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Developmental and Social–Contextual Origins of Depressive Control-Related Beliefs and Behavior

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*This research investigated the precursors and emotional consequences of maladaptive control-related beliefs and behavior during early adolescence. Two cohorts of fifth and sixth graders (*Ns *= 471 and 587) participated in a short-term longitudinal design. Adolescents completed measures that examined multiple aspects of family disruption and recent stress, and reported on their perceptions of control and depressive symptoms. Teachers reported on adolescents' display of helpless behavior in the classroom. Results supported the proposal that both family disruption and recent stress contribute to concurrent and future deficits in perceptions of control and helplessness. Family disruption generally exerted domain-nonspecific effects, whereas recent stress generally exerted domain-specific effects, although this pattern varied somewhat across the specific predictors. Decreased perceptions of control and increased helplessness in turn were associated with higher levels of depressive symptoms. This study advances cognitive models of depression by identifying processes underlying the development of control-based vulnerability during childhood.*

KEY WORDS: control beliefs and behavior; cognitive vulnerability; depression.

INTRODUCTION

Why do some children feel a sense of mastery over their environments and persevere in the face of challenge or failure, whereas other children feel a lack of control over their environments and become helpless when confronted with difficult situations? Because of the negative emotional consequences associated with maladaptive control-related beliefs and behavior, identifying the origins of these motivational patterns is critical to understanding the etiology of emotional disorder. In particular, theory and empirical research have linked low perceptions of control and helpless responses to challenge with adverse emotional outcomes such as depression (Abramson, Metalsky, & Alloy, 1989; Abramson, Seligman, & Teasdale, 1978; Weisz, Sweeney, Proffitt, & Carr, 1994). The goal of the present research was to

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examine the role of developmental and social–contextual influences in the emergence of depressive control-related beliefs and behavior.

Consequences of Control-Related Beliefs and Behavior

Perceptions of control refer to beliefs about one's ability to produce desired outcomes in the face of effort. Contemporary models construe perceived control as the joint function of judgments about the extent to which outcomes are dependent on certain behaviors and judgments about one's own ability to display these behaviors (Bandura, 1986; Skinner, Zimmer-Gembeck, & Connell, 1998; Weisz, 1990). Thus, perceptions of control incorporate beliefs both about one's own efficacy as well as about the responsiveness of the environment. Several cognitive theories of depression implicate maladaptive patterns of control beliefs and associated constructs (e.g., negative attributional style, helplessness) as antecedents of depression (for reviews, see Garber & Flynn, 1998; Hammen & Rudolph, 1996; Weisz, Rudolph, Granger, & Sweeney, 1992). Most prominent among these theories, the hopelessness model of depression (Abramson, Alloy, & Metalsky, 1988; Abramson et al., 1989; Alloy, Kelly, Mineka, & Clements, 1990) proposes that the combination of helplessness expectancies (i.e., beliefs about one's lack of control over the environment) and negative outcome expectancies (i.e., beliefs that negative events will occur) creates a vulnerability to depression.

Consistent with these models, a series of studies has revealed concurrent associations between low perceptions of control and depression (Weisz et al., 1994; Weisz, Weiss, Wasserman, & Rintoul, 1987; Weisz et al., 1989). More limited longitudinal research has shown that decreased perceptions of control (Hilsman & Garber, 1995; Rudolph, Lambert, Clark, & Kurlakowsky, 1999) and self-efficacy (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999) predict future depression. The present study employed a prospective design that provided the opportunity to examine the impact of maladaptive control-related beliefs and behavior on concurrent and future depressive symptoms.

Origins of Control-Related Beliefs and Behavior

The mechanisms underlying control-based vulnerability to depression have not been well elaborated (Rose & Abramson, 1992). In the present research, both distal and proximal influences were expected to contribute to the emergence of decreased perceptions of control and increased helplessness. Distal factors were conceptualized as remote influences that contribute indirectly to control processes, whereas proximal factors were conceptualized as immediate influences that contribute directly to control processes. Although this distinction may involve a temporal component, the present conceptualization also considered the extent to which the factors provided information that was nonspecific (distal) versus specific (proximal) to control processes. It was hypothesized that depressive control beliefs and behavior stem in part from general exposure to unpredictable or disruptive environments. Yet ongoing control-related experiences were expected to play a role in further shaping children's sense of control and mastery orientation.

Family Disruption

Experiences within the family are believed to form the cornerstone for the development of competence and mastery (Ainsworth, 1979; Bowlby, 1980). Disruptions in close family relationships may undermine children's sense of self as competent and effective and sense of the world as contingent and responsive. Such developmental disruptions may take diverse forms. For example, parent–child separation or loss of a parent (e.g., through parental death, divorce, or abandonment) may lead children to feel helpless and to view the environment as overwhelming and uncontrollable. Experiencing this type of severe disruption may therefore set the stage for long-term deficits in perceptions of control and may place children at risk for displaying helplessness when faced with challenging situations. Indeed, many cognitive theories of depression emphasize the potential impact of early loss or trauma within the family on the emergence of depressogenic belief systems (Beck & Young, 1985; Brown & Harris, 1978; Janoff-Bulman, 1992; Rose & Abramson, 1992). The present study provided a direct empirical test of the association between parent–child separation or parental loss and control-related beliefs and behavior. We anticipated that children who had experienced a major disruption in family relationships due to separation or loss would show lower perceptions of control and higher levels of helplessness than those without such experiences.

Marital discord also may compromise children's mastery orientation. In high-conflict families, children are exposed to stressful interpersonal circumstances over which they have little control. Despite this lack of control, children often tend to blame themselves for marital conflict (Grych & Fincham, 1993; Haines, Metalsky, Cardamone, & Joiner, 1999). Exposure to marital conflict may therefore threaten children's beliefs about both the controllability of the environment and their own competence. In fact, some research suggests that children from high-conflict homes possess a more external locus of control (Carton & Nowicki, 1994). Moreover, according to a cognitive–contextual framework (Grych & Fincham, 1993; Grych, Seid, & Fincham, 1992), certain conflict characteristics exert particularly detrimental effects on children's emotional, self-evaluative, and coping responses. For example, the frequency, intensity, and lack of resolution of conflict and the extent to which conflict involves child–relevant content have been found to predict worry, helplessness, and self-blame (Grych & Fincham, 1993). In the present study, we expected that conflict characterized by these features would be associated with lower perceptions of control and higher levels of helplessness. Because children's appraisals are critical for understanding the psychological impact of conflict (Grych & Fincham, 1993), we focused on subjective perceptions of interparental conflict.

Parent socialization styles also are likely to shape children's sense of mastery. Research on the influence of parent socialization on control processes has focused on three dimensions of parenting: autonomy granting versus control, warmth/acceptance versus rejection/criticism, and contingency versus noncontingency (Carton & Nowicki, 1994; Skinner et al., 1998). Particular parenting styles may communicate information to children about their own abilities and about environmental contingencies. For instance, parents who fail to provide the opportunity for independent decision making and who reject the needs of their child may convey the message

that their child is not competent and that the environment is unresponsive. In contrast, parents who encourage autonomy and who are sensitive to the needs of their child may promote mastery-oriented beliefs and behavior (Grolnick, Ryan, & Deci, 1991; Litovsky & Dusek, 1985; Skinner, 1995; Skinner et al., 1998). Similarly, discipline practices that reflect clear rules and expectations and consistent responses to child behavior are likely to foster beliefs that outcomes are contingent on one's own actions. In fact, research has demonstrated that parent socialization styles characterized by autonomy granting, warmth, and contingency promote children's sense of control and mastery, whereas parent socialization styles characterized by control, intrusiveness, hostility, and noncontingency compromise children's sense of control and mastery (Carton & Nowicki, 1994; Grolnick & Ryan, 1989; Grolnick et al., 1991; Krampen, 1989; Skinner et al., 1998). Moreover, the expression of high levels of negativity and low levels of responsiveness and encouragement of mastery by parents during interactions with their children has been found to predict helpless behavior (Hokoda & Fincham, 1995; Nolen-Hoeksema, Wolfson, Mumme, & Guskin, 1995).

Unfortunately, the majority of research on the link between parent socialization and control-related beliefs and behavior has relied on cross-sectional data or retrospective reports by adults. The present research investigated the role of parent socialization in the prediction of changes in control processes over time. Because *internalization* of the messages conveyed by particular parent socialization styles may be a critical determinant of children's emerging sense of control and mastery (Grolnick et al., 1991), this research examined perceptions of parenting styles. We predicted that lower perceived levels of autonomy granting and higher perceived levels of rejection and inconsistent discipline would be associated with maladaptive control-related beliefs and behavior.

Recent Stress

Although family background factors may serve as a basis for the formation of long-standing perceptions of control and mastery orientation, ongoing experiences are likely to further mold such beliefs and behavior. In fact, research suggests that children integrate more immediate, day-to-day feedback from the environment into their control-related conceptions of themselves and the world (Dweck & Leggett, 1988; Seligman, Kamen, & Nolen-Hoeksema, 1988; Skinner, 1995). The present research focused on children's everyday school environments and recent personal experiences as proximal determinants of changes in control-related beliefs and behavior.

Research on achievement orientation has highlighted the impact of the school environment on perceptions of control and motivation (Harter, Whitesell, & Kowalski, 1992; Skinner et al., 1998). In particular, warm and structured classroom environments stimulate mastery-oriented beliefs and behavior, whereas controlling and unpredictable classroom environments interfere with mastery orientation and foster helpless behavior and disengagement from academic tasks (Eccles et al., 1991; Roeser, Midgley, & Urdan, 1996; Skinner et al., 1998). More generally, children who view the school environment as overwhelming and unsupportive may demonstrate

declines in their sense of control and increases in helplessness. These adverse influences may extend beyond the classroom structure and specific teacher socialization strategies to include other aspects of the school environment that threaten one's sense of control, such as victimization or peer pressure.

Personal experiences with stress and challenge also are likely to prompt changes in control beliefs and behavior. A number of investigators have argued that exposure to negative life events will give rise to depressive cognitions (e.g., Abramson et al., 1989; Cole & Turner, 1993; Garber & Flynn, 1998). In particular, chaotic circumstances may lead children to feel ineffective and to view the environment as noncontingent, thereby discouraging exploration and mastery-oriented action. Moreover, explicit competence-related feedback from the environment may lead to a reassessment of preexisting control beliefs: Success feedback may enhance children's sense of control and increase motivation, whereas failure feedback may compromise children's sense of control and decrease motivation (Bandura et al., 1999; Skinner et al., 1998). In the present research, we tested the hypothesis that ongoing stress, in the form of chronic strain and disruption in major social roles across multiple life domains, would undermine children's control-related beliefs and behavior.

Overview of the Present Research

We investigated the influence of three distal developmental factors (parent separation/loss, interparental conflict, and maladaptive parent socialization) and three proximal social–contextual factors (a challenging school environment, chronic strain, and role disruption) on perceptions of control and helplessness in two cohorts of early adolescents. This developmental stage was selected for several reasons. First, the desire for autonomy and control is an important theme during early adolescence (Eccles et al., 1991); thus, motivational orientation may assume a critical role in determining children's adjustment at this time. Second, early adolescence is accompanied by significant changes in the self-system, as children begin to establish an abstract and more stable sense of self (e.g., Harter, 1988). During this process of identity formation, adolescents may rely more heavily on social and situational cues, such as experiencing difficulty in their schoolwork or feeling alienated from the peer group, than on their preexisting beliefs to form judgments about controllability. Thus, feedback effects from the environment may be particularly powerful. Third, the disruptions that mark the transition to adolescence provide an optimal context for modifications in control processes. That is, long-standing patterns may become more malleable during periods of transition and instability, allowing for the detection of changes that are due to ongoing experiences.

We expected that exposure to family disruption and recent stress would predict declines in perceptions of control and increases in helplessness during early adolescence. Both cross-sectional and longitudinal analyses were conducted to assess concurrent associations and changes over time. Moreover, we anticipated that low perceptions of control and high levels of helplessness would contribute to depressive symptoms. Multiple life domains (i.e., school, peer, and parent) were assessed to determine whether domain-specific perceptions of control and helplessness were predicted by particular antecedents. Because distal developmental factors were

expected to form the basis for long-term control-related beliefs and behavior, we expected that family disruption would exert generalized effects across domains. In contrast, because proximal social–contextual factors were expected to modify preexisting control-related beliefs and behavior in line with recent experiences, we expected that social–contextual influences would exert domain-specific effects.

METHOD

Participants

The present research involved two cohorts of early adolescents who participated in the University of Illinois Transition to Adolescence Project. Participants were drawn from several midwestern school districts representing both rural and small urban communities. Two cohorts were recruited to ensure a sufficient number of participants in the larger project. The first cohort included 471 fifth graders (M age = 11.2 years, SD = 0.50; 49.9% female; 68.2% White; 26.8% African American; 1.9% Asian American; 1.5% Latino; 1.7% other). The second cohort included 587 fifth and sixth graders (M age = 11.7 years, SD = 0.67; 50.4% female; 61.8% White; 31.9% African American; 3.9% Asian American; 0.3% Latino; 2.0% other). In Cohort 1, 91.2% of the children had a female caregiver living in the home (85.5% biological mothers, 1.7% stepmothers, and 4.0% other), and 73.6% had a male caregiver living in the home (53.5% biological fathers, 15.3% stepfathers, and 4.8% other). In Cohort 2, 89.0% of the children had a female caregiver living in the home (84.4% biological mothers, 1.6% stepmothers, and 3.0% other), and 74.4% had a male caregiver living in the home (57.1% biological fathers, 12.6% stepfathers, and 4.7% other).

Parents of all adolescents in the targeted grades at several schools were informed about the study and were asked to contact the school or the research investigators if they did not want their child to participate. The first cohort represented 95.5% of the targeted students. Of those students who participated at Wave 1, 77.7% participated at Wave 2. The second cohort represented 98.3% of the targeted students. Of those students who participated at Wave 1, 90.8% participated at Wave 2. The majority of the nonparticipants at follow-up were unavailable due to a move to a new district or to absence at all of the assessment sessions.

Procedures

Both cohorts participated in a two-wave, short-term longitudinal design. Data for the first wave were gathered in the spring of the school year and data for the second wave were gathered in the fall of the following school year, approximately 6–7 months later. This timing allowed for data collection that spanned two academic years and a transition to a new grade, a period during which changes in adolescents' motivational orientation may be more salient. All of the measures were read aloud by research assistants as students recorded their responses. Teachers completed a measure of helplessness on 90.2% of the Cohort 1 students at the Wave 2 assessment, and on 98.8% and 93.4% of the Cohort 2 students at the Wave 1 and Wave 2

assessments, respectively. Tables I and II present the descriptive and psychometric information for the measures administered in Cohorts 1 and 2, respectively. Identical measures of perceptions of control, helplessness, and depressive symptoms were collected in the two cohorts. Due to the focus of the larger study, different measures of family disruption and recent stress were collected in the two cohorts, which provided an ideal opportunity to replicate the results of the present study across different cohorts and different types of measures.

Measures

Perceptions of Control

Adolescents rated on a 4-point scale (1 = not at all to 4 = very much) the degree to which they felt that they were able to exert control over outcomes in the context of schoolwork (e.g., ''I can get good marks for my homework if I really work at it''), peer relationships and friendships (e.g., ''I can *not* make friends with other kids no matter how hard I try''), and parent relationships (e.g., ''If I try really

Table I. Measure Characteristics—Cohort 1

Measure	Potential range	Stability *r*	Wave 1				Wave 2			
			N	*M*	*SD*	α	*N*	*M*	*SD*	α
Perceptions of control										
Academic	1–4	.40***	443	3.57	(.57)	.69	346	3.66	(.50)	.64
Peer	1–4	.48***	442	3.13	(.64)	.60	346	3.16	(.61)	.52
Parent	1–4	.35***	440	3.52	(.61)	.65	344	3.53	(.58)	.55
Helplessness[a]										
Academic	1–5	—	—	—	—	—	353	1.77	(.97)	.96
Social	1–5	—	—	—	—	—	353	1.51	(.74)	.94
Depressive symptoms	0–38	.63***	470	7.35	(6.45)	.88	361	5.56	(5.39)	.86
Interparental conflict[b]										
Negative conflict properties	1–3	—	366	1.69	(.48)	.91	—	—	—	—
Self-blame	1–3	—	367	1.30	(.33)	.72	—	—	—	—
Threat	1–3	—	365	1.71	(.46)	.82	—	—	—	—
Parent socialization										
AOI—mother	1–3	.56***	444	2.26	(.45)	.79	356	2.33	(.47)	.87
AOI—father	1–3	.44***	424	2.25	(.53)	.84	318	2.27	(.56)	.84
Rejection—mother	1–3	.23***	446	1.36	(.39)	.82	357	0.53	(.60)	.93
Rejection—father	1–3	.49***	423	1.38	(.46)	.86	318	1.34	(.47)	.81
ID—mother	1–3	.45***	445	1.68	(.46)	.62	355	1.67	(.48)	.76
ID—father	1–3	.42***	422	1.60	(.49)	.68	318	1.53	(.51)	.70
School hassles	35–175	.61***	471	74.09	(20.87)	.89	362	65.97	(18.75)	.89
Chronic strain										
Academic	1–5	.47***	446	2.17	(.96)	.85	357	1.68	(.79)	.83
Peer	1–5	.54***	445	2.03	(.69)	.81	357	1.71	(.58)	.79
Mother	1–5	.53***	442	1.67	(.74)	.84	353	1.48	(.63)	.85
Father	1–5	.51***	419	1.78	(.91)	.87	340	1.71	(.90)	.88

Note: AOI, Acceptance of individuation; ID, inconsistent discipline.
[a]Measure not administered at Wave 1.
[b]Measure not administered at Wave 2.
***$p < .001$.

Table II. Measure Characteristics—Cohort 2

Measure	Potential range	Stability *r*	Wave 1				Wave 2			
			N	*M*	*SD*	α	*N*	*M*	*SD*	α
Perceptions of control										
Academic	1–4	.42***	579	3.59	(.55)	.62	527	3.55	(.54)	.62
Peer	1–4	.42***	579	2.95	(.63)	.49	525	3.07	(.62)	.46
Parent	1–4	.45***	580	3.33	(.60)	.50	526	3.34	(.66)	.65
Helplessness										
Academic	1–5	.49***	580	1.69	(.85)	.94	557	1.62	(.85)	.93
Social	1–5	.43***	580	1.37	(.59)	.92	557	1.30	(.56)	.95
Depressive symptoms	0–38	.60***	582	5.75	(5.31)	.85	532	5.34	(5.44)	.87
Role disruption										
Academic	1–5	.44***	578	2.13	(.98)	.83	533	1.98	(1.08)	.72
Peer	1–5	.49***	578	1.72	(.70)	.84	533	1.58	(.66)	.85
Parent	1–5	.51***	579	1.62	(.78)	.79	533	1.65	(.85)	.83

***$p < .001$.

hard, I can get along well with my parents''). Items for the academic and peer subscales were drawn from the Perceived Control Scale (Weisz, Southam-Gerow, & McCarty, 2000). Due to time constraints, only half of the items from the original subscales were used. The abbreviated subscales each included two positively coded and two reverse-coded items. A comparable parent subscale was constructed for the present study. Scores were calculated as the mean of the items within each domain; higher scores indicate enhanced perceptions of control.

Although the internal consistencies of the subscales were only moderate (see Tables I and II), alphas are highly sensitive to the number of items; thus, the lower alphas may be accounted for by the smaller number of items on the abbreviated subscales. High internal consistency has been found for the original scale in prior research (α = .88; Weisz et al., 2000) and for the total scale in the present study (αs = .70 to .79), suggesting that the items do tap a similar construct.

Helplessness

Helpless behavior in the classroom was assessed with the Academic and Social Helplessness Scale (Fincham, Hokoda, & Sanders, 1989; Nolen-Hoeksema, Girgus, & Seligman, 1992). Teachers rated on a 5-point scale (1 = not true to 5 = very true) students' tendency toward helplessness in the context of schoolwork (e.g., ''Gives up when you correct him/her or find a mistake in his/her work,'' ''When s/he encounters an obstacle in schoolwork s/he gets discouraged and stops trying'') and peer relationships (e.g., ''Shows little persistence when trying to get along with a classmate,'' ''Is easily discouraged in his/her attempts to get along with other children''). Adequate internal consistency, test–retest reliability, and construct validity have been reported for this measure (Fincham et al., 1989; Nolen-Hoeksema et al., 1992). Scores were calculated as the mean of the 12 items for the academic domain and the 12 items for the social domain; higher scores represent greater helplessness.

Depressive Symptoms

Adolescents' depressive symptoms were assessed with the Children's Depression Inventory (CDI; Kovacs, 1980/81). This measure includes 27 items that reflect symptoms associated with depression. Each item presents three response alternatives representing varying severity of symptoms. Adolescents indicated which alternative best described how they had been feeling in the past 2 weeks. The CDI has well-established reliability and validity (Kovacs, 1980/81; Smucker, Craighead, Craighead, & Green, 1986). Based on factor analyses of the CDI from a previous study (Rudolph & Lambert, 1999), a subset of items was selected for an abbreviated measure. Specifically, one of four factors that emerged in prior analyses reflected acting-out behavior (e.g., ''I get into fights all the time,'' ''I never do what I am told''). Because this factor is nonspecific to depression, it was dropped from the present analyses. Furthermore, several items that did not load onto any of the factors were dropped. Depression scores were calculated as the sum of the remaining 19 items. This revised version of the CDI showed high internal consistency and test–retest reliability (see Tables I and II).

Parent Separation/Loss

Past experience of parent separation/loss was assessed with a questionnaire developed for this study. Adolescents first responded to a general probe regarding whether they had been separated from their mother or father for a long period of time. Instructions specified that separations lasting fewer than 2 weeks (e.g., brief vacations) should not be included. Given a positive endorsement of this probe, adolescents were asked to indicate the cause of the separation/loss based on a checklist of eight possible reasons. The specific reasons were generated based on a review of relevant research and on prior data from an open-ended questionnaire that elicited information from children and parents about causes for separation or loss. Separation/loss due to both major and minor disruptions was included to distinguish between disruptions that were expected to influence control processes versus disruptions that were not expected to have a significant impact on control processes.

An objective coding system was used to categorize the severity of each adolescent's separation or loss experiences. Only 13 children reported more than one separation/loss from the same parent, and only 1 child reported more than one separation/loss from both parents. A score of 0 was assigned if no separation/loss was experienced ($n = 242$). A score of 1 (mild) was assigned to temporary separation/loss experiences due to minor causes (i.e., brief separations due to the parent's job, caring for a sick relative, and parent hospitalization) ($n = 71$). A score of 2 (moderate/severe) was assigned to long-term or permanent separation/loss experiences (i.e., parent separation or divorce, placement in the foster care system or with another relative, parent death, and parent abandonment) ($n = 244$).

Interparental Conflict

Adolescents' perceptions of marital conflict were measured with the Children's Perceptions of Interparental Conflict Scale (CPIC; Grych et al., 1992). Forty items

that assess multiple aspects of conflict were rated on a 3-point scale (1= false; 2 = sort of true; 3 = true). Factor analyses of these items (Grych et al., 1992) have yielded three subscales: Negative Conflict Properties (19 items), which includes the frequency, intensity, and extent of resolution of conflict (e.g., ''I often hear my parents arguing,'' ''When my parents have an argument, they usually work it out''), Self-Blame (9 items), which includes the extent to which conflict concerns child-centered content (e.g., ''My parents' arguments are usually about me'') and the extent to which the child makes attributions of self-blame about the conflict (e.g., ''It's usually my fault when my parents argue''), and Threat (12 items), which includes concerns that the conflict will escalate (e.g., ''When my parents argue I worry that one of them will get hurt'') and perceived coping efficacy (e.g., ''When my parents argue there's nothing I can do to stop them''). Eleven items that did not load consistently on these factors in past research were omitted. Because the separate factors, which have been well established in prior research, were used for analyses, the psychometric adequacy of this measure was not effected by dropping the items. Moreover, the subscales of the CPIC showed good internal consistency in the present study (see Table I). Scores for each subscale were calculated as the mean of the relevant items; higher scores reflect more negative features of conflict.

Parent Socialization

Adolescents' perceptions of parent socialization styles were assessed with three subscales of the Child's Report of Parental Behavior Inventory—Revised (CRPBI; Schludermann & Schludermann, 1970). Factor analyses of the complete measure across various samples have yielded three consistent factors, Autonomy versus Psychological Control, Acceptance versus Rejection, and Firm versus Lax Control. One subscale was selected from each of the three major factors to provide a representative sample of multiple dimensions of parenting. These three subscales assessed Acceptance of Individuation (8 items; e.g., ''Gives me the choice of what to do whenever possible''), Rejection (8 items; e.g., ''Almost always complains about what I do''), and Inconsistent Discipline (5 items; e.g., ''Only keeps rules when it suits him/her'').[3] Adolescents separately rated their mothers and fathers for each of the 21 items on a 3-point scale (1= not at all true to 3 = very true). Scores for each subscale were calculated as the mean of the relevant items; higher scores reflect higher levels of each type of parenting style. Good internal consistency and test–retest reliability was found for the three subscales (see Table I).

School Environment

Adolescents' perceptions of the school environment were assessed with the School Hassles Measure (Robinson, Garber, & Hilsman, 1995). The frequency or

[3]Investigators have highlighted the distinction between *contingency* versus *consistency* as determinants of perceptions of control, and have suggested that contingency is the more important predictor (e.g., Carton & Nowicki, 1994). In this case, inconsistent discipline inherently incorporated noncontingency, in that high levels reflected variable reactions to children's behavior at different times due to inconsistent follow through on rules and expectations.

extent of occurrence of each of 35 daily school hassles was rated on a 5-point scale (1 = not at all to 5 = very much). The hassles involved perceptions about school structure (e.g., ''You didn't get to take the classes that you wanted,'' ''School is large and crowded''), the classroom and school environment (e.g., ''The principals and teachers don't respect you, or they treat you like you're stupid or can't be trusted''), and the peer environment (e.g., ''You have been pressured to use cigarettes, alcohol, or drugs,'' ''You have had problems on the bus with other kids''). Several items were omitted from the original 50-item measure to reduce overlap with the Chronic Strain Questionnaire. Scores were calculated as the total rating across all hassles; higher scores reflect more negative perceptions of the school environment. This abbreviated version showed high internal consistency and test–retest reliability (see Table I).

Chronic Strain

Adolescents' experience of ongoing stress was assessed with four subscales of the Child Chronic Strain Questionnaire (CCSQ; Rudolph et al., 1999). Adolescents rated on a 5-point scale (1 = not at all to 5 = very much) several aspects of strain experienced in the academic domain (6 items; e.g., ''Do you fail or do very badly on tests?''), peer/friend domain (11 items; e.g., ''Do kids at school pick on or tease you?,'' ''Do you sometimes need someone to talk to about your feelings and don't have a friend to listen?''), maternal domain (7 items; e.g., ''Do you sometimes need help and your mom isn't around to help you?''), and paternal domain (7 items; e.g., ''Is your dad sometimes too busy to spend enough time with you?''). Thus, chronic strain reflected both generally stressful circumstances as well as specific competence-related feedback, such as the experience of academic failure and problems with peers and parents. Chronic strain ratings within each domain were averaged to yield four subscale scores; higher scores represent higher levels of chronic strain. High internal consistency and test–retest reliability were found for these subscales (see Table I). Validity of the subscales is supported by significant correlations with related measures. For example, in the present sample, academic chronic strain was negatively associated with teacher ratings of students' academic performance, $r(438) = -.61$, $p < .001$, and peer chronic strain was negatively associated with teacher ratings of popularity, $r(441) = -.25$, $p < .001$.

Role Disruption

Adolescents rated on a 5-point scale (1 = not at all to 5 = very much) the extent to which they had experienced disruptions since the previous school year in multiple role domains: academic (5 items; e.g., ''Classwork is much harder''), peer (5 items; e.g., ''I cannot find a group of kids that I like to spend time with''), friend (5 items; e.g., ''I do not get to see my old friends as much''), and parent (5 items; e.g., ''I am not as close to my parents''). Scores were calculated as the mean of the items for each subscale. Because the peer and friend subscales were highly correlated, $r(578) = .69$, $p < .001$, and because peers and friends were not distinguished for the other measures, an average of these domains was used to represent peer disruption. High internal consistency and test–retest reliability were found for the

three subscales. Validity of the subscales is supported by significant correlations with related measures. For example, in the present sample, academic role disruption was negatively associated with teacher ratings of students' academic performance, $r(568) = -.44$, $p < .001$, and grades, $r(385) = -.51$, $p < .001$, and peer role disruption was negatively associated with teacher ratings of popularity, $r(569) = -.24$, $p < .001$.

RESULTS

Intercorrelations Among the Measures

Tables III and IV display the intercorrelations among the measures in Cohorts 1 and 2, respectively. In general, zero-order correlations supported the hypothesized associations between control-related processes and depression as well as the hypothesized associations between developmental and social–contextual factors and control-related processes.

Consequences of Control-Related Beliefs and Behavior

Data-Analytic Strategy

We conducted multiple regression analyses to test the hypothesis that maladaptive control-related beliefs and behavior would predict higher levels of depressive symptoms. Because similar patterns were expected across domains, total scores on the perceptions of control and helplessness measures were created by averaging across domains. The first set of analyses examined concurrent relations between control processes and depression. The second set of analyses examined both immediate and lagged effects of control processes on depression.

Concurrent Analyses

As expected, higher perceptions of control were negatively associated with depressive symptoms in Cohort 1, $\beta = -.53$, $t(439) = -13.10$, $p < .001$, and Cohort 2, $\beta = -.55$, $t(578) = -15.67$, $p < .001$. Likewise, higher levels of helplessness were associated concurrently with higher levels of depressive symptoms in Cohort 1, $\beta = .29$, $t(324) = 5.55$, $p < .001$, and Cohort 2, $\beta = .25$, $t(573) = 6.22$, $p < .001$.

Prospective Analyses

Next, analyses were conducted to examine whether perceptions of control and helplessness predicted increases in depressive symptoms over time. Two types of analysis were conducted. First, depressive symptoms at Wave 2 were predicted from control beliefs and behavior at Wave 2, adjusting for depressive symptoms at Wave 1. Because these analyses adjusted for Wave 1 symptoms, results can be interpreted in terms of the immediate effect of control beliefs and behavior on changes in depression. As predicted, higher perceptions of control at Wave 2 predicted declines

in depressive symptoms in both Cohort 1, $\beta = -.26$, $t(334) = -5.95$, $p < .001$, and Cohort 2, $\beta = -.46$, $t(512) = -13.28$, $p < .001$. Higher levels of helplessness predicted increases in depressive symptoms in both Cohort 1, $\beta = .19$, $t(320) = 4.46$, $p < .001$, and Cohort 2, $\beta = .09$, $t(512) = 2.43$, $p < .05$.

Second, depressive symptoms at Wave 2 were predicted from control beliefs and behavior at Wave 1, adjusting for depressive symptoms at Wave 1. Results from these analyses can be interpreted in terms of the lagged effect of control beliefs and behavior on subsequent depression. As predicted, higher perceptions of control predicted declines in depressive symptoms over time in Cohort 1, $\beta = -.19$, $t(342) = -3.91$, $p < .001$, and Cohort 2, $\beta = -.11$, $t(517) = -2.56$, $p < .05$. Contrary to predictions, helplessness did not significantly predict future increases in depressive symptoms in Cohort 2, $\beta = .04$, $t(512) = 1.26$, ns. Analyses could not be conducted in Cohort 1 because the helplessness measure was not administered at Wave 1.

Origins of Control-Related Beliefs and Behavior

Data-Analytic Strategy

We conducted concurrent and prospective multiple regression analyses to examine the immediate and longer term associations between developmental and social–contextual influences and control-related beliefs and behavior. In the concurrent analyses, we separately predicted Wave 1 domain-specific perceptions of control and helplessness from each set of predictors at Wave 1. In the prospective analyses, we separately predicted Wave 2 domain-specific perceptions of control and helplessness from each set of predictors at Wave 1, controlling for Wave 1 perceptions of control and helplessness.[4] Predictor variables were entered in conceptual sets to assess the unique contribution of each variable in the context of related variables (see Table VI). The effects of parent separation/loss were examined with analysis of variance due to the categorical scoring.

Results from concurrent analyses are summarized only briefly in the text, with more detailed results presented in the table. Significant correlations that reflect domain-specific effects (i.e., those effects for which perceptions of control and helplessness were associated with predictors in matching domains) are underlined in Table VI. Thus, the presence of many significant correlations for a predictor that *are* underlined reflects domain-specificity, whereas the presence of many significant correlations for a predictor that *are not* underlined reflects domain-nonspecificity. Because some of the measures were not applicable to subsamples of adolescents and because of missing data, sample sizes varied across measures and analyses (see Tables I and II). For example, the interparental conflict measure and certain subscales of the parent socialization and chronic strain measures were not completed by adolescents who lived with a single parent and had no contact with their other

[4]Because helplessness was not assessed at Wave 1 in Cohort 1, all concurrent analyses for helplessness in this cohort were conducted at Wave 2. Furthermore, longitudinal analyses that predicted Wave 2 helplessness in this cohort did not control for Wave 1 helplessness.

Table III. Correlations Among Measures at Wave 1 and Wave 2—Cohort 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wave 1																		
1. Perceived control-AC	—																	
2. Perceived control-PE	.37**	—																
3. Perceived control-PA	.51**	.42**	—															
4. Depressive symptoms	−.42**	−.47**	−.36**	—														
5. Interparental conflict-NCP	−.12*	−.21**	−.26**	.26**	—													
6. Interparental conflict-SB	−.36**	−.24**	−.43**	.31**	.32**	—												
7. Interparental conflict-T	−.09	−.23**	−.16*	.30**	.61**	.29**	—											
8. AOI—mother	.29**	.22**	.31**	−.25**	−.21**	−.17*	−.15*	—										
9. AOI—father	.19**	.21**	.26**	−.16*	−.20**	−.14*	−.14*	.49**	—									
10. Rejection—mother	−.38**	−.31**	−.46**	.37**	.24**	.32**	.25**	−.46**	−.18**	—								
11. Rejection—father	−.31**	−.25**	−.38**	.25**	.23**	.24**	.19**	−.14**	−.51**	.44**	—							
12. ID—mother	−.16*	−.13*	−.19**	.22**	.13*	.14*	.18*	−.05	−.01	.45**	.27**	—						
13. ID—father	−.23**	−.11*	−.19**	.17**	.12*	.13*	.15*	−.06	−.12*	.30**	.39**	.59**	—					
14. School hassles	−.37**	−.26**	−.31**	.55**	.23**	.27**	.19**	−.14*	−.08+	.37**	.27**	.27**	.25**	—				
15. Chronic strain-AC	−.49**	−.31**	−.27**	.48**	.23**	.35**	.21**	−.20**	−.14*	.36**	.31**	.19**	.23**	.58**	—			
16. Chronic strain-PE	−.28**	−.53**	−.36**	.56**	.25**	.31**	.35**	−.14*	−.13*	.37**	.29**	.25**	.23**	.43**	.46**	—		
17. Chronic strain-MO	−.32**	−.35**	−.52**	.42**	.34**	.39**	.33**	−.27**	−.08+	.52**	.30**	.27**	.16*	.40**	.40**	.53**	—	
18. Chronic strain-FA	−.22**	−.25**	−.33**	.26**	.29**	.18*	.21**	−.04	−.42**	.22**	.65**	.23**	.27**	.28**	.23**	.34**	.46**	—
Wave 2																		
19. Perceived control-AC	.40**	.29**	.33**	−.34**	−.13*	−.17*	−.12+	.26**	.19*	−.31**	−.27**	−.11*	−.19*	−.30**	−.33**	−.21**	−.27**	−.15*
20. Perceived control-PE	.33**	.49**	.31**	−.40**	−.22**	−.19*	−.20*	.32**	.18*	−.34**	−.23**	−.11*	−.12*	−.23**	−.27**	−.40**	−.31**	−.14*
21. Perceived control-PA	.31**	.27**	.35**	−.26**	−.29**	−.15*	−.14*	.20**	.26**	−.27**	−.33**	−.14*	−.16*	−.21**	−.18*	−.15*	−.24**	−.25**
22. Helplessness-AC	−.31**	−.15*	−.17*	.18*	.08	.21**	.02	−.16*	−.18*	.11*	.18*	.01	.12*	.33**	.42**	.11*	.10+	.13*
23. Helplessness-SO	−.19**	−.12*	−.12*	.14*	.02	.17*	−.04	−.08	−.11*	.04	.12*	.03	.09	.23**	.28**	.12*	.08	.08
24. Depressive symptoms	−.38**	−.37**	−.42**	.63**	.24**	.34**	.29**	−.26**	−.12*	.46**	.31**	.26**	.25**	.44**	.43**	.47**	.45**	.24**
25. AOI—mother	.29**	.29**	.33**	−.27**	−.20*	−.21**	−.24**	.56**	.28**	−.37**	−.17*	−.16*	−.15*	−.16*	−.23**	−.27**	−.22**	−.10+
26. AOI—father	.23**	.19**	.23**	−.18*	−.26**	−.18*	−.21*	.36**	.44**	−.24**	−.38**	−.08	−.18*	−.16*	−.15*	−.14*	−.05	−.27**
27. Rejection—mother	−.14*	−.02	−.14*	.17*	.08	.09	.13*	−.16*	−.14*	.23**	.13*	.07	.13*	.05	.10+	.10+	.09+	.11*
28. Rejection—father	−.08	−.11+	−.26**	.15*	.23**	.11+	.22**	−.13*	−.30**	.25**	.49**	.21**	.19*	.16*	.15*	.19*	.14*	.39**
29. ID—mother	−.20**	−.10+	−.16*	.23**	.16*	.02	.18*	−.12*	−.05	.29**	.16*	.45**	.37**	.26**	.14*	.25**	.24**	.09
30. ID—father	−.02	.05	−.04	.10+	.16*	.04	.15*	−.03	−.14*	.14*	.22**	.36**	.42**	.06	.06	.13*	.09	.12*
31. School hassles	−.34**	−.20**	−.28**	.41**	.16*	.15*	.11+	−.14*	.01	.36**	.22**	.27**	.27**	.61**	.43**	.26**	.30**	.12*
32. Chronic strain-AC	−.28**	−.18*	−.22**	.35**	.24**	.17*	.21**	−.20**	−.16*	.35**	.29**	.17*	.23**	.38**	.47**	.27**	.31**	.22**
33. Chronic strain-PE	−.15**	−.37**	−.28**	.42**	.22**	.24**	.27**	−.16*	−.10+	.40**	.28**	.30**	.17*	.32**	.32**	.54**	.41**	.28**
34. Chronic strain-MO	−.16**	−.21**	−.38**	.33**	.21**	.14*	.23**	−.21**	−.00	.45**	.16*	.26**	.10+	.21**	.24**	.36**	.53**	.21**
35. Chronic strain-FA	.02	−.09	−.16*	.17*	.22**	.08	.25**	.01	−.30**	.16*’	.54**	.18*	.13*	.16*	.08	.25**	.18*	.51**

Table III. (*Continued*)

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Wave 2																	
19. Perceived control-AC	—																
20. Perceived control-PE	.45**	—															
21. Perceived control-PA	.57**	.49**	—														
22. Helplessness-AC	−.34**	−.12*	−.26**	—													
23. Helplessness-SO	−.20**	−.08	−.16*	.82**	—												
24. Depressive symptoms	−.40**	−.47**	−.28**	.30**	.26**	—											
25. AOI—mother	.25**	.36**	.29**	−.14*	−.11^{+}	−.34**	—										
26. AOI—father	.32**	.37**	.39**	−.18*	−.13*	−.24**	.52**	—									
27. Rejection—mother	−.21**	−.19**	−.22**	.06	.00	.30**	−.16*	−.12*	—								
28. Rejection—father	−.11^{+}	−.10^{+}	−.16*	.04	.04	.12*	−.06	−.07	.53**	—							
29. ID—mother	−.12*	.02	−.11*	.12*	.09	.15*	−.16*	−.06	.16*	.15*	—						
30. ID—father	−.20**	−.19*	−.32**	.10	.03	.14*	−.20**	−.52**	.25**	.44*	.13*	—					
31. School hassles	−.36**	−.30**	−.27**	.30**	.16*	.53**	−.16*	−.17*	.29**	.16*	.00	.20*	—				
32. Chronic strain-AC	−.44**	−.30**	−.29**	.39**	.20**	.48**	−.18**	−.26**	.29**	.21**	.10^{+}	.21**	.52**	—			
33. Chronic strain-PE	−.33**	−.50**	−.27**	.14*	.13*	.56**	−.23**	−.21**	.30**	.18*	.08	.32**	.40**	.46**	—		
34. Chronic strain-MO	−.30**	−.26**	−.31**	.02	−.05	.41**	−.24**	−.06	.32**	.17*	.17*	.22**	.33**	.36**	.46**	—	
35. Chronic strain-FA	−.16*	−.17*	−.27**	.00	−.03	.20**	−.08	−.42**	.22**	.26**	.05	.64**	.19**	.21**	.28**	.24**	—

Note: AC, Academic; PE, peer; PA, parent; MO, mother; FA, father; SO, social; NCP, negative conflict properties; SB, self-blame; T, threat; AOI, acceptance of individuation; ID, inconsistent discipline.

$^{+}p < .10$; $*p < .05$; $**p < .001$.

Table IV. Correlations Among Measures at Wave 1 and Wave 2—Cohort 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wave 1																		
1. Perceived control-AC	—																	
2. Perceived control-PE	.40**	—																
3. Perceived control-PA	.40**	.23**	—															
4. Helplessness-AC	−.33**	−.14*	−.05	—														
5. Helplessness-SO	−.26**	−.20**	−.03	.74**	—													
6. Depressive symptoms	−.46**	−.44**	−.33**	.22**	.25**	—												
7. Role disruption-AC	−.41**	−.22**	−.17**	.34**	.26**	.52**	—											
8. Role disruption-PE	−.16**	−.46**	−.16**	.08+	.19**	.54**	.43**	—										
9. Role disruption-PA	−.18**	−.12*	−.50**	.00	.05	.34**	.32**	.36**	—									
10. Separation/loss[a]	−.16**	−.05	−.13*	.21**	.20**	.16**	.22**	.15*	.05	—								
Wave 2																		
11. Perceived control-AC	.42**	.22**	.26**	−.27**	−.18**	−.38**	−.35**	−.15**	−.11*	−.12*	—							
12. Perceived control-PE	.15*	.42**	.16**	−.06	−.08+	−.34**	−.21**	−.32**	−.07	−.03	.38**	—						
13. Perceived control-PA	.26**	.16**	.45**	−.13*	−.05	−.38**	−.25**	−.19**	−.40**	−.09+	.45**	.29**	—					
14. Helplessness-AC	−.28**	−.16**	−.07	.49**	.36**	.30**	.30**	.16**	−.01	.24**	−.34**	−.20**	−.18**	—				
15. Helplessness-SO	−.21**	−.18**	−.09*	.39**	.43**	.31**	.22**	.21**	.02	.18**	−.19**	−.18**	−.13*	.75**	—			
16. Depressive symptoms	−.28**	−.35**	−.25**	.16**	.17**	.60**	.41**	.42**	.27**	.13*	−.55**	−.47**	−.44**	.28**	.24**	—		
17. Role disruption-AC	−.22**	−.20**	−.09+	.14*	.15*	.39**	.44**	.33**	.19**	.11**	−.46**	−.29**	−.30**	.24**	.21**	.60**	—	
18. Role disruption-PE	−.11*	−.32**	−.03	.10*	.19**	.37**	.33**	.49**	.18**	.11*	−.32**	−.46**	−.22**	.16**	.22**	.58**	.55**	—
19. Role disruption-PA	−.13*	−.14*	−.29**	.01	−.01	.27**	.22**	.24**	.51**	.09**	−.27**	−.21**	−.59**	.11**	.07*	.44**	.44**	.42**

Note: AC, Academic; PE, peer; PA, parent; SO, social.

[a]Variable was entered as a dichotomized score (0 = none/mild; 1 = moderate/severe).

$^{+}p < .10$; $*p < .05$; $**p < .001$.

biological parent or with another parental figure. Parent subscales for perceptions of control and role disruption were completed for parents collectively; adolescents from single-parent homes were therefore able to complete these measures.

Family Disruption

Parent Separation/Loss

To examine the impact of parent separation/loss on control-related beliefs and behavior we first conducted a multivariate analysis of variance (MANOVA) with severity of separation/loss experience (None, Mild, Moderate/Severe) as the between-subjects factor and domain-specific perceptions of control and helplessness, averaged across Wave 1 and Wave 2, as the dependent variables. We expected that adolescents who had experienced a moderate/severe separation or loss would possess lower perceptions of control and would show more helpless behavior than those who had experienced either no separation/loss or a mild separation/loss. The latter two groups were not expected to differ. This analysis yielded a significant multivariate effect of severity of separation/loss, $F(10, 1098) = 5.28$, $p < .001$. Specifically, univariate analyses of variance (ANOVA) revealed significant effects for perceptions of control in the academic, $F(2, 555) = 8.57$, $p < .001$, and parent, $F(2, 555) = 5.02$, $p < .01$, domains and for helplessness in the academic, $F(2, 556) = 21.20$, $p < .001$, and social, $F(2, 556) = 15.45$, $p < .001$, domains. As predicted, follow-up planned comparisons (see Table V) revealed that adolescents who had experienced a moderate or severe separation/loss reported lower perceptions of control in the academic domain than those who experienced either no separation/

Table V. Impact of Parent Separation/Loss on Perceptions of Control and Helplessness

	Separation/loss experiences				
	1. None (n = 242)	2. Mild (n = 71)	3. Moderate/ severe (n = 243)	Planned contrasts	p
Perceptions of control					
Academic	3.60	3.60	3.44	1 vs. 2	ns
	(.42)	(.46)	(.51)	1 vs. 3	.000
				2 vs. 3	.009
Peer	3.04	2.98	2.98	1 vs. 2	ns
	(.54)	(.61)	(.54)	1 vs. 3	ns
				2 vs. 3	ns
Parent	3.41	3.37	3.26	1 vs. 2	ns
	(.52)	(.49)	(.57)	1 vs. 3	.002
				2 vs. 3	ns
Helplessness					
Academic	1.49	1.31	1.82	1 vs. 2	.005
	(.72)	(.38)	(.74)	1 vs. 3	.000
				2 vs. 3	.000
Social	1.23	1.17	1.44	1 vs. 2	ns
	(.41)	(.27)	(.57)	1 vs. 3	.000
				2 vs. 3	.000

Note: Standard deviations are shown in parentheses.

loss or a mild separation/loss. Likewise, adolescents who had experienced a moderate or severe separation/loss reported lower perceptions of control in the parent domain than those who experienced no separation/loss, but they did not differ significantly from the mild-separation/loss group. Adolescents who had experienced a moderate or severe separation/loss also were found to demonstrate more helpless behavior in the academic and social domains than those who experienced either no separation/loss or a mild separation/loss. Adolescents in the no-separation/loss and mild-separation/loss groups did not differ, with the exception of a higher level of academic helplessness in the no-separation/loss group.

Interparental Conflict

We expected that interparental conflict would be associated with more maladaptive control-related beliefs and behavior across domains, particularly for conflict that was frequent or intense or that involved child-centered content. As shown in Table VI, concurrent analyses revealed that conflict was associated with lower perceptions of control in different domains, with the most consistent effects for child-centered conflict (i.e., ''Self-Blame'').[5] More aversive conflict (i.e., ''Negative Conflict Properties'') predicted declines in perceptions of control in the parent domain over time, $t = -3.80$, $p < .001$. Child-centered conflict (i.e., ''Self-Blame'') was associated longitudinally with higher levels of academic and social helplessness, ts > 2.98, ps $< .01$.

Parent Socialization

As expected, higher levels of parental autonomy granting were associated concurrently with adaptive control-related beliefs across domains, whereas higher levels of parental rejection and inconsistent discipline were associated concurrently with maladaptive control-related beliefs across domains. Only two significant concurrent effects were found for control-related behavior. Maternal acceptance of individuation was associated longitudinally with higher perceptions of control in the academic and peer domains, ts > 2.08, ps $< .05$, and paternal acceptance of individuation was associated longitudinally with higher perceptions of control in the parent domain and with lower levels of academic helplessness, ts > 2.17, ps $< .05$. Maternal rejection was associated longitudinally with lower perceptions of control in the academic and peer domains, ts > 2.01, ps $< .05$, and paternal rejection was associated longitudinally with lower perceptions of control in the academic and parent domains, ts > 2.68, ps $< .01$. Paternal rejection also was associated longitudinally with higher levels of academic and social helplessness, ts > 2.37, ps $< .05$. Finally, paternal inconsistent discipline was associated longitudinally with lower perceptions of control in the academic domain and with higher levels of academic helplessness, ts > 2.23, ps $< .05$.

[5]Because interparental conflict was not assessed at Wave 2, concurrent analyses could not be conducted for helplessness.

Table VI. Antecedents of Perceptions of Control and Helplessness

	Concurrent analyses					Longitudinal analyses				
	Perceptions of control			Helplessness[a]		Perceptions of control[b]			Helplessness[c]	
	Academic	Peer	Parent	Academic	Social	Academic	Peer	Parent	Academic	Social
Interparental conflict (Cohort 1)										
Negative conflict properties	−.04	−.07	−.18**	—	—	−.05	−.13+	−.27***	.07	.03
Self-blame	−.35***	−.17**	−.39***	—	—	−.02	−.07	.01	.20**	.18**
Threat	.05	−.13*	.06	—	—	−.05	−.01	.08	−.07	−.09
Parent socialization (Cohort 1)										
Acceptance of individuation										
Mother	.26***	.14**	.23***	−.09	−.11	.13*	.22***	.02	−.09	−.03
Father	.06	.13*	.15**	−.14*	−.07	.08	.00	.20***	−.14*	−.10
Rejection										
Mother	−.27***	−.23***	−.34***	.13*	−.01	−.12*	−.16**	−.03	.01	−.06
Father	−.19***	−.15**	−.23***	.05	.04	−.15**	−.07	−.24***	.17**	.15*
Inconsistent discipline										
Mother	−.03	−.12*	−.10+	.02	−.05	.04	.06	−.03	−.12+	−.06
Father	−.21***	−.04	−.13*	.04	.07	−.15*	−.12+	−.09	.19**	.12+
School hassles (Cohort 1)	−.37***	−.26***	−.31***	.30***	.16**	−.16**	−.14**	−.09+	.33***	.23***
Chronic strain (Cohort 1)										
Academic	−.43***	−.08	−.04	.42***	.16*	−.14*	−.11*	−.09	.49***	.32***
Peer	−.03	−.46***	−.10+	.00	.13+	.02	−.10	.09	−.10	.00
Mother	−.09	−.05	−.40***	−.10+	−.16*	−.12+	−.05	.02	−.08	−.10
Father	−.06	−.05	−.10*	−.07	−.05	−.02	.02	−.18**	.09	.05
Role disruption (Cohort 2)										
Academic	−.40***	−.04	−.03	.40***	.24***	−.21***	−.08+	−.11*	.15**	.10*
Peer	.04	−.46***	.03	−.05	.12*	−.03	−.14**	−.03	.08*	.11*
Parent	−.07	−.06	−.51***	−.12***	−.08+	.03	.03	−.19***	−.08+	−.05

Note: Predictors were entered in conceptual sets, such that all of the predictors under a given heading were entered simultaneously. For parent socialization, separate regressions were conducted for each dimension of parenting; perceptions of mother and father were entered simultaneously. Cell entries represent standardized beta weights and significance levels at the final regression step. Domain-specific effects (i.e., those effects for which perceptions of control and helplessness were associated with predictors in matching domains) are underlined.

[a]Concurrent analyses for helplessness were conducted at Wave 2, with the exception of role disruption.

[b]Controls for Wave 1 perceptions of control.

[c]Controls for Wave 1 helplessness for the role disruption analyses.

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Summary

Overall, results supported the prediction that family disruption would be associated with generalized maladaptive control-related beliefs and behavior. Adolescents who had experienced a major separation/loss showed lower perceptions of control and higher levels of helplessness across domains than those who had experienced either no separation/loss or a mild separation/loss, with the exception of perceptions of peer control. Interparental conflict involving child-centered content and self-blame most consistently predicted perceptions of control and helplessness across domains, whereas more aversive conflict (i.e., high frequency, high intensity, poor resolution) predicted lower perceptions of control only in the parent domain. Perceived threat related to interparental conflict was not consistently associated with control processes. Finally, higher levels of parental acceptance of individuation predicted adaptive control-related beliefs and behavior across domains, whereas higher levels of parental rejection predicted maladaptive control-related beliefs and behavior across domains. Some associations were found between inconsistent discipline by fathers and control processes, but these results were less consistent.

Recent Stress

School Environment

We predicted that a more aversive school environment would be associated with domain-specific (i.e., academic and peer) maladaptive control-related beliefs and behavior. Concurrent analyses revealed that higher levels of school hassles were associated with lower perceptions of control and higher levels of helplessness across domains. Consistent with predictions, higher levels of school hassles were associated longitudinally with declines in perceptions of control in the academic and peer domains only, ts > 2.91, ps $< .01$, and with higher levels of academic and social helplessness, ts > 4.35, ps $< .01$.

Chronic Strain

We predicted that chronic strain would be associated with domain-specific maladaptive control-related beliefs and behavior. Consistent with predictions, concurrent analyses revealed significant associations between higher levels of chronic strain and lower perceptions of control in matching domains. Academic chronic strain was associated concurrently with higher levels of helplessness in both the academic and social domains. Surprisingly, higher levels of maternal chronic strain were associated with lower levels of social helplessness. Longitudinal analyses revealed that academic chronic strain predicted decreases over time in perceptions of control in both the academic and peer domains, ts > 2.05, ps $< .05$, and predicted higher levels of academic and social helplessness, ts > 5.18, $p < .001$.[6] Paternal

[6]Because of the significant zero-order associations between Wave 1 peer chronic strain and Wave 2 perceptions of peer control and social helplessness, we examined the independent contributions of peer strain. When considered alone, peer chronic strain made significant contributions in the predicted directions to future perceptions of peer control, $\beta = -.20$, $t = -3.62$, $p < .001$, and to future social helplessness, $\beta = .12$, $t = 2.30$, $p < .05$.

chronic strain predicted decreases over time in perceptions of control in the parent domain, $t = -2.97$, $p < .01$.

Role Disruption

We predicted that role disruption would be associated with domain-specific maladaptive control-related beliefs and behavior. Consistent with predictions, concurrent analyses revealed significant associations between higher levels of role disruption and lower perceptions of control in matching domains. Concurrent associations also were found in matching domains for helplessness, although academic role disruption also was associated with social helplessness and parent role disruption was negatively associated with academic helplessness. Longitudinal analyses revealed significant associations between higher levels of role disruption and lower perceptions of control in matching domains, ts > 2.92, ps $< .01$. Academic role disruption also predicted a decrease in perceptions of control in the parent domain, $t = -2.49$, $p < .05$. As expected, longitudinal analyses revealed that academic role disruption was associated with higher levels of academic helplessness, and peer role disruption was associated with higher levels of social helplessness, ts > 2.40, ps $< .05$. However, peer role disruption also was associated longitudinally with higher levels of academic helplessness, and academic role disruption also was associated longitudinally with higher levels of peer helplessness, ts > 1.97, $p < .05$.

Summary

Overall, results somewhat supported the prediction that recent stress would be associated primarily with domain-specific maladaptive control processes. As expected, school hassles were associated consistently with lower perceptions of control and increased helplessness in the academic and social domains. Moreover, chronic strain and role disruption mainly predicted maladaptive perceptions of control in matching domains, but less specific findings emerged in the prediction of academic and social helplessness.

Unique Contributions of Developmental and Social–Contextual Factors

To examine whether family disruption and recent stress made unique contributions to control-related beliefs and behavior, we conducted an additional set of regressions (see Table VII). We selected the variables that made significant contributions in the expected direction to the prediction of perceptions of control and helplessness from the prior analyses. We then created composite family disruption and recent stress scores by standardizing and summing across these variables. Thus, separate family disruption and recent stress scores were created for each domain of perceived control and helplessness based on the significance of the predictors in the prior regressions. For Cohort 1, family disruption scores were composed of parent socialization and interparental conflict, and recent stress scores were composed of school hassles and chronic strain.[7] For Cohort 2, family disruption scores

[7]Because interparental conflict was not assessed at Wave 2, the family disruption score was composed of parent socialization only for the concurrent analyses predicting helplessness.

Table VII. Additive Contributions of Family Disruption and Recent Stress

	Concurrent analyses					Longitudinal analyses				
	Perceptions of control			Helplessness[a]		Perceptions of control[b]			Helplessness[c]	
	Academic	Peer	Parent	Academic	Social	Academic	Peer	Parent	Academic	Social
Cohort 1										
Family disruption	−.32***	−.17**	−.33***	.03	—	−.21***	−.22***	−.37***	.13*	.09
Recent stress	−.34***	−.39***	−.29***	.37***	.22***	−.12^{+}	−.10*	.05	.38***	.27***
Cohort 2										
Family disruption	−.07^{+}	.03	−.10**	.15***	.15***	−.02	.03	.00	.11**	.07^{+}
Recent stress	−.41***	−.47***	−.49***	.29***	.23***	−.24***	−.17***	−.26***	.15***	.14***

Note: Family disruption and recent stress scores were entered simultaneously in each regression. Cell entries represent standardized beta weights and significance levels at the final regression step.

[a]Concurrent analyses for helplessness were conducted at Wave 2 in Cohort 1 and at Wave 1 in Cohort 2.

[b]Controls for Wave 1 perceptions of control.

[c]Controls for Wave 1 helplessness for the Cohort 2 analyses.

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

were composed of parent separation/loss, and recent stress scores were composed of role disruption. Because there was only one measure of family disruption in Cohort 2, the parent separation/loss variable was entered as a dichotomized score (0 = no/mild separation/loss; 1 = moderate/severe separation/loss). Multiple regressions were conducted to predict concurrent and subsequent domain-specific perceptions of control and helplessness from family disruption and recent stress.

In Cohort 1, both family disruption and recent stress made unique contributions to concurrent and future perceptions of control across domains, ts > 2.03, ps $< .05$, with one exception: Recent stress did not significantly predict declines in perceptions of control in the parent domain. Also, recent stress only marginally predicted declines in perceptions of control in the academic domain, $t = -1.95$, $p = .05$. Both family disruption and recent stress also made unique contributions to future helplessness across domains, ts > 2.29, ps $< .05$, with one exception: Family disruption did not significantly predict social helplessness. Only recent stress contributed to concurrent academic and social helplessness, ts > 3.93, ps $< .001$.

In Cohort 2, both family disruption and recent stress made unique contributions to concurrent perceptions of control and helplessness across domains, ts > 2.82, ps $< .01$, with one exception: As reflected in the ANOVA analyses on separation/loss, family disruption did not predict perceptions of control in the peer domain. Also, family disruption only marginally predicted perceptions of control in the academic domain, $t = 1.77$, $p < .10$. Longitudinal analyses revealed that recent stress predicted declines in perceptions of control and increases in helplessness across domains, ts > 3.38, ps $< .001$. Not surprisingly, parent separation/loss did not predict changes in perceptions of control or helplessness, with the exception of an increase in academic helplessness, $t = 2.86$, $p < .01$. Given that these experiences had occurred in the past, it was unlikely that they would foster significant changes in control beliefs and behavior across a recent 6-month period.

DISCUSSION

Despite the proliferation of research on control-based vulnerability to depression, past investigations typically have not addressed the origins of these processes. The goal of the present study was to identify the antecedents of patterns of control beliefs and behavior that have been linked to depression. This research was based on the premise that distal developmental influences, such as disruptions within the family, play a pivotal role in the emergence of control beliefs and mastery orientation, but more proximal social–contextual influences, such as daily experiences and competence-based feedback from the environment, are likely to modify preexisting patterns. A prospective design was employed to examine the precursors and consequences of control-related beliefs and behavior concurrently and over a 6-month period during early adolescence.

As expected, maladaptive control orientations were associated with depression. Specifically, decreased perceptions of control predicted concurrent symptoms as well as increases in symptoms over time. A significant relation also was found between higher levels of helplessness and concurrent depression. Interestingly,

although earlier helplessness did not predict increases in subsequent depression, helplessness at follow-up did contribute to concurrent depression even after previous symptoms were controlled. In prior research, helplessness assessed 6 months earlier also was not found consistently to predict changes in depression (Nolen-Hoeksema et al., 1992). The present findings suggest that helplessness may be a more proximal determinant of depression, resulting in more immediate increases rather than future increases in symptoms. Alternatively, it is possible that helpless behavior is merely a reflection of current depression. However, the fact that helplessness predicted higher levels of symptoms after controlling for prior symptoms indicates that it may represent a precursor of depression rather than merely an epiphenomenon (Rudolph et al., in press).

Building on prior control-based models of depression, the major focus of this study was to identify the antecedents of control-related beliefs and behavior. Consistent with expectations, multiple aspects of family disruption were found to undermine adolescents' perceptions of control and mastery behavior across several life domains. Adolescents who had experienced a major parent separation or loss through circumstances such as divorce, death, or abandonment had lower perceptions of control in the academic and parent domains and showed higher levels of academic and social helplessness than those without such experiences. In contrast, adolescents who had experienced a minor separation in the context of temporary circumstances, such as parental absences due to job demands, generally did not differ in their perceptions of control or helpless behavior from those who experienced no separation/loss. Long-term parent–child separation or loss of a primary caregiver in childhood may exert a negative influence on mastery orientation through two pathways. First, experiencing this type of separation or loss may induce beliefs that the world is a threatening and uncontrollable place and that one is relatively powerless to produce desirable outcomes or to avoid undesirable outcomes. Second, experiencing the loss of a parent is likely to disrupt critical attachment bonds, which serve as a basis for the development of a sense of competence and mastery. These disruptions may be particularly damaging to control-related processes if they occur at a young age. Because adaptive coping mechanisms may not yet be in place, loss experienced earlier in development may feel even more overwhelming (Garber & Flynn, 1998). Moreover, loss that occurs while control beliefs are still under formation may have a stronger influence on long-term mastery orientation than loss that occurs after relatively stable beliefs have been established. Finally, because younger children tend to overattribute the contingency of events (Weisz, 1990), they may internalize the blame for their parent's loss, thereby challenging their sense of competence and self-worth (Rose & Abramson, 1992). The present study took a first step toward understanding the role of parent separation or loss in the emergence of depressive control-related processes. Future research will need to explore the differential impact of various parameters of such experiences, such as the age of occurrence, the duration of separation, the specific family circumstances, and the extent of long-term stress created by the separation, on the development of control beliefs and behavior.

Exposure to interparental conflict also was found to undermine mastery orientation. The link between the perceived characteristics of the conflict and control

beliefs was domain-specific. That is, conflict that was viewed as intense, frequent, and poorly resolved predicted immediate and subsequent deficits in perceptions of control within parent–child relationships, but not within the academic or peer domains. In contrast, self-blame regarding conflict was associated with lower concurrent perceptions of control across domains and with more helpless behavior in the academic and social domains 6 months later. Thus, the adverse influence of perceived interparental conflict on control-related processes may be confined to relationships with parents, unless the content of the conflict is perceived as child-centered or adolescents engage in self-blame about the conflict. In this case, adolescents generalized blame across other life domains, leading to a lower sense of control over their success in school and in peer relationships and to subsequent helpless behavior in response to challenging academic and social situations.

We anticipated that parent socialization styles would influence adolescents' control orientation across domains. Consistent with our predictions, lower levels of acceptance of individuation by parents and higher levels of rejection by parents were concurrently associated with decreased perceptions of control in academics, peer relationships, and parent–child relationships. Encouragement of autonomy by parents is likely to foster a sense of competence and mastery by facilitating exploration and by conveying the message that adolescents are effective, whereas rejecting and controlling behavior by parents is likely to discourage independent exploration and to inhibit the development of a sense of control (e.g., Litovsky & Dusek, 1985). Interestingly, maternal autonomy granting and rejection predicted changes over time in perceptions of control in the academic and peer domains, whereas paternal autonomy granting and rejection mainly predicted changes over time in perceptions of control in the parent domain. Because mothers may be more involved than fathers in monitoring schoolwork and peer interactions, maternal socialization styles may exert a stronger effect on adolescents' sense of control in these areas. However, inconsistent discipline by fathers was more consistently associated with control beliefs and behavior than inconsistent discipline by mothers. It is possible that fathers play the role of disciplinarian in many families, and therefore a lack of consistency in rule setting by fathers may be more disruptive to adolescents' sense of control. Because the role of same-sex versus cross-sex parent–child relationships may assume increasing significance during adolescence, it will be important to examine the extent to which mothers and fathers exert an influence differentially over their daughters and sons. Moreover, although adolescent perceptions of parent socialization act as an active filter through which experiences are processed (Grolnick et al., 1991; Litovsky & Dusek, 1985), additional research is needed to determine whether similar patterns apply to parent socialization behaviors.

Examination of the social context of adolescents' lives revealed that everyday experiences significantly modified control-related beliefs and behavior. Stressful daily circumstances stemming from a difficult school context, chronic strain, and disruption in critical adolescent roles were associated with concurrent and subsequent maladaptive control beliefs and behavior. Changing and challenging environments may therefore promote the reassessment of preexisting control beliefs. During stressful times, particularly in the face of negative competence-related feedback from the environment, adolescents may depend on external cues rather than their

previous knowledge base to determine their control over outcomes. For example, if adolescents possess a strong sense of their ability to achieve academic success, but then are confronted with multiple academic failures, they may begin to question their prior assumptions. Notably, as predicted, stressful experiences often exerted domain-specific effects on control orientation. Contrary to expectations, however, declines in perceptions of peer control over time and higher levels of helplessness in the social domain were predicted by academic, but not peer, chronic strain. It is important to note that peer chronic strain did independently predict future deficits in control beliefs and behavior in the social domain, but these contributions were no longer significant in the context of the other domains of chronic strain. Academic difficulties may provide a salient stressful experience that creates deficits in perceived control at school extending across both the academic and social domains.

Why might family disruption foster more generalized control processes, whereas stressful experiences foster more domain-specific control processes? The family setting serves as a microcosm in which children learn about themselves and the world. Judgments about control acquired in this context may therefore extend across various life domains. Moreover, the family is likely to influence emerging control-related processes at an early stage in development. At this time, cognitive abilities are less mature and self-views tend to be undifferentiated (Harter, 1988). Experiences during this period may therefore be integrated into a global sense of self and the world (Garber & Flynn, 1998; Haines et al., 1999). In contrast, ongoing stress that occurs at later developmental stages, marked by the growth of increasingly differentiated self-views, would be more likely to mold domain-specific beliefs and behavior patterns. It should also be noted, however, that some of the domain-specific effects for recent stress may be due to shared method variance. Future investigations of these processes will need to assess stress using methods other than self-report to validate the pattern of results discovered in this study. Moreover, less domain-specific effects were found for helplessness than for perceptions of control. It may be that teachers did not distinguish between helpless behavior within academic and social situations, as reflected in the strong association between the two domains.

When considered together, family disruption and recent stress tended to make unique contributions to concurrent and future control-related beliefs and behavior, with a few exceptions. These additive effects are consistent with experimental research on learned helplessness, which suggests that the combination of preexisting individual differences in vulnerability (e.g., negative attributional styles, goal orientation) and exposure to failure induces helplessness (e.g., Dweck & Leggett, 1988). Thus, mastery orientation is likely determined by both long-standing developmental antecedents as well as daily experiences. Interestingly, it appeared that family disruption reflected in maladaptive parent socialization and interparental conflict acted as a stronger predictor of future perceptions of control, whereas recent stress acted as a stronger predictor of concurrent and future helplessness. Although the results were only suggestive, they raise an intriguing possibility that certain background developmental factors contribute more strongly to control-related beliefs, whereas daily experiences contribute more strongly to control-related behaviors. This pattern, combined with the fairly modest correlations between mastery-ori-

ented beliefs and behavior (see Tables III and IV), suggests that they may not represent a unitary construct, but rather associated constructs with both shared and distinct origins.

Although the present study yielded important information about the origins of control processes, some caveats should be noted. First, the antecedents of control were assessed using self-report measures. As noted earlier, it will be important for future research to assess both family disruption and recent stress using alternative measurement approaches, such as behavioral observations of parenting or parent reports of marital conflict. However, the fact that different patterns of effects were found across different dimensions of the same measures, and that the hypothesized antecedents predicted *changes* in control processes over time, suggests that the results do not merely reflect a response bias. Moreover, significant results also were found for teacher reports of helpless behavior. Second, the large sample sizes enabled us to detect fairly small effects. Given the stability of control processes, detecting changes over a short period of time may in fact require designs with substantial power. Yet, such designs may result in an overestimation of effects.

CONCLUSIONS

The present research advances models of cognitive vulnerability to depression by providing evidence for the joint contribution of developmental and social–contextual factors to the emergence of maladaptive control-related beliefs and behavior. The results suggest that the evolution of control orientation is a multidetermined, developmental process. Although family disruption may shape the formation of somewhat stable and generalized depressogenic control beliefs, everyday experiences may further refine these beliefs within specific life domains. Moreover, developmental transitions that are characterized by disruption and change, such as the passage into adolescence, may serve as opportune periods for the reassessment and reformulation of prior beliefs and for the determination of behavior patterns. Indeed, a self-perpetuating cycle may unfold across development wherein maladaptive control beliefs and behavior contribute to depression, which then precipitates failure and negative feedback that confirm and strengthen prior beliefs. This type of self-reinforcing developmental sequence may account in part for the continuity of depression over time. Thus, understanding and altering the antecedents of maladaptive control-related processes may be a critical component of intervention efforts designed to reduce cognitive vulnerability to depression.

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