remarkably resilient to the effects of discrete hardships (Masten, 2001; Masten, Best, & Garmezy, 1990). When stress is persistent and chronic, however, it may have more adverse effects. Therefore the impact of such stressors on depressive cognitions may be more evident as children grow older.

The current study examines the relations of parenting and negative life events to three major types of depressive cognitions (depressogenic attributional style, depressive cognitive schemas, and low self-perceived competence). We designed the study to extend the existing literature in several ways. First, we used both parent- and child-report methods to assess parenting and negative life events. In this way we sought to confirm one set of results with those using qualitatively different sources of information. Second, by collecting data on negative parenting, positive parenting, and negative life events in the same study, we are able to examine the combined and unique contributions of each to the development of depressive cognitions. Finally, we collected data from children in three different grade levels (second, fourth, and sixth grade). We hypothesized that the relation of parenting and negative life events to depressive cognitions would increase with grade level.

CHAPTER II

METHOD

Participants

We recruited participants from five elementary and two middle schools in a midsize southern city at the beginning of the 2002-03 academic year. We distributed consent forms to parents of students in second, fourth, and sixth grade. Consent forms were returned by 660 parents, with 526 parents agreeing to let their child participate. Eleven of the students for whom we had consent did not participate as a result of moving out of the school district or chronic absenteeism. The final sample consisted of 515 children (162 second grade, 175 fourth grade, and 178 sixth grade). Children's ages ranged from 6 to 13 years ($M = 9.50$, $SD = 1.68$). The sample included 43% male and 57% female participants. The sample was very diverse with 343 African-American (67%), 153 Caucasian (30%), 9 Latino (1.5%), 2 Native-American (<1%), 2 Asian-American or South Pacific Islander (<1%), and 6 "other" (1%) participants. Average family income in this sample was approximately \$15,000.

We also requested the participation of children's parents or guardians. In total, 284 parents returned the questionnaires (87 second grade parents, 101 fourth grade parents, and 96 sixth grade parents). Parents identified their ethnic backgrounds as follows: 177 African-American (62%); 86 Caucasian (30%); 4 Latino (1%); 2 Asian-American (<1%); 2 Native-American (<1%); and 13 "other" or "mixed" (5%). In 86% of the cases, the mother of the child completed the questionnaires. The remainder were

completed by grandmothers (7%), fathers (5%), stepmothers (<1%), and other relatives or guardians (2%). The majority of respondents reported being currently married (47%), with the remainder reporting never having been married (27%) or currently divorced (26%). Parents' educational backgrounds were as follows: 27% less than high school education; 27% high school education; 35% some post-high school education; 6% bachelor's degree; and 5% some post-college education.

Measures

Parenting. We used both child- and parent-report measures of parenting. Children completed the Parent Perception Inventory (PPI), a questionnaire based upon Hazzard, Christensen, and Margolin's (1983) Parent Perception Interview. The original interview inquired about children's perceptions of 18 parental behaviors (9 positive and 9 negative). We converted these 18 behaviors into a 36-item self-report questionnaire by generating two items designed to measure each of the 18 behaviors. Children rate how often their mother or primary caregiver engages in particular behaviors on 5-point scales (1 = *not at all* to 5 = *all the time*). The original interview provided a two-factor solution that Hazzard and colleagues labeled positive and negative parenting behavior. Our own factor analysis of the PPI questionnaire with the current sample also resulted in a two-factor solution. Representative positive parenting items were "How often does this person say something nice about you?" and "How often does this person help you with a problem?" Representative negative parenting items were "How often does this person yell at you?" and "How often does this person nag you or tell you what to do over and over again?" Two items did not load onto either the positive or negative parenting factor

and were therefore excluded from any analyses. This resulted in a 34-item self-report questionnaire, with 18 items tapping children's perceptions of positive parenting behaviors and 16 items tapping children's perceptions of negative parenting behaviors. With these exclusions, potential scores on the positive parenting scale range from 18 to 90 with higher scores representing more positive parenting. Potential scores on the negative parenting scale range from 16 to 80 with higher scores representing more negative parenting. Two independent studies revealed the original PPI to have good internal consistency in samples of children ranging in age from 5 to 13 (Glaser, Horne, & Myers, 1995; Hazzard et al.). An examination of our modified PPI using the current data set revealed good internal consistency at all three grade levels. For positive parenting, Cronbach's alphas were .79, .76, and .84; for negative parenting, alphas were .79, .81, and .83 in grade 2, 4, and 6, respectively.

Parents completed the Parent Behavior Inventory (PBI; Lovejoy, Weis, O'Hare, & Rubin, 1999) and Expressed Emotion Questionnaire (EEQ; Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995). The PBI is a 20-item self-report questionnaire in which parents rate the frequency of a variety of parenting behaviors using 6-point scales (0 = *never true* to 5 = *almost always true*). Based on a confirmatory factor analysis of this measure, Lovejoy and colleagues suggested that the measure contained two factors: supportive/engaged parenting and hostile/coercive parenting. Our own factor analysis using the current sample replicated this factor structure. Items representing the supportive/engaged factor included, "I listen to my child's feelings and try to understand them" and "I thank or praise my child." Items representing the hostile/coercive parenting factor included, "I lose my temper when my child doesn't do something I ask him/her to

do” and “I threaten my child.” Three items either had very weak factor loadings or very high cross-loadings. These items were excluded from analyses resulting in a supportive/engaged factor comprised of 10 items and a hostile/coercive factor comprised of 7 items. With these exclusions, potential scores on the supportive/engaged scale range from 0 to 50 with higher scores representing higher levels of supportive/engaged parenting. Potential scores on the hostile/coercive scale range from 0 to 35 with higher scores representing higher levels of hostile/coercive parenting. Lovejoy and colleagues reported good internal consistency for the two factors in a sample of young children (Cronbach’s alpha = .83 for supportive/engaged factor and .81 for the hostile/coercive factor). In our sample, reliabilities for both subscales were also adequate at all three grade levels. For supportive/engaged parenting, alphas were .87, .84, and .84; for hostile/coercive parenting, alphas were .69, .63, and .54 in grade 2, 4, and 6, respectively.

The EEQ is a 24-item self-report questionnaire in which parents rate the amount of expressed positive and negative emotions they display using 5-point scales (1 = *none of the time (never)* to 5 = *all of the time (always)*). Twelve items were designed to assess the expression of positive emotion (e.g., “How often do you praise someone for good work?” or “How often do you hug a family member?”) and 12 to assess the expression of negative emotions (e.g., “How often do you blame someone else for family troubles?” or “How often do you threaten someone?”). Halberstadt and colleagues (1995) reported good internal consistency for the two factors in a sample of parents of elementary school children (Cronbach’s alphas ranged from .88 to .89 for the positive factor, and .76 to .86 for the negative factor). Our own factor analysis using the current sample supports the original factor structure with 12 items loading onto the positive emotion factor and 12

loading onto the negative emotion factor. Potential scores on both the positive and negative emotion scale range from 0 to 60 with higher scores representing higher levels of expressed positive or negative emotions, respectively. Both factors showed good internal consistency at all three grade levels. Alphas for positive emotion were .85, .90, and .83; alphas for negative emotion were .82, .84, and .83 in grade 2, 4, and 6, respectively.

The correlation between the positive parenting scales from the PBI and EEQ was relatively large and statistically significant ($r = .55, p < .001$), so we standardized and summed the scales to create a single parent-reported positive parenting variable. The negative parenting scales from the PBI and EEQ were significantly correlated as well ($r = .46, p < .001$), so we combined them to form a single parent-reported negative parenting variable. All subsequent analyses involving parent-reported parenting were done using these composites.

Negative life events. We used both a child- and parent-report version of a life events checklist (LEC) consisting of 30 negative life events (e.g., “Your family had to move a lot” and “Close family members have yelled at each other”). Respondents indicate whether or not the child has been exposed to each of the events in the past 6 months using a *yes/no* format. The specific items and the *yes/no* response format are the same as a life events checklist created by Work, Cowen, Parker, and Wyman (1990). We added an additional component to the checklist such that if the respondent endorsed an item, they were asked how upsetting the event was for the child using a 3-point scale (1 = *not much* to 3 = *very much*). Scores range from 0 to 90 with higher scores reflecting large numbers of more upsetting events.

Attributional style. We obtained information about children's attributions using the Children's Attributional Style Interview (CASI; Conley, Haines, Hilt, & Metalsky, 2001). The original version of the CASI included 8 positive and 8 negative items; however, we used only the negative items. Each item presents a hypothetical situation and an accompanying picture. Children are asked to imagine themselves in the situation and provide the one main reason that the situation happened to them. Children then rate their causal attribution on three 7-point scales: internality (how much their causal reason was "because of you"), stability (if their reason "would be true again"), and globality (if their reason would "make other bad things happen"). Total scores range from 24 to 169 with higher scores representing a more depressogenic attributional style. A validation study of this measure in a group of children (age range 5 to 10) revealed good subscale internal consistency (Cronbach's alphas range from .72 to .82; Conley et al.). Cronbach's alpha for the 8 negative items used in the current sample was .82 in all 3 grade levels.

Depressive cognitions. We used the Children's Automatic Thought Questionnaire (CATQ; Hollon & Kendall, 1980) and the Cognitive Triad Interview for Children (CTI-C; Kaslow, Stark, Printz, Livingston, & Tsai, 1992) to measure children's depressive cognitive schemas. The CATQ is a 30-item questionnaire that assesses negative automatic thoughts. Children are asked to rate how often, in the past week, they have had specific negative thoughts, using 5-point scales (1 = *not at all* to 5 = *all the time*). Scores range from 30 to 150 with higher scores representing higher levels of negative automatic thoughts. This measure showed good internal consistency in a sample of child psychiatric inpatients (Cronbach's alpha = .96; Kazdin, 1990). In the current sample reliabilities were .89, .93, and .95 in grade 2, 4, and 6, respectively.

The CTI-C is a 36-item self-report questionnaire assessing children's views of themselves (e.g., "I am a failure"), their world (e.g., "The world is a very mean place"), and their future (e.g., "Nothing is likely to work out for me"). Children indicate having had specific thoughts, using a *yes/maybe/no* response format. Scores range from 0 to 72 with higher scores representing more negative views. The CTI-C has been shown to have acceptable internal consistency (Cronbach's alpha = .92 for full scale and range from .69 to .92 for subscales; Kaslow et al., 1992). In the current sample, Cronbach's alpha for the full scale was .94 for all 3 grade levels.

Self-perceived competence. We used developmentally appropriate measures of personal competencies for use with different ages. With second grade students we used the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984). This self-report inventory consists of 24 items measuring four domains (cognitive competence, physical competence, peer acceptance, and maternal acceptance). For each item, children are presented with two pictures and read two sentences describing two different children (e.g., "This child isn't very good at numbers" and "This child is pretty good at numbers"). First, they indicate which child is most like themselves. Then they refine their choice further by selecting from two more specific choices (e.g., if the child says that they are pretty good at numbers they indicate if they are "pretty good" or "really good at numbers"). With fourth and sixth grade students we used Harter's (1985) Self-Perception Profile for Children. This self-report inventory contains 36 items measuring five domains of self-perceived competence (academic competence, social acceptance, athletic competence, physical appearance, and behavioral conduct) and global self-worth. For each item, children select one of two statements to

indicate whether they are more like a child who is good or a child who is poor at a particular activity. Then they select statements indicating whether the selected statement is “sort of true” or “really true” about them. For both measures, items are scored on a 4-point rating scale such that high scores reflect greater self-perceived competence. Both instruments show a highly interpretable factor structure and their subscales have good internal consistency. In the current sample of second graders, Cronbach’s alpha was .83 for the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. In the current sample of fourth and sixth grades, Cronbach’s alphas were .90 and .92 for the Self-Perception Profile for Children.

The self-perceived competence (SPC) variable used in the current study consisted of either the sum of the four domains on the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (for second graders) or the sum of the five domains (excluding global self-worth) on the Self-Perception Profile for Children (for fourth and sixth graders). The scores were standardized within each group.

Procedure

Doctoral psychology students and advanced undergraduates received extensive training on all of the measures prior to data collection. We collected data in two separate 1-hour sessions scheduled during the regular school day within 1 month of each other. We counterbalanced questionnaires within each session. For students in second grade, we administered both Session 1 and Session 2 questionnaires individually. For students in fourth grade, we administered Session 1 questionnaires individually and Session 2 questionnaires in small groups (approximately 2 to 3 students each). For students in sixth

grade, we administered both sessions to larger groups. For these larger group administrations, one research assistant read the questionnaires aloud, requiring all students to proceed at the same pace. Two or three additional research assistants circulated among the students ensuring correct completion of the items and answering questions as they arose. At the completion of each session, students received a candy bar and a decorative pencil as tokens of appreciation. In cases where children were absent from school for one or both of the sessions, we scheduled makeup sessions during the regular school hours.

To parents, we mailed questionnaires along with self-addressed stamped envelopes. We sent \$15 to parents who returned completed questionnaires. We made follow-up calls to parents who did not return the questionnaires promptly.

CHAPTER III

RESULTS

Preliminary Analyses

Descriptive statistics for all variables appear in Table 1. Means on the cognitive outcome variables for the current sample are slightly higher than those for other non-referred samples (Conley et al., 2001; Kazdin, 1990; Stark, Schmidt, & Joiner, 1996). Children whose parents returned their questionnaires did not differ from those who did not return questionnaires on any of the outcome variables (CASI, CATQ, CTI, and SPC: $ps > .24$). Correlations between all of the variables are also provided in Table 1.

Table 1
Means, Standard Deviations, and Correlations for all Predictor and Outcome Variables

Measure	Mean	SD	2	3	4	5	6	7	8	9	10	11
1. Grade	4.06	1.63	-.04	.01	-.04	-.07	-.25**	.04	.04	-.30**	-.15**	.00
2. NP-c	37.16	10.16	-	.15*	-.24**	-.04	.27**	-.07	.28**	.34**	.10*	-.21**
3. NP-p	0.00	1.69		-	-.05	-.14*	.16*	.34**	.04	.19**	.16**	-.18**
4. PP-c	66.81	10.09			-	.26**	.02	-.02	-.13**	-.08	-.14**	.25**
5. PP-p	0.00	1.76				-	-.07	.03	-.05	-.03	-.14*	.12
6. NE-c	22.89	13.32					-	.09	.15**	.42**	.21**	-.20**
7. NE-p	10.12	9.82						-	-.12	.04	.07	-.09
8. CASI	89.84	23.61							-	.33**	.08	-.12*
9. CATQ	65.34	23.19								-	.29**	-.34**
10. CTI	18.39	14.63									-	-.29**
11. SPC	0.00	1.00										-

Note. NP-c = child-reported negative parenting; NP-p = parent-reported negative parenting (sum of 2 standardized measures); PP-c = child-reported positive parenting; PP-p = parent-reported positive parenting (sum of 2 standardized measures); NE-c = child-reported negative events; NE-p = parent-reported negative events; CASI = Children’s Attributional Style Interview; CATQ = Children’s Automatic Thoughts Questionnaire; CTI = Cognitive Triad Interview; SPC = Self-Perceived Competence (standardized).

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

Canonical Correlations

In order to examine the combined effects of parenting and negative life events on all measures of depressive cognitions, we performed two canonical correlation analyses. In one, we correlated child-reported negative parenting, positive parenting, and negative life events with the four outcome variables (CASI, CATQ, CTI, and SPC). In the second, we replaced child-reported negative parenting, positive parenting, and negative life events with parent-reports of the same variables. In both analyses, we focused only on the first canonical root, which was relatively large and significant. (The second and third roots were also significant, in part because of the relatively large N ; however, their effect sizes were quite small.)

In the first analysis, child-reported negative parenting, positive parenting, and negative life events significantly correlated with the four measures of depressive cognitions (canonical $R = .50, p < .001$). Examination of the standardized canonical weights revealed that high levels of negative parenting ($b = .69$) and negative life events ($b = .47$) and low levels of positive parenting ($b = -.23$) predicted higher levels of depressive cognitions. In the second analysis, parent-reported negative parenting, positive parenting, and negative life events were again significantly related to the four measures of depressive cognitions (canonical $R = .32, p < .001$). Again the standardized canonical coefficients were in the expected direction, with negative parenting ($b = .80$) and negative life events ($b = .22$) predicting higher levels of depressive cognitions and positive parenting ($b = -.34$) predicting lower levels.

Overview of Regression Analyses

We followed the canonical correlations with a series of multiple regressions in which we explored developmental effects. Within each set, we regressed each of the four outcome variables (CASI, CATQ, CTI, and SPC) onto grade, one of the predictors of interest (negative parenting, positive parenting, or negative life events), and the interaction between grade and the predictor of interest. For each regression, grade (recoded as two orthogonal dummy coded variables; G1 and G2) was entered in the first step, followed by the predictor of interest in the second step (P), and the interaction between the two in the third step:

$$\text{Outcome} = \beta_0 + \beta_1 G_1 + \beta_2 G_2 + \beta_3 P + \beta_4 G_1 P + \beta_5 G_2 P.$$

Negative Parenting

Child-reported negative parenting. In separate analyses, each of the four measures of depressive cognitions was regressed onto grade, child-reported negative parenting, and the grade by child-reported negative parenting interaction (see the top half of Table 2). Main effects for grade were significant in the prediction of CASI, CATQ, and CTI, with these effects qualified by grade by negative parenting interactions in some cases. Main effects for negative parenting were significant in the prediction of CASI, CATQ, CTI, and SPC with higher levels of negative parenting associated with more negative cognitions. Furthermore, the grade by negative parenting interaction was significant in the prediction of CATQ and SPC. Partitioning these interactions revealed that the effects of negative parenting on negative cognitions were stronger in sixth grade than in second and fourth grade (see Figure 1).

Parent-reported negative parenting. We repeated these analyses replacing child-reported negative parenting with parent-reported negative parenting (see the bottom half of Table 2). Again, grade was a significant predictor of CASI and CATQ. On the CASI, second and sixth graders exhibited more negative attributional styles than fourth graders. On the CATQ, second graders showed more negative automatic thoughts than fourth and sixth graders. There was a significant main effect of negative parenting in the prediction of CATQ, CTI, and SPC with higher levels of negative parenting associated with more negative cognitions (see Figure 2). All grade by negative parenting interactions were nonsignificant.

Table 2

Summary of Regression of 4 Cognitive Outcomes (CASI, CATQ, CTI, and SPC) onto Grade, Negative Parenting, and Grade by Negative Parenting Interaction

Outcome	Grade		Negative parenting		Grade * negative parenting	
	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF
Child-report						
CASI	.029	7.14**	.071	37.48***	.001	0.35
CATQ	.103	27.39***	.103	61.39***	.012	3.72*
CTI	.025	5.91**	.009	4.49*	.005	1.16
SPC	.000	0.00	.045	21.48***	.017	4.15*
Parent-report						
CASI	.038	5.19**	.001	0.29	.001	0.08
CATQ	.056	7.68**	.032	9.09**	.001	0.10
CTI	.020	2.58	.025	6.59*	.010	1.36
SPC	.012	1.47	.032	8.32**	.002	0.25

Note. CASI = Children's Attributional Style Interview; CATQ = Children's Automatic Thoughts

Questionnaire; CTI = Cognitive Triad Interview; SPC = Self-Perceived Competence.

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

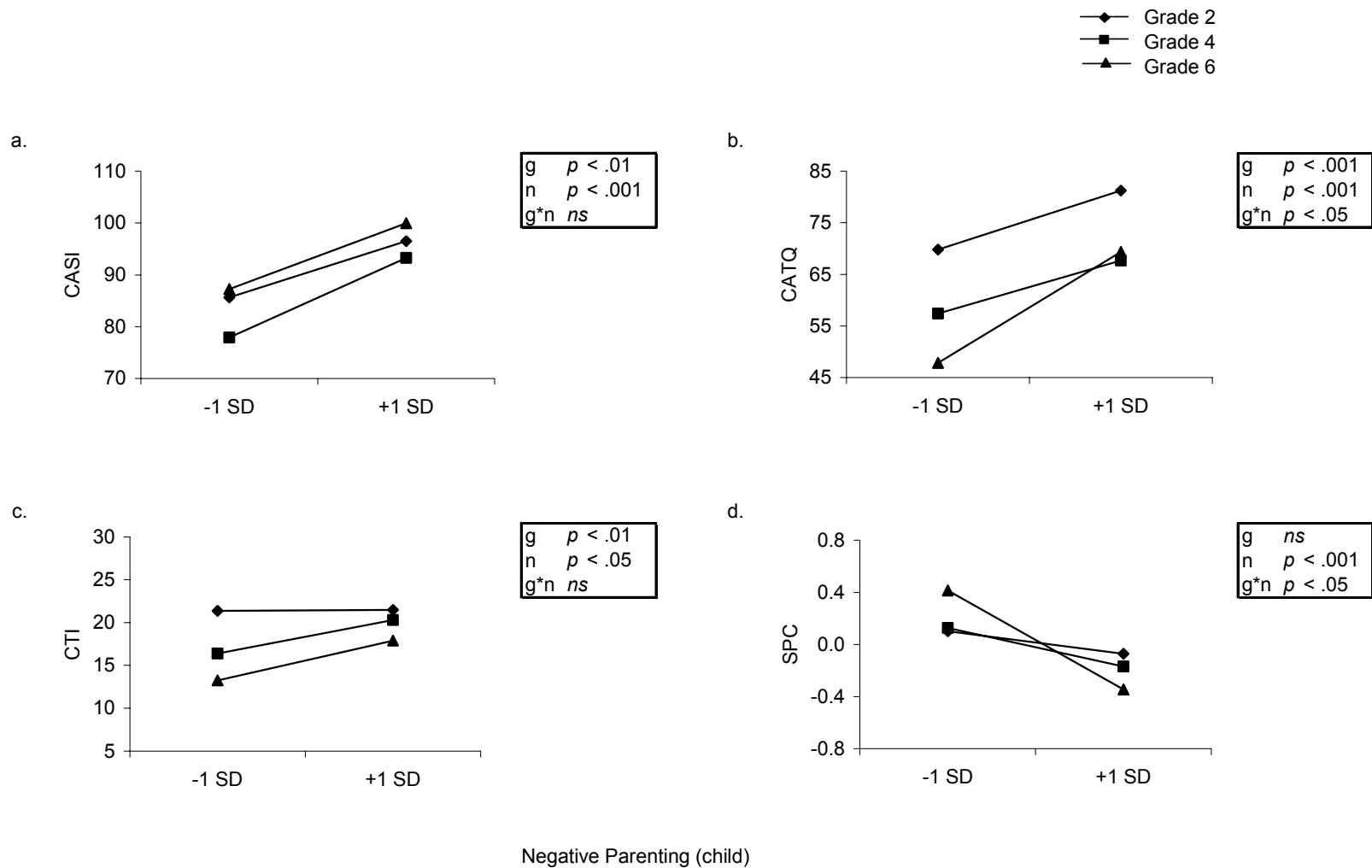


Figure 1. CASI, CATQ, CTI, and SPC scores as a function of child-reported negative parenting (n) and grade level (g).

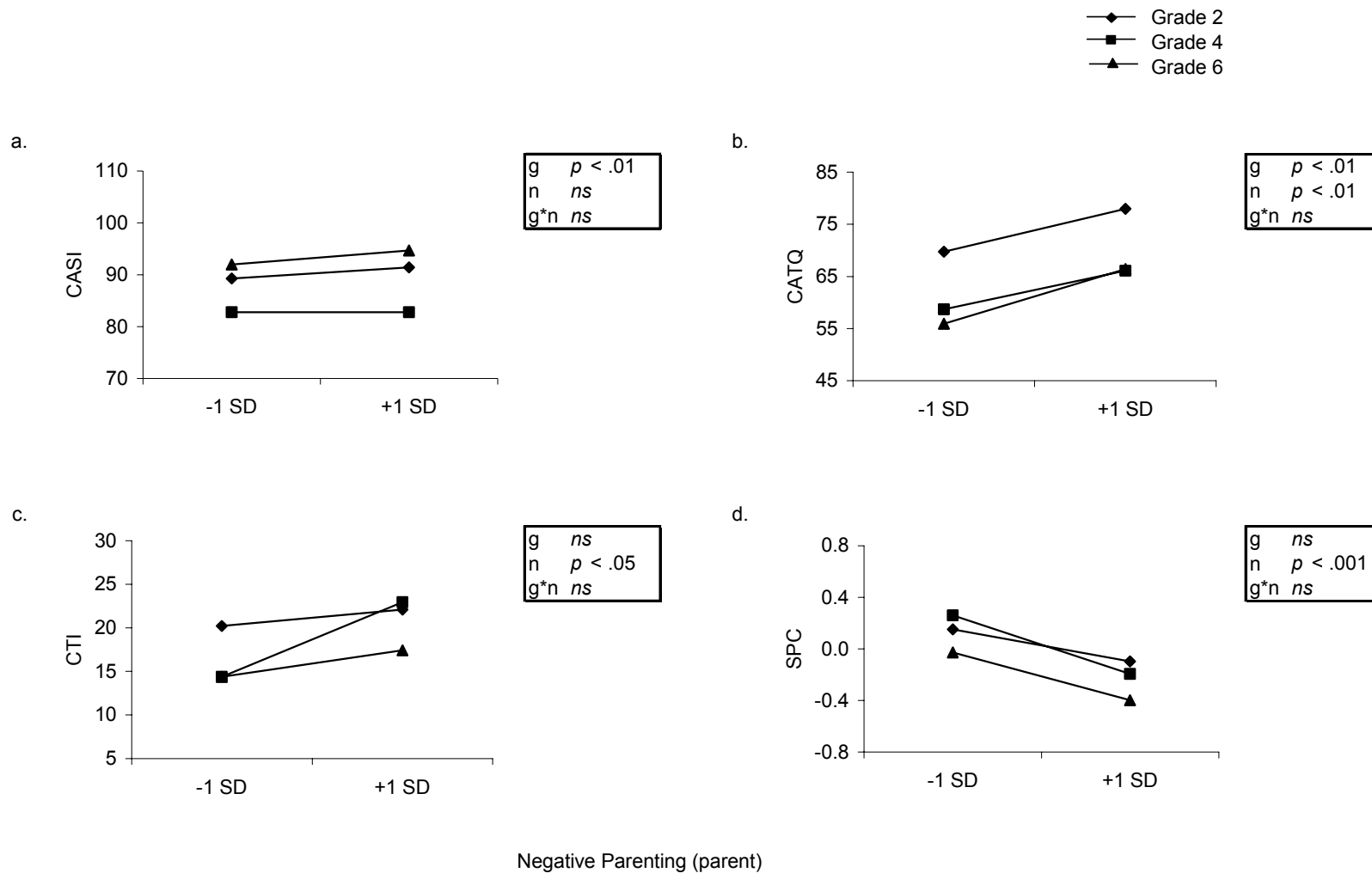


Figure 2. CASI, CATQ, CTI, and SPC scores as a function of parent-reported negative parenting (n) and grade level (g).

Positive Parenting

Child-reported positive parenting. In separate analyses, we regressed each of the four outcome measures onto grade, child-reported positive parenting, and the grade by child-reported positive parenting interaction (see the top half of Table 3). Main effects for grade were significant in the prediction of CASI, CATQ, and CTI. On the CASI, second and sixth graders show more negative attributional styles than fourth graders. On both the CATQ and CTI, negative cognitions decreased with grade. Main effects for positive parenting were significant in the prediction of CASI, CTI, and SPC with higher levels of positive parenting associated with less negative cognitions (see Figure 3). All grade by positive parenting interactions were nonsignificant.

Parent-reported positive parenting. We repeated these analyses replacing child-reported positive parenting with parent-reported positive parenting (see the bottom half of Table 3). Again, grade was a significant predictor of CASI, CATQ, and CTI. On the CASI, second and sixth graders showed more negative attributional styles than fourth graders. On the CATQ, second graders showed higher levels of negative automatic thoughts than fourth and sixth graders. On the CTI, negative cognitions decreased with grade. There was a significant main effect of positive parenting in the prediction of CTI with higher levels of positive parenting associated with less negative cognitions (see Figure 4). All grade by positive parenting interactions were nonsignificant.

Table 3

Summary of Regression of 4 Cognitive Outcomes (CASI, CATQ, CTI, and SPC) onto Grade, Positive Parenting, and Grade by Positive Parenting Interaction

Outcome	Grade		Positive parenting		Grade * positive parenting	
	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF
Child-report						
CASI	.029	7.17**	.012	5.72*	.005	1.12
CATQ	.105	28.00***	.006	3.39	.004	1.20
CTI	.025	5.92**	.022	10.71**	.004	1.09
SPC	.000	0.00	.064	30.99***	.007	1.65
Parent-report						
CASI	.038	5.22**	.001	0.40	.021	2.95
CATQ	.058	7.95***	.001	0.38	.016	2.18
CTI	.024	3.07*	.022	5.83*	.002	0.30
SPC	.011	1.32	.013	3.41	.007	0.83

Note. CASI = Children's Attributional Style Interview; CATQ = Children's Automatic Thoughts

Questionnaire; CTI = Cognitive Triad Interview; SPC = Self-Perceived Competence.

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

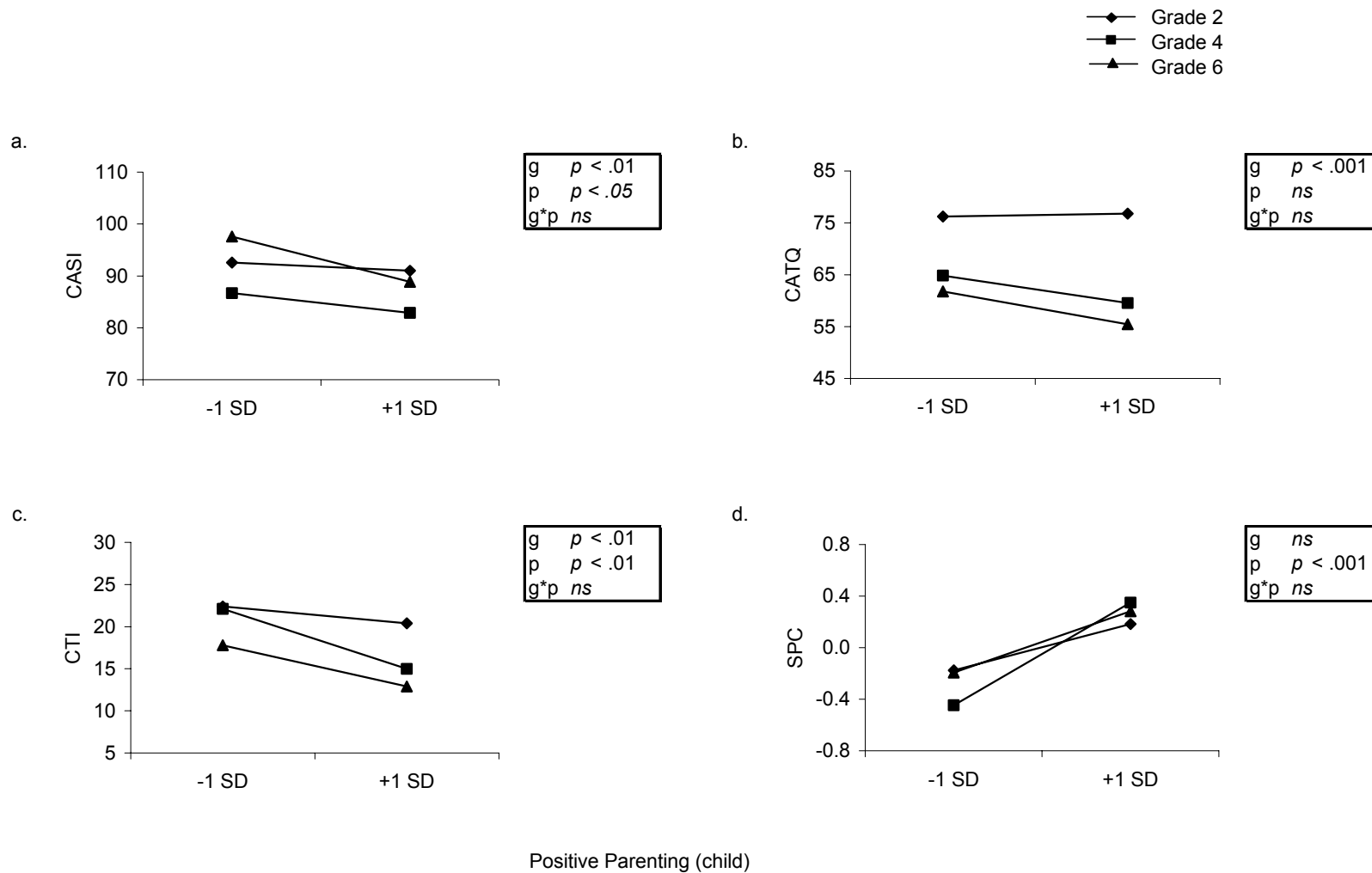


Figure 3. CASI, CATQ, CTI, and SPC scores as a function of child-reported positive parenting (p) and grade level (g).

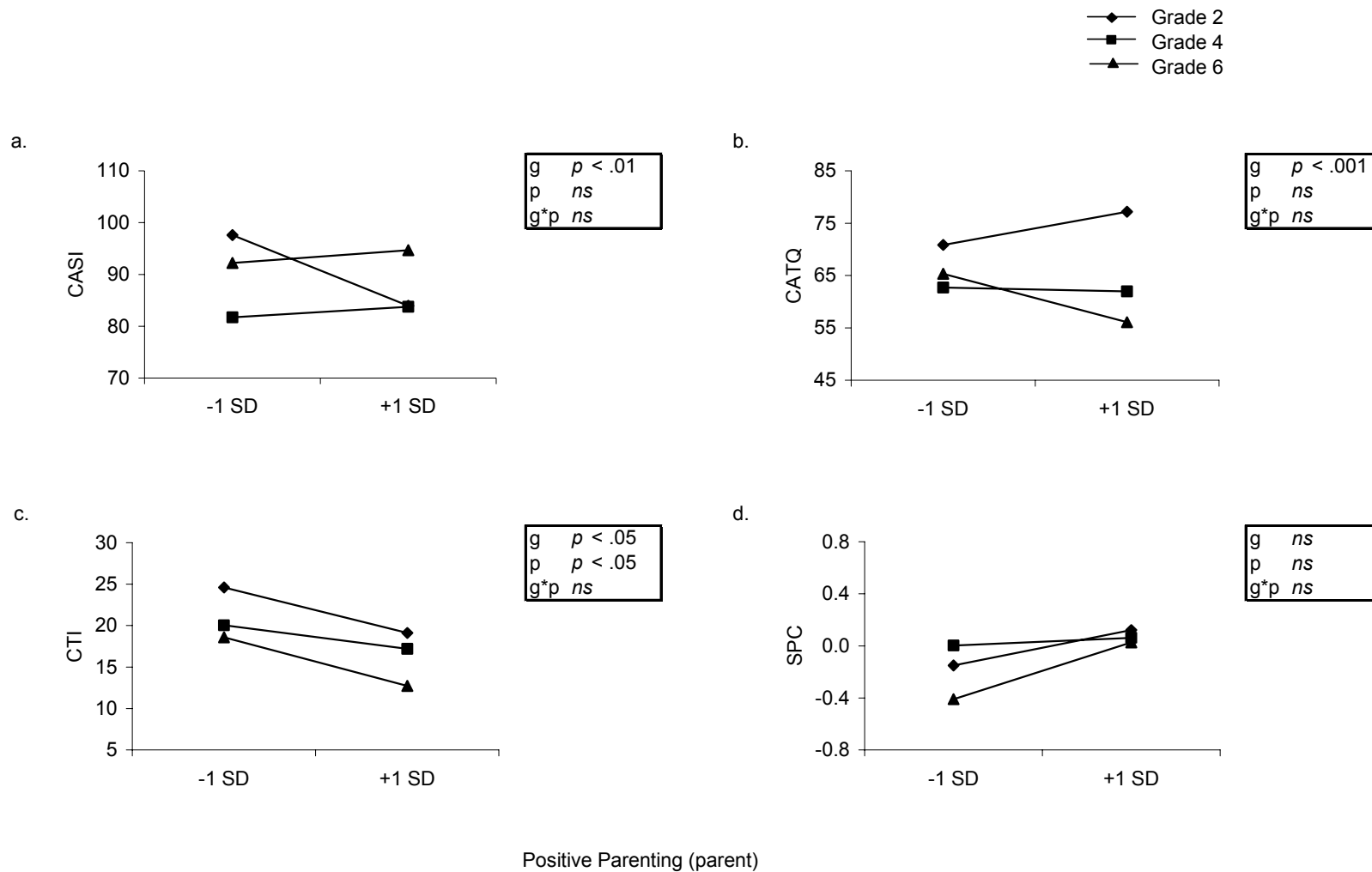


Figure 4. CASI, CATQ, CTI, and SPC scores as a function of parent-reported positive parenting (p) and grade level (g).

Negative Life Events

Child-reported negative life events. In separate analyses, we regressed each of the four outcome measures onto grade, child-reported negative life events, and the grade by child-reported negative life events interaction (see the top half of Table 4). Main effects for grade were significant in the prediction of CASI, CATQ, and CTI and in some instances the grade effect was qualified by a grade by negative life events interaction. Main effects for negative life events were significant in all analyses with higher levels of negative life events associated with higher levels of negative cognitions. Furthermore, the grade by negative life events interaction was significant in the prediction of CATQ, CTI, and SPC. Partitioning these interactions revealed that the effects of negative life events on negative cognitions were stronger in fourth and sixth grade than in second grade (see Figure 5).

Parent-reported negative life events. We repeated these analyses replacing child-reported negative life events with parent-reported negative life events (see the bottom half of Table 4). Again, grade was a significant predictor of CASI, CATQ, and CTI. On the CASI, sixth graders showed the most negative attributional style followed by second graders and fourth graders. On the CATQ, second graders exhibited higher levels of negative automatic thoughts than fourth and sixth graders. On the CTI, negative thoughts decreased with increasing grade. There was a significant main effect of negative life events in the prediction of CASI; however, this effect was in the opposite direction to what was expected with higher levels of negative life events associated with less negative cognitions (see Figure 6). All grade by negative life events interactions were nonsignificant.

Table 4

Summary of Regression of 4 Cognitive Outcomes (CASI, CATQ, CTI, and SPC) onto Grade, Negative Life Events, and Grade by Negative Life Events Interaction

Outcome	Grade		Negative life events		Grade * negative life events	
	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF
Child-report						
CASI	.030	7.30**	.025	12.72***	.001	0.21
CATQ	.106	28.12***	.124	76.11***	.010	3.10*
CTI	.025	5.98**	.030	14.62***	.031	7.71**
SPC	.000	0.01	.041	19.49***	.016	3.91*
Parent-report						
CASI	.041	5.56**	.016	4.22*	.000	.051
CATQ	.056	7.58**	.002	0.55	.013	1.82
CTI	.037	4.85**	.006	1.578	.004	0.47
SPC	.006	0.69	.007	1.77	.006	0.78

Note. CASI = Children's Attributional Style Interview; CATQ = Children's Automatic Thoughts

Questionnaire; CTI = Cognitive Triad Interview; SPC = Self-Perceived Competence.

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

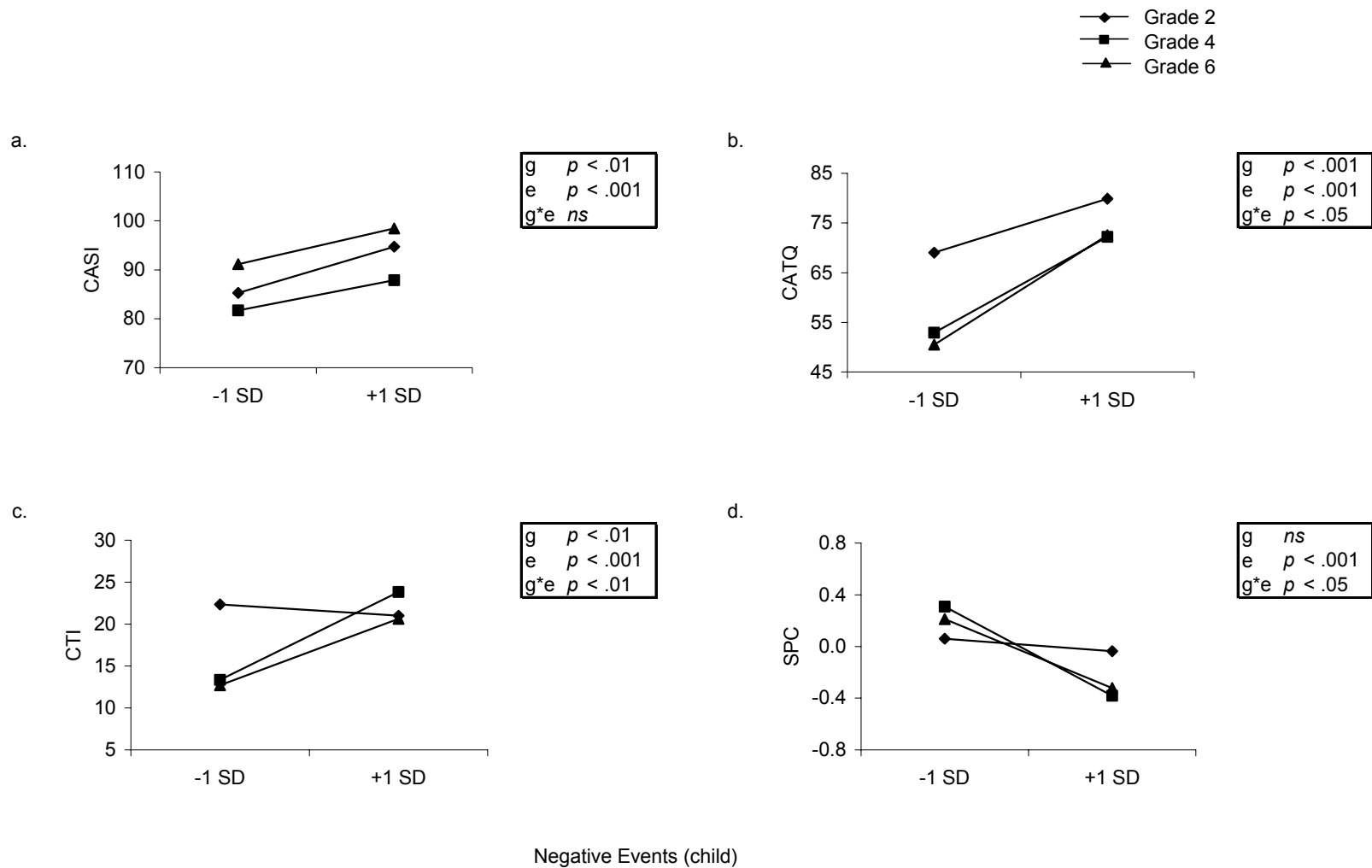


Figure 5. CASI, CATQ, CTI, and SPC scores as a function of child-reported negative life events (e) and grade level (g).

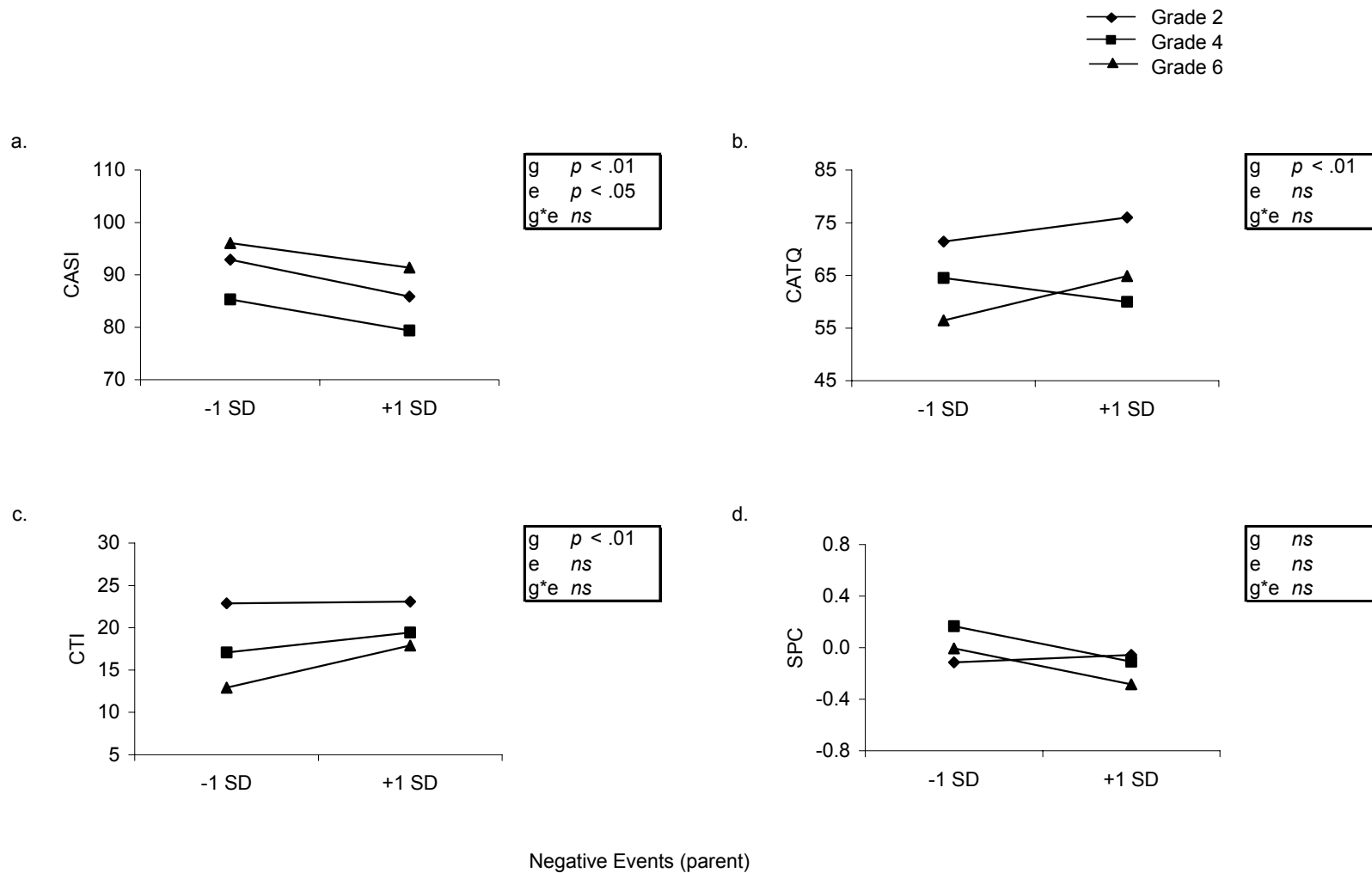


Figure 6. CASI, CATQ, CTI, and SPC scores as a function of parent-reported negative life events (e) and grade level (g).

CHAPTER IV

DISCUSSION

Two major results emerged that were consistent with the study hypotheses. First, the overarching finding of this study was that there are combined as well as unique effects of negative parenting, positive parenting, and negative life events in the prediction of depressive cognitions in children. These findings were relatively strong, irrespective of whether they were measured by child- or parent-report. Most previous studies have examined the effects of each predictor one-at-a-time. The current results suggest that parenting and negative life events have an additive effect on the development of depressive cognitions in children. Second, the relation of negative parenting style and negative life events to children's depressive cognitions increased with age. This developmental trend is also a new finding and has implications for our understanding of depression etiology and for the creation of prevention and early intervention efforts. We examine these implications domain at a time.

Our findings suggest that negative parenting, positive parenting, and negative life events exert both combined and unique effects on the development of depressive cognitions in children. The canonical correlations (.50 for child-report and .32 for parent-report) suggest that the combined effects of parenting and negative life events on depressive cognitions in children are stronger than the individual effects found in most of the existing literature. Previous studies focused on one predictor at a time and generally found correlations ranging from .10 to .30 (e.g., Cole & Turner, 1993; Fenzel, 2000;

Litovsky & Dusek, 1985; Liu, 2003; Nolen-Hoeksema et al., 1992; Whisman & Kwon, 1992), with a few studies reporting correlations as large as .30 to .40 (e.g., Haine et al., 2003; Martin et al., 1995; Randolph & Dykman, 1998). Our analyses further revealed that all three predictors contributed to this relation (in the expected direction) with negative parenting and negative life events predicting higher levels of depressive cognitions and positive parenting predicting lower levels. We then examined each of these predictors individually.

The results of the current study suggest that parenting is related to the development of several types of depressive cognitions in children, such that negative parenting predicts higher levels of depressive cognitions and positive parenting predicts lower levels. Child-reported negative parenting correlated with depressive attributional style, negative automatic thoughts, Beck's negative cognitive triad, and poor self-perceived competence. We replicated the results for automatic thoughts, cognitive triad, and self-perceived competence using parent-reported negative parenting. Child-reported positive parenting corresponded with diminished attributional style, lower scores on Beck's cognitive triad, and greater self-perceived competence. The relation between positive parenting and Beck's cognitive triad was replicated with parent-reports of positive parenting. These results are consistent with existing literature examining the relation between negative parenting and depressive cognitions (e.g., Alloy et al., 2001; Garber & Flynn, 2001; Jaenicke et al., 1987; Koestner et al., 1991; Litovsky & Dusek, 1985; Liu, 2003; McCranie & Bass, 1984; Randolph & Dykman, 1998; Whisman & Kwon, 1992) and between positive parenting and depressive cognitions (e.g., Alloy et al.;

Garber & Flynn; Jaenicke et al.; Litovsky & Dusek; McCranie & Bass; Whisman & Kwon).

Parenting may affect the development of depressive cognitions via several possible mechanisms. One such mechanism is internalization. To a young child, parental feedback contains important self-relevant information. As children engage in the developmental task of self-concept construction, the information conveyed by parents constitutes some of the building material. Children come to think of themselves in a manner congruent with the way that they perceive others regard them (Cooley, 1902; Mead, 1934). The internalization of negative parental feedback will engender negative self-concept, whereas the internalization of positive parental feedback may inhibit the development of negative self-cognitions. Additionally, children construct their views of reality based on their early experiences with the environment (Beck & Young, 1985). Children incorporate experiences in the home environment into their views of the world and their expectations for the future. Children who experience high levels of negative parenting may begin to expect others in the world to treat them in a similarly negative way, whereas children who experience high levels of positive parenting will expect more positive treatment from others.

The effect of negative parenting on depressive cognitions was moderated by grade level. Specifically, the effects of child-reported negative parenting on negative automatic thoughts and self-perceived competence increased with development. No empirical studies to date have examined developmental trends in the effects of negative parenting practices on children's depressive cognitions. Several theorists, however, have suggested that such effects may become more salient with development (Friedlander, 1988; Harter,

1986, 1988). One potential explanation for this developmental trend is that older children may have incorporated negative feedback from parents into more global self-conceptualizations, whereas younger children may see the feedback as relating to only more specific domains. This reasoning echoes Harter's view on the development of self-concept in children; as children move through middle childhood, they construct more generalized self-conceptions out of a set of domain-specific beliefs. Younger children tend to describe themselves in terms of concrete, observable behavioral characteristics. Older children use more global descriptions of themselves and their abilities (Harter, 1986). Along similar lines, Friedlander (1988) suggested that younger children do not perceive low ability as a stable, trait-like characteristic. Consequently, they are more likely to attribute failure feedback to specific, unstable behaviors. Older children, however, are capable of making more stable and trait-like attributions, and may be cognitively more capable of utilizing failure feedback in the construction of internal, stable, global explanations.

Another explanation of this developmental trend comes from research on children's "fall from grace" during early elementary school years. Younger children tend to maintain unrealistically global positive views of themselves (Crain, 1996; Harter, 1988; Wigfield et al., 1997). Over the course of middle childhood, children's self-conceptions become more realistic and, almost inevitably, less sanguine. During this time, children incorporate information from their environment into their developing self-views. This information includes feedback from parents. Children who experience unmitigated negative parental feedback may drop further during what is otherwise a relatively normative fall from grace.

Negative life events are also associated with depressive cognitions. Child-reported negative life events correlated with depressive attributional style, negative automatic thoughts, Beck's negative cognitive triad, and poor self-perceived competence. The results for attributional style were replicated using parent-reported negative life events. Similar effects have been observed in other studies in which negative life events correlated with a variety of depressive cognitions (e.g., Abel, 1996; Cheng & Lam, 1997; Cole & Turner, 1993; Conger et al., 1999; Fenzel, 2000; Garber & Flynn, 2001; Gold, 1986; Haine et al., 2003; Jaenicke et al., 1987; Kliewer & Sandler, 1992; Lengua et al., 1995; Martin et al., 1995; Mazur et al., 1999; McLoyd et al., 1994; Nolen-Hoeksema et al., 1992; Tram & Cole, 2000; Wenninger & Ehlers, 1998; Wyman et al., 1985; Youngs et al., 1990).

We speculate that negative life events (like negative parenting) convey negative information to the child that becomes incorporated into their views of self, the world, and the future. On the one hand, certain negative life events (e.g., losing a friend, failing a test) may actually be the result of the child's behavior. On the other hand, children often assume blame for events that, in reality, are not their responsibility. In either event, the child walks away from the event with negative self-relevant information. If such events are chronic, children may, over time, learn that they are helpless to prevent them. As they incorporate their experiences in the present into their predictions about the future, children may become increasingly hopeless. The experiences of major trauma and chronic negative life events are especially likely to impact children's views of the self, world, and future (Janoff-Bulman, 1992).

As with negative parenting, the relation of negative life events to depressive cognitions increased with grade level. Specifically, the effects of child-reported negative life events on negative automatic thoughts, Beck's negative cognitive triad, and self-perceived competence increased with development. One potential theoretical explanation for this developmental trend is that older children have experienced negative life events for a longer period of time and that the repetition or chronicity of these events is significant to the development of depressive cognitions. This is consistent with existing research showing that although children are remarkably resilient to the effects of discrete hardships (Masten, 2001; Masten et al., 1990), persistent and chronic stress may have more adverse effects. A second explanation derives from research examining children's conceptions of effort and ability. Younger children do not differentiate between these two concepts and therefore do not see ability as a limiting factor (Nicholls, 1978); they believe that if they simply exert more effort, they can achieve the desired outcome. Therefore, when younger children experience negative life events, they may unrealistically assume that they have control over these events, based on their overestimation of personal competency. This sense of control may protect against the development of depressive cognitions at younger, but not older, ages.

Several shortcomings of the current study suggest avenues for future research. First, the current data were cross-sectional. A longitudinal examination of these relations would strengthen the argument that parenting and negative life events are causally linked to the emergence of depressive cognitions in children. A longitudinal design would also allow for an assessment of whether the observed developmental trends also occur intra-individually. In the current study, developmental differences emerged from between-

subject, cross-age comparisons, which are subject to the influence of cohort effects.

Second, we used two broad parenting constructs, negative and positive parenting. A more fine-grained analysis of parenting could allow for the determination of specific parenting behaviors, or specific combinations of behaviors, that are particularly predictive of depressive cognitions in children. Third, our life events measure was relatively global. The possibility exists that specific categories (e.g., dependent and independent) or types of life events (e.g., death, illness, accident, etc.) play a larger role in the development of depressive cognitions than others.

The current study has clinical implications for the development of prevention and early intervention programs. Previous research provides evidence that negative cognitions are strong predictors of later depression (Cole & Turner, 1993; Kaslow et al., 1992; Kazdin, 1990; Liu, 2003; Martin et al., 1995; Nolen-Hoeksema et al., 1992; Stark et al., 1996; Tram & Cole, 2000). The identification of children who exhibit high levels of depressive cognitions will allow for implementation of interventions prior to the development of depression. Additionally, the identification of children exposed to risk factors for depressive cognitions may allow for even earlier intervention. The current study suggests that problematic parenting and negative life events are two such factors. The observed additive effect suggests that children exposed to both problematic parenting and negative life events are at a particularly high risk and should be targeted for intervention. The finding that parenting plays a role in the development of depressive cognitions in children suggests that it is important to target both parents and children in interventions. Parents need to be aware of the effects of their behaviors on their children and taught more adaptive parenting skills that will minimize depressive cognitions and

bolster positive cognitions in their children. The findings also suggest that parenting interventions may be more successful when implemented early. If adaptive parenting skills are taught early on, children are less likely to be exposed to maladaptive parenting behaviors later in childhood when these behaviors seem to have their greatest effects.

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