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Coping With the Stress of Parental Depression: Parents' Reports of Children's Coping, Emotional, and Behavioral Problems

Adela M. Langrock
Department of Psychology, Middlebury College

Bruce E. Compas
Department of Psychology, University of Vermont

Gary Keller and Mary Jane Merchant
Otter Creek/Matrix Associates

Mary Ellen Copeland
Brattelboro, Vermont

Examined children's coping and involuntary responses to the stress of living with a depressed parent in relation to their symptoms of anxiety/depression and aggression. Sixty-six clinically depressed adults rated their children's (ages 7 to 17 years old; N = 101) coping and involuntary responses to parental stressors and anxiety/depressive and aggressive behavior symptoms. Based on parent report, children of depressed parents had high rates of symptoms of anxiety/depression and aggression, were exposed to moderate levels of parental stressors (parental intrusiveness, parental withdrawal), and responded to the stress of living with a depressed parent in ways that were associated with symptoms of psychopathology. Children's use of secondary control coping (e.g., positive thinking, acceptance, distraction) was associated with fewer anxiety/depression and aggression symptoms. In contrast, involuntary engagement responses (e.g., rumination, intrusive thoughts) were associated with more anxiety/depression and aggression symptoms. Path analyses revealed that a model in which secondary control coping and involuntary engagement stress responses mediated the relation between family stressors and child symptoms provided the best fit with the data. Implications of these findings for developing interventions for children to reduce the risk of psychopathology are discussed.

Parental depression is a significant risk factor for emotional and behavioral problems in children and adolescents (Goodman & Gotlib, 1999). Rates of depressive symptoms and disorders in offspring of depressed adults far exceed base rates in the population (e.g., Hammen, 2000; Weissman, Warner, & Fendrich, 1990). Children of depressed parents are also at risk for a range of symptoms and disorders other than depression, including internalizing (e.g., anxiety) and externalizing (e.g., aggressive and delinquent behavior) problems (Anderson & Hammen, 1993). Furthermore, children of depressed parents are more likely than children of healthy parents to have significant impairments in a variety of domains, including cognitive and academic performance, social competence, and peer relationships (Anderson & Hammen, 1993; Beardslee, Keller, & Klerman, 1985; Kaslow, Brown, & Mee, 1994). Although less well-documented, evidence suggests that depression in fathers, as well as in mothers, is associated with maladjustment in children (Jacob & Johnson, 1997; Phares & Compas, 1992).

Having established that children of depressed parents are at risk, attention has turned to the mechanisms or processes through which parental depression adversely affects children's development (Goodman & Gotlib, 1999). Although multiple mechanisms have been identified as potential mediators (e.g., genetic transmission, exposure to modeling of negative cognitions), a primary candidate is the stress associated with living with a depressed parent. The stress of living with a depressed parent can be characterized by increased negative and unpredictable parental behaviors (e.g., irritability, inconsistent discipline), decreased supportive parental behaviors (e.g., less

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Requests for reprints should be sent to Bruce E. Compas, Department of Psychology, University of Vermont, Burlington, VT 05405. E-mail: bruce.compas@uvm.edu

warmth, praise, nurturance), and heightened marital conflict (Cummings & Davies, 1992; Keitner, Miller, & Ryan, 1993). Depression leads to disruptions in parenting, mainly parental withdrawal (e.g., avoidant, unresponsive to their children's needs) and parental intrusiveness (e.g., irritable toward their children, overly involved in their children's lives; e.g., Gelfand & Teti, 1990; Malphurs, Field, Larraine, Pickens, & Palaez-Nogueras, 1996). Exposure to these types of parental behaviors contributes to a chronically stressful environment for children in these families. For example, a series of studies by Hammen and colleagues (e.g., Adrian & Hammen, 1993; Hammen, 1997, 2000) provide strong evidence for the role of stress as a mediator of the impact of parental depression on child adjustment.

The importance of stress processes in these families suggests that the impact of parental depression may be further mediated by the ways that children and adolescents try to cope with the stress of living with a depressed parent. In spite of its potential importance, however, research on children's coping with parental depression is in its early stages. Radke-Yarrow and colleagues (Radke-Yarrow, 1998; Radke-Yarrow & Brown, 1993) examined the general coping styles of children of depressed parents, and Klimes-Dougan and Bolger (1998) compared the coping styles of children of depressed and well mothers, including social support and distancing coping. These studies focused on comparisons of children of depressed and non-depressed parents but did not examine the ways that children cope specifically with the stress associated with parental depression or the relation of coping with children's internalizing and externalizing problems.

Several issues warrant continued research on children's coping with parental depression. First, previous studies of children coping with parental depression have used measures of children's general coping styles or how they cope "in general." Children's coping behaviors and responses may be better measured in response to specific stressors, in this case the stress associated with living with a depressed parent (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Second, the dimensions of coping that were assessed in previous studies have relied on reports of overt behaviors and have failed to capture covert cognitive responses, including strategies that children may use to regulate their emotions and adapt to rather than try to change their parents' behavior and emotional state. Third, coping responses represent only one aspect of the broader range of stress responses that may be important in understanding adaptation to parental depression. Finally, the previous studies did not test coping as a mediator of family stress and children's emotional and behavioral problems.

This research was guided by a model of responses to stress that includes both voluntary/controlled and involuntary/automatic responses to stress that involve engagement with or disengagement from a stressor and one's emotional reactions (Compas, Connor, Osowiecki, & Welch, 1997). Coping is defined as conscious volitional efforts to regulate emotion, thought, behavior, physiology, and the environment in response to stressful events or circumstances (Compas, Connor-Smith, et al., 2001). Recent factor analytic studies (e.g., Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000) indicate that coping responses can be categorized into three factors: primary control coping (problem solving, emotional expression, emotional regulation); secondary control coping (cognitive restructuring, positive thinking, acceptance, distraction); and disengagement coping (wishful thinking, avoidance, denial).

Primary control coping reflects attempts by the individual to take direct action to change the stressful situation or change one's emotions, whereas secondary control coping involves efforts to fit with or adapt to the situation by regulating attention and cognition (Connor-Smith et al., 2000; Weisz, McCabe, & Denning, 1994). Prior studies indicate that both primary and secondary control coping are typically associated with lower levels of emotional and behavioral problems (Compas, Connor-Smith, et al., 2001). However, because stressors related to parental depression are likely beyond the child's direct control, efforts to adapt to the stressors through secondary control coping may be most adaptive, as previous research has shown that secondary control coping is more effective in uncontrollable stressful situations (e.g., Weisz et al., 1994). Unlike these two forms of engagement coping, disengagement coping reflects attempts to distance oneself physically, emotionally, or cognitively from the stressful situation. Disengagement coping is generally associated with poorer adjustment (Compas, Connor-Smith, et al., 2001).

In contrast to volitional coping responses, involuntary stress responses reflect individual differences in temperament and overlearned, conditioned patterns of behavior that do not involve volitional effort. Some involuntary responses to stress may be within conscious awareness (e.g., ruminative thoughts), whereas others may occur without conscious recognition or control (e.g., physiological hyperarousal). Involuntary stress responses can also be distinguished between those involving engagement (rumination, intrusive thoughts, physiological arousal, emotional arousal, impulsive actions) and disengagement (emotional numbing, cognitive interference, inaction, escape; Connor-Smith et al., 2000).

The purpose of this study was to further examine the types of stressful situations to which children of depressed parents are exposed, the ways that children cope with and respond to these stressful situations, and the role of coping as a mediator between stress and

children's emotional and behavioral problems. We hypothesized that children of depressed parents live in stressful home environments that are characterized by parental intrusive, withdrawn behaviors, and marital conflict. We predicted a positive association between frequency of exposure to parental stressors and children's behavioral problems. We expected that children's coping responses and involuntary stress responses would mediate the relations between parental stressors and children's internalizing (anxiety/depression) and externalizing (aggression) symptoms. Specifically, involuntary engagement responses (e.g., rumination, intrusive thoughts) and disengagement coping (e.g., denial) would be associated with higher levels of both types of symptoms. In contrast, children of depressed parents who cope by using secondary control coping (e.g., positive thinking, distraction) were expected to have lower levels of anxiety/depression and aggressive symptoms. We expected children's use of primary control engagement coping to be associated with fewer anxiety/depression and aggression symptoms. However, children's use of this type of coping was not expected to significantly mediate the association between parental stressors and adjustment, given children's limited ability to control the stressors related to their parents' depression.

Method

Participants

Participants were 66 depressed adults (56 mothers, 10 fathers) and 101 children from these families between the ages of 7 and 17 (M = 11.5 years, 50% male). Representative of the region in northern New England from which the sample was drawn, 98% of the sample was White. The mean ages of the depressed fathers and mothers were 48.9 years (SD = 6.5) and 42.6 years (SD = 5.2), respectively. On average, parents had some college education (M = 14.6 years of education). Sixty-two percent of the depressed parents were married, 30% were divorced or separated, and 8% were single. Based on the Hollingshead (1975) 9-point occupational scores, the mean occupational status of the parents was 6.0 (SD = 2.3), which is characterized by technicians, semi-professionals, and small-business owners.

Procedure

Families participating in this study were part of a longitudinal study assessing acceptability and feasibility of an educational intervention program for families coping with parental depression; all data reported in this article were collected prior to attending the intervention program. Individuals were recruited for this study through direct member mailings to Vermont Kaiser Permanente Family Health Care members, newspaper advertisements, physician referral, and public service announcements, and interested families were directed to call a behavioral health office. Families were considered eligible for this study if at least one parent was currently or previously diagnosed with Major Depressive Disorder (MDD) or Dysthymia (DYS) and if the index parent lived with and parented a child between the ages of 7 and 17 years.

Parents agreeing to participate in the study returned a signed consent form; assent or informed consent was also obtained for children younger and older than 9 years, respectively. On receipt of consent forms (n = 70), telephone interviews were conducted with identified parents to assess symptoms of MDD and DYS using the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. [*DSM–IV*], American Psychiatric Association, 1994) Checklist Interview (adapted from the Checklist in *Diagnostic and Statistical Manual of Mental Disorders* [3rd ed., rev. {*DSM–III–R*}, American Psychiatric Association, 1987]; Hudziak et al., 1993), which uses the former publication's rules for deriving diagnoses. A second independent judge assessed the index parents' symptoms of MDD and DYS for 10% of the recorded phone interviews. Interrater reliability was 100% for diagnosis of MDD and DYS. All of the identified parents met criteria for MDD (95%), DYS (3%), or both MDD and DYS (2%). Forty-one percent of the index parents met criteria for a current depressive disorder and 59% met criteria for lifetime depressive disorder. For parents diagnosed with lifetime depressive disorder, 83% experienced a depressive episode within the past 2 years (range 1.5 months to 3 years), and all of the index parents experienced a depressive episode within the lifetime of their child. Following the screening interview, family members completed written questionnaires and returned them by mail and were paid $30 for their participation. Seventy families were sent questionnaires, and 66 families (94%) completed and returned their packets. The only significant difference between participating and nonparticipating families was the mean age of the depressed parents who completed questionnaires (M = 42.6 years) and those who did not (M = 35.4 years).

Measures

Family stressors and children's coping. Stressors associated with parental depression and children's responses to and ways of coping with these stressors were assessed with the parental depression version of the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). The identified depressed parents completed a parent report version of the measure for each child participating in the study. The first section of the RSQ assesses how often in the past 6 months

their child experienced each of 11 stressful situations, and the second section assesses how he or she responded to and coped with those stresses.

Eleven stressful situations were included to reflect three areas of parenting behavior previous research has shown to be affected by parental depression (Gelfand & Teti, 1990; Malphurs et al., 1996). Four items were designed to reflect parental withdrawal (e.g., "My child wishes that I would spend more time with her"); four items assessed parental intrusiveness (e.g., "My child thinks I am too upset, tense, grouchy, angry and easily frustrated"); and three items reflected the construct of marital conflict (e.g., "My child hears her parents arguing about things"). Parents indicated on a 4-point Likert scale how often each of the stressors occurred in the past 6 months, with scores of 0 (*never*), 1 (*a few times*), 2 (*many times*), and 3 (*almost every day*). Internal consistency for the three parental stressors was $\alpha = .59$ for parental intrusiveness, $\alpha = .54$ for parental withdrawal, and $\alpha = .78$ for marital conflict. These relatively low levels of internal consistency suggest that the occurrence of the stressors in each of these domains were somewhat independent of one another. Mean scores for the three parental stressors were calculated and used in subsequent analyses.

The second section of the RSQ contains 57 items that ask the parent to report how their child responded during the past 6 months to the stressors they endorsed. Factor analyses of the RSQ have identified five primary factors (Connor-Smith et al., 2000): primary control coping (e.g., problem solving), secondary control coping (e.g., cognitive restructuring), disengagement coping (e.g., avoidance), involuntary engagement (e.g., rumination), and involuntary disengagement (e.g., emotional numbing; see Table 1 for examples of items). The first three factors reflect voluntary coping processes, and the latter factors reflect involuntary stress responses. Parents indicate on a 4-point Likert scale how much their child "does or feels these things when she has problems with you," with scores of 1 (*not at all true*), 2 (*a little*), 3 (*some*), and 4 (*a lot*).

The RSQ has demonstrated good internal consistency, test–retest reliability, and convergent and discriminant validity (Connor-Smith et al., 2000). In this study, internal consistencies of the five factors were primary control coping, $\alpha = .77$; secondary control coping, $\alpha = .75$; disengagement coping, $\alpha = .83$; involuntary engagement, $\alpha = .89$; and involuntary disengagement, $\alpha = .84$. To control for individual differences in base rates of item endorsement (e.g., sex differences in response rates, positive associations between stress, and overall endorsement of coping items), proportion scores were used in all analyses. Proportion scores were computed by dividing the total score for each factor by the total number of responses endorsed on the RSQ (Connor-Smith et al., 2000). Proportion scores provide an index of the relative degree to which each response category was used (see Connor-Smith et al., 2000; Osowiecki & Compas, 1998; Vitaliano, Maiuro, Russo, & Becker, 1987).

Emotional and behavioral problems. The Child Behavior Checklist (CBCL; Achenbach, 1991) was used to assess symptoms of anxiety/depression and aggression in the children and adolescents. In this study, the identified depressed parent completed this form. Reliability and validity of the CBCL are well established. The CBCL is a 118-item checklist of problem behaviors and competencies that parents rated as 0 (*not true*), 1 (*somewhat or sometimes true*), or 2 (*very true*

Table 1. *Examples of Items Included in the RSQ Factors*

Factor	Subscales	Examples
Primary Control Coping	Problem solving	She tries to think of different ways to change the problem
	Emotional modulation	She does something to calm herself down
	Emotional expression	She lets someone or something know how she feels
Secondary Control Coping	Positive thinking	She tells herself that everything will be all right.
	Acceptance	She just takes things as they are, she goes with the flow.
	Cognitive restructuring	She tells herself that things could be worse.
	Distraction	She imagines something really fun or exciting happening in her life.
Disengagement Coping	Denial	She tries to believe it never happened.
	Avoidance	She tries not to think about it, to forget all about it.
	Wishful thinking	She deals with the problem by wishing it would just go away
Involuntary Engagement	Rumination	She can't stop thinking about how she is feeling.
	Intrusive thoughts	Thoughts just pop into her head.
	Emotional arousal	She gets upset by things that don't usually bother her.
	Physiological arousal	She feels it in her body
	Impulsive actions	Sometimes she acts without thinking.
Involuntary Disengagement	Emotional numbing	She doesn't feel anything at all, it's like she has no emotions
	Cognitive interference	Her mind goes blank, she can't think at all
	Inaction	She just freezes, she can't do anything
	Escape	She just has to get away

Note: RSQ = Response to Stress Questionnaire.

or *often true*) regarding their child in the past 6 months. In this study we only report on the Anxiety/Depression and Aggression subscales. Data are reported as normalized *T* scores based on separate norms for age and sex, but raw scores were used in these analyses to allow for maximum variance.

Parents' depressive symptoms. Parents' current depressive symptoms were assessed with the Beck Depression Inventory–II (Beck, Steer, Ball, & Ranieri, 1996). This is a standardized and widely used self-report checklist of depressive symptoms and has adequate internal consistency, reliability, and validity (Beck et al., 1996).

Results

Descriptive Statistics

Means and standard deviations for child adjustment, parental stressors, and children's coping are presented in Table 2. Preliminary analyses were conducted to examine two potential confounds, independence of informant and child's age. First, to ensure that there were no significant differences as a function of parents completing more than one set of questionnaires for their children (a possible violation of independence of informant), we conducted multiple two-way mixed effect models on each of our critical variables (i.e., symptoms of anxiety/depression and aggression, primary control coping, secondary control coping, disengagement coping, involuntary engagement, involuntary disengagement) to test the average intraclass correlations (Shrout & Fleiss, 1979). A significant *F* statistic would indicate that the magnitude of associations between scores within a family was significantly different from the magnitude of associations across different families and would indicate that the source of the information was not independent. For the symptom measures, the intraclass correlations were nonsignificant, $F(28, 29) = 1.70$ and $F(28, 29) = 1.45$, $p > .10$, respectively, for symptoms of anxiety/depression and aggression. For the stress response factors, siblings within a family were rated to be more similar than siblings across families only on primary control coping, $F(28, 29) = 2.04$, $p < .05$. None of the intraclass correlations for the other four stress response variables were significant. Given the independence of the data on multiple indexes (i.e., there were no differences on six of the seven variables), multiple children within a family were treated as individual units for analyses to ensure sufficient power to detect moderate size effects.[1]

Table 2. *Means and Standard Deviations for Child Adjustment, Parental Stressors, Coping Behaviors, and Parental Depressive Symptoms*

	M	*SD*
Child emotional/behavioral problems (CBCL)		
Anxiety/depression symptoms (*T* score)	59.94	8.33
Aggression symptoms (*T* score)	57.82	8.68
Parental stressors		
Parental withdrawal	4.71	1.92
Parental intrusiveness	4.92	1.83
Marital conflict	3.29	2.36
Child stress responses		
Primary control coping	.17	.04
Secondary control coping	.21	.05
Disengagement coping	.20	.03
Involuntary engagement stress responses	.25	.04
Involuntary disengagement stress responses	.17	.03
Parental depressive symptoms (BDI–II)	19.56	10.38

Note: $N = 101$. CBCL = Child Behavior Checklist, BDI–II = Beck Depression Inventory.

Second, we assessed the potential confounding effect of children's age by conducting correlations between age and stress responses and adjustment, and partialing children's age from correlations between key variables. There were no significant correlations between children's age and the five RSQ stress response factors or symptoms on the CBCL (*r*s ranged from –.06 to .05, *ns*). In addition, after controlling for children's age, there were only slight but nonsignificant differences in the correlations between parental stressors and responses to stress. In general, correlations between parental withdrawal and stress responses increased slightly (but nonsignificantly) in magnitude (e.g., correlation with secondary control increased from $r = –.42$, $p < .01$, to $r = –.44$, $p < .01$) and decreased slightly (but nonsignificantly) between parental intrusiveness and stress responses (e.g., correlation with primary control decreased from $r = –.30$, $p < .01$, to $r = –.28$, $p < .01$). Because there were no significant changes in associations between parental stressors or children's stress responses and adjustment, age was not included in any further analyses.

Children's symptoms of anxiety/depression and aggression. Parents reported that their children exhibited moderate to high levels of anxiety/depression (i.e., mean *T* score of 60 was one standard deviation above the normative mean) and moderately elevated levels of aggression on the CBCL (i.e., mean *T* score of

[1]Correlations and path analyses were also conducted using one child randomly selected from each family. The correlations were virtually identical to those found using the full sample, and only one correlation (between parental intrusiveness and aggressive symptoms) that was significant in the full sample ($r = .23$, $p < .05$) failed to reach significance in the reduced sample ($r = .13$). The path model for the reduced sample achieved an adequate fit, $\chi^2 = 5.59$, $p = .60$, comparative fit index = 1.00, root mean squared error of approximation < .05. The paths that were significant in the model for the full sample were all virtually identical for the reduced sample; however, because of the loss of statistical power, most of the paths no longer achieved statistical significance.

58 approached one standard deviation above the normative mean). Compared to the CBCL normative sample (Achenbach, 1991) the following percentages of children scored above the clinical cutoff (the 98th percentile): 16% (9 boys, 7 girls) for anxious/depressed symptoms and 11% (9 boys, 2 girls) for aggressive symptoms. Consistent with previous research on rates of psychopathology for children of depressed parents (e.g., Anderson & Hammen, 1993), this sample was approximately five to eight times greater than the expected rate of anxious/depressed and aggressive problems in the normative sample.

In addition to the normative sample, the CBCL provides comparative data for a clinically referred sample. As with the CBCL normative sample, *T* scores were calculated separately by age and sex. Compared to the clinically referred sample mean of a *T* score of 50, the children in our sample had mean clinical *T* scores of 46 and 43 for anxiety/depression and aggression, respectively. Thus, although this is a sample at risk for psychopathology, the mean scores on anxiety/depression and aggression for this sample approached the means for clinically referred children and youth. As expected, the children in this sample, including a subsample of children who already exhibit clinical levels of emotional and behavioral problems, exhibited a range of problem behaviors.

Parent's self-report of depressive symptoms. The mean for parents' self-reports of current depressive symptoms on the Beck Depression Inventory–II was 19.65 (*SD* = 10.38). Scores of 20 and 29 represent the cutoffs for moderate and severe levels of depressive symptoms, respectively. Although inclusion in the study was not dependent on current levels of depressive symptoms, 31% of the identified parents endorsed moderate depressive symptoms, and 18% reported severe levels of current depressive symptoms. It is noteworthy that parental depressive symptoms were not significantly correlated with parents' ratings of their children's symptoms of anxiety/depression or aggression (see Table 3; *r*s range from .09 to .11, $p > .10$). In addition, parents' ratings of their children's anxiety/depression and aggression did not differ for parents above or below the cutoff for moderate depressive symptoms, $t(100) = -.17$, $p > .10$, for anxiety/depression; and $t(100) = -.54$, $p > .10$, for aggression. Thus, consistent with previous research, current levels of parental depressive symptoms were not associated with inflated reports of their children's problems (Richters, 1992).

Frequency of exposure to parental stressors. Based on parent reports, children were exposed to moderate levels of stress related to parental withdrawal, intrusiveness, and marital conflict in the previous 6 months. The mean scores of 4.92 for parental intrusiveness, 4.71 for parental withdrawal, and 3.34 for marital conflict indicate that children experienced a single stressor from each cluster on an almost daily basis, experienced multiple stressors frequently, or experienced all of the parental stressors in a given cluster a few times during the past 6 months. All children were identified as having to cope with parental withdrawal, and all but one child was identified as exposed to parental intrusiveness in the past 6 months. Parents' reports indicated that 17 children (17%) were not exposed to marital conflict during the previous 6 months as a result of these children living with only one parent and no consistent contact with their other biological parent. Paired *t* tests comparing exposure to stressors related to withdrawn and intrusive parenting styles revealed that children were equally exposed to both types, $t(100) = 1.10$, $p > .10$. Children of parents who endorsed moderate to high levels of current depressive symptoms were rated as more frequently exposed to stressors related to parental withdrawal than children whose parents endorsed low levels of depressive symptoms, $t(100) = -2.15$, $p < .05$.

Children's coping responses. Comparisons between the five types of coping and stress responses revealed significant differences in their relative use, $F(4, 97) = 100.20$, $p < .01$. According to parent reports, involuntary engagement stress responses had signifi-

Table 3. *Correlations Among Coping Factors, Stressors, Child Adjustment, and Parental Depressive Symptoms*

	1	2	3	4	5	6	7	8	9	10
1. Parental withdrawal										
2. Parental Intrusiveness	.44**									
3. Marital conflict	.36**	.22*								
4. Primary control coping	–.31**	–.30**	–.07							
5. Secondary control coping	–.42**	–.28**	–.10	.08						
6. Disengagement coping	.24*	.32**	.08	–.66**	–.05					
7. Involuntary engagement	.38**	.15	.07	–.16	–.70**	–.24*				
8. Involuntary disengagement	.25**	.28**	.07	–.56**	–.54**	.30**	.14			
9. Anxiety/depression	.33**	.27**	.21*	–.16	–.45**	.08	.47**	.16		
10. Aggression	.27**	.23*	.05	–.20*	–.37**	.10	.40**	.18	.57**	
11. Parental depression	.30**	.21*	.25*	–.24*	–.14	.12	.12	.24*	.09	.11

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

cantly higher proportion scores than all other stress responses, and secondary control and disengagement coping had significantly higher proportion scores than primary control and involuntary disengagement. There were no other significant differences among the RSQ factors.

Correlational Analyses

The correlations between the two types of stress, the five types of coping and stress responses, and symptoms of anxiety/depression and aggression were examined to identify those variables that meet the necessary criteria for possible mediational effects following the guidelines laid out in Baron and Kenny (1986; see Table 3 for correlations). Mediation can be tested only when the following conditions are met: (a) the predictor variable (e.g., parental withdrawal) and the dependent variable (e.g., symptoms of anxiety/depression) are significantly related; (b) the predictor variable and the hypothesized mediator (e.g., secondary control coping) are significantly related; and (c) the mediator is significantly correlated with the dependent variable.

Stressors related to parental withdrawal and parental intrusiveness met the first criterion, as they were significantly correlated with CBCL anxiety/depression and aggression (*r*s ranged from .23 to .33, $p < .05$). All five of the stress response variables met the second criterion, as both parental withdrawal and parental intrusiveness were significantly correlated with all of these variables. However, only primary control coping, secondary control coping, and involuntary engagement stress responses were significantly correlated with anxiety/depression and aggression. Therefore, we tested a mediated model that included parental withdrawal and parental intrusiveness as the predictor variables; primary control coping, secondary control coping, and involuntary engagement as the potential mediators; and anxiety/depression and aggression as the dependent variables.

The moderate correlation between parental withdrawal and intrusiveness ($r = .44$, $p < .01$) indicates that children were coping with parents who exhibit both types of behaviors, rather than coping with either a withdrawn or intrusive parent. Among the stress responses, primary control and secondary control coping were not significantly correlated, but secondary control coping was negatively related to involuntary engagement ($r = –.70$, $p < .01$).

Parents' self-reports of depressive symptoms were positively associated with parental withdrawal, intrusiveness, and marital conflict (*r*s ranged from .21 to .30, $p < .05$). Parental depressive symptoms were significantly associated with children's primary control coping ($r = –.24$, $p < .05$) and involuntary disengagement ($r = .24$, $p < .05$), but not with any of the other types of children's coping or stress responses.

Path Analysis of Mediated Effects

To test for mediated effects, path analyses were conducted using Amos structural modeling software (Arbuckle & Wothke, 1999). Standardized regression coefficients were computed for paths between variables. Squared multiple regression coefficients were computed as estimates of the amount of variance accounted for in the criterion variable by the predictor variables in the model. Overall goodness of fit of the model was assessed by the χ^2 test statistic, Bentler's comparative fit index (CFI; Bollen & Long, 1993), the Tucker–Lewis Index (TLI), and Browne and Cudeck's (1993) root mean square error of approximation (RMSEA), which provides an estimate of population discrepancy of the model. Correlations between the error terms for the mediators were included, as all three of these variables were measured by the RSQ, and between the anxiety/depression and aggression scales that were measured by the CBCL.

A series of nested path models were compared to test for mediation (Arbuckle & Wothke, 1999; Kline, 1998). First, a full model was tested that included all of the direct paths from parental withdrawal and parental intrusiveness to anxiety/depression and aggression, and the mediated paths from parental stressors through primary control coping, secondary control coping, and involuntary engagement to anxiety/depression and aggression. Next a mediated model was tested that included the mediated paths from stress through the coping and stress response variables but did not include the direct paths from parental intrusiveness and parental withdrawal to anxiety/depression and aggression. To determine if the mediated model was the best fit, the chi-square statistics for the two models were compared. If the two models did not differ, the mediated model was accepted as the best fit as it is more parsimonious than the full model and the direct paths do not contribute additional information that is useful in explaining the data. Furthermore, the significance levels of the path coefficients for the direct and mediated paths were examined. Fit indexes for these models are summarized in Table 4.

The full model achieved an excellent fit as reflected by a nonsignificant chi-square, $\chi^2(1, N = 101) = 0.34$ $p = .56$, and the CFI = 1.00, Goodness-of-Fit Index (GFI)

Table 4. *Goodness-of-Fit Indexes for Direct and Mediated Path Models*

Model	χ^2	CFI	TLI	RMSEA	$\Delta\chi^2$	*p*
Direct	.34	1.00	1.07	.00		
Mediated	3.71	1.00	1.01	.00	3.38	>.10
Modified mediated	6.21	.99	.99	.02	5.87	>.10

Note: All χ^2 estimates were statistically significant, $p < .01$. CFI = comparative fit index; RMSEA = root mean squared error of approximation; TLI = Tucker–Lewis index.

= .97, TLI = 1.07, and RMSEA = 0.00. The mediated model also attained an excellent fit as reflected in a nonsignificant chi-square, χ^2 (4, N = 101) = 3.71, p = .45; CFI = 1.00, GFI = .99, TLI = 1.01, and RMSEA = 0.00. The chi-square statistics for the full and the mediated models were then compared, and they did not differ significantly, χ^2(3, N = 101) = 3.38, p > .10. Because the paths from primary control coping to anxiety/depression and aggression were not significant, a modified mediated model was tested in which these paths were dropped. A mediated model in which the paths from primary control coping to symptoms were dropped also attained an excellent fit as reflected in a nonsignificant chi-square, χ^2(6, N = 101) = 6.21, p = .40; CFI = .99, GFI = .98, TLI = .99, and RMSEA = 0.02. The chi-square statistics for the full model and the mediated model without the paths from primary control coping were then compared, and they did not differ significantly, χ^2(5, N = 101) = 5.87, p > .10. Because the full and the mediated model were not significantly different, the mediated model was retained because it is more parsimonious than the full model; that is, the mediated model did not include the direct paths from parental withdrawal and parental intrusiveness to anxiety/depression and aggression. As further evidence of the mediational effects of coping and stress responses, the direct paths from parental withdrawal and intrusiveness to anxiety/depression and aggression were not statistically significant in the full model.[2]

Results of the mediated model are presented in Figure 1. This model explained 26% of the variance in symptoms of anxiety/depression symptoms and 19% of the variance in aggressive behavior problems. Parental withdrawal predicted less primary control (β = –.22, p < .05) and secondary control engagement coping (β = –.36, p < .01) and more involuntary engagement stress responses (β = .39, p < .01). The effect of parental intrusiveness on primary control was significant (β = –.21, p < .05). Involuntary engagement stress responses predicted increased anxiety/depression symptoms (β = .29, p < .05) and aggressive behavior problems (β = .25, p < .05). Secondary control engagement coping predicted decreased anxiety/depression symptoms (β = –.25, p < .05) but did not significantly account for aggressive behavior problems (β = –.18, p > .10). Primary control coping did not significantly account for aggressive behavior problems (β = –.14, p > .10) or anxiety/depression symptoms (β = –.09, p > .10). When the paths from primary control coping to anxiety/depression and aggression were dropped in the modified model (see Figure 2), the model explained 25% of the variance in symptoms of anxiety/depression symptoms and 17% of the variance in aggressive behavior problems. Involuntary engagement stress responses predicted increased anxiety/depression symptoms (β = .30, p < .05) and aggressive behavior problems (β = .28, p < .05). Secondary control engagement coping predicted decreased anxiety/depression symptoms (β = –.24, p < .05) but did not significantly account for aggressive behavior problems (β = –.17, p > .10).

Discussion

The findings of this study support previous research findings that children of depressed parents have elevated rates of internalizing and externalizing emotional and behavioral problems, are exposed to family stress related to parental withdrawal and intrusiveness, and use a variety of coping responses to handle the stress. This study also provides the first evidence that the ways children cope with and respond to the stress of living with a depressed parent mediate the association between stressors associated with parental depression and symptoms of psychopathology in children and adolescents.

Consistent with previous research, the children of depressed parents participating in this study had higher than expected rates of symptoms of anxiety/depression and aggression compared to a normative population. According to parent reports, children in these families had, on average, substantially higher rates of anxiety/depression and aggression symptoms in the clinical range on the CBCL than would be expected based on the national norms on these scales (Achenbach, 1991). The mean scores for this sample were also only slightly below the means for a clinically referred sample of children and youth (Achenbach, 1991). Furthermore, rates of these symptoms were higher than those reported on the CBCL in recent studies of children coping with a parent who is medically ill (e.g., Hammen, Burge, & Stansbury, 1990; Welch, Wadsworth, & Compas, 1996), is diagnosed with schizophrenia (Hammen, Burge, Burney, & Adrian, 1990), or is a substance

[2]Mediation can also be established when the previously significant relation between the predictor variable and the dependent variable is reduced when the mediator is included in the model. To test whether responses to stress completely or partial mediated the effect between the predictor and dependent variables, we computed the statistical test of mediation suggested by Baron and Kenny (1986). The inclusion of primary and secondary control coping and involuntary engagement stress responses completely mediated the association between parental withdrawal and intrusiveness on anxiety/depression (t = 2.13, p < .05) and aggression (t = 3.71, p < .01). In addition, separate regression analyses indicated that involuntary engagement stress responses completely mediated the association between parental withdrawal and children's symptoms of anxiety/depression, t = 2.17, p < .05. Secondary control partially mediated the association between parental withdrawal and anxiety/depression, t = 1.81, p > .05, and involuntary engagement partially mediated the association between parental withdrawal and aggression, t = 1.86, p > .05. As in the path model, primary control coping did not mediate the relation between parental withdrawal or intrusiveness and aggression, t = .96, *ns*.

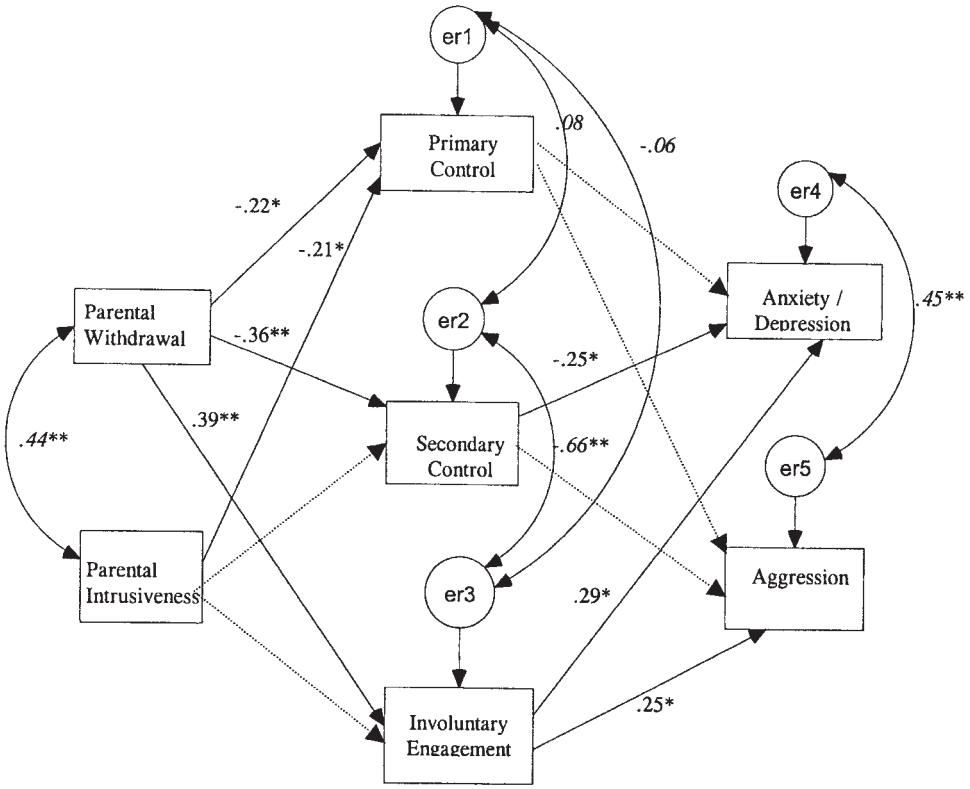

Figure 1. Results of path analysis of mediated model of parental stressors, children's coping and stress responses, and children's emotional and behavioral problems.

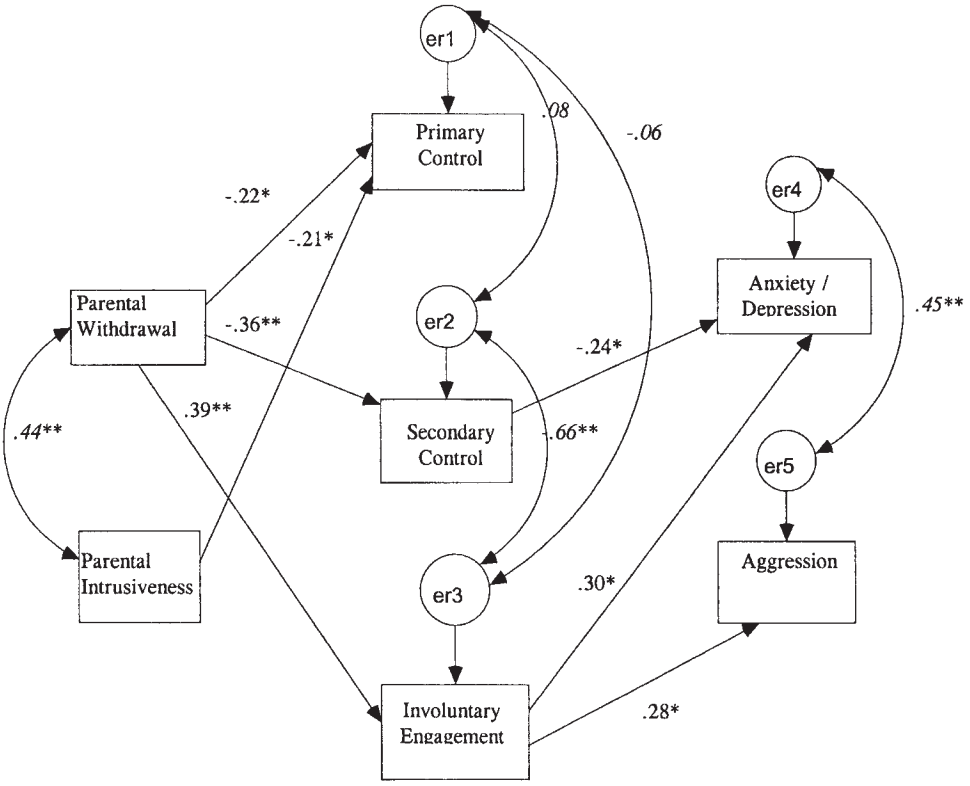

Figure 2. Results of revised path analysis of mediated model of parental stressors, children's coping and stress responses, and children's emotional and behavioral problems.

abuser (Stanger et al., 1999). The findings further underscore that children of depressed parents are at risk for both internalizing (anxiety/depression) and externalizing (aggression) problems. The lack of association between parents' ratings of current depressive symptoms and children's behavioral adjustment is consistent with Richters' (1992) conclusion that mothers (and fathers) who are depressed can rate their children's behavior independently of their own symptoms.

Associations between current parental depressive symptoms and frequency of exposure to parental stressors were significant but small in magnitude for parental withdrawal and marital conflict stressors but nonsignificant for parental intrusiveness. Given the small magnitude of these correlations, these findings suggest that even when parents were not experiencing high levels of depressive symptoms, their children may still frequently have been exposed to stressful parent–child interactions. The relatively low association between parents' current depressive state and frequency of exposure to stressful situations may indicate that the stressors children have to deal with were not completely state-dependent (i.e., present only during depressive episodes). These findings are consistent with Lee and Gotlib's (1991) conclusion that even when a parent was not in episode, parents continued to use negative parenting styles.

This study examined exposure to specific parental behaviors that are thought to contribute to the stressful environments of children of depressed parents, namely parental withdrawal, parental intrusiveness, and marital conflict. Parents reported that their children were exposed to moderate amounts of all three parental stressors in the past 6 months and that the children were exposed to depressed parents who exhibit both intrusive and withdrawn behaviors. This suggests that depressed parents may vacillate between these two types of problematic parenting. As predicted, children who were frequently exposed to a withdrawn or intrusive parent were rated by their parents as more anxious/depressed and aggressive. However, contrary to prediction, exposure to parental stressors involving marital conflict was not associated with higher symptoms of anxiety/depression or aggression. In this study, the items developed to encompass marital conflict as a stressor may have been too general (i.e., parents not getting along, not talking to each other, yelling) and were unable to replicate previous associations between hostile or aggressive marital behaviors and children's psychopathology (e.g., O'Hearn, Margolin, & John, 1997).

Building on previous studies of children coping with parental depression (Klimes-Dougan & Bolger, 1998; Radke-Yarrow, 1998), this study provides the first evidence of a significant association between children's coping with the stress of living with a depressed parent and symptoms of child psychopathology. As hypothesized, secondary control coping was related to lower levels of anxiety/depression and aggression symptoms. Children who used strategies aimed at accepting or adapting to the stress of living with a depressed parent (e.g., acceptance, distraction, cognitive restructuring) had fewer adjustment problems. This finding is consistent with research on children's coping with uncontrollable stressors, including children coping with recurrent pain (Thomsen et al., 2002), economic strain and family conflict (Wadsworth & Compas, in press), and the diagnosis of cancer in a parent (Compas, Worsham, Ey, & Howell, 1996). Secondary control coping was associated with lower symptoms of internalizing and externalizing symptoms in all of these studies, suggesting that this type of coping may be especially well suited to uncontrollable stress.

Although primary control coping did not mediate the relation between stress and behavior problems, in the zero-order correlations it was modestly associated with lower levels of aggression symptoms and was not associated with anxiety/depression symptoms. Given the uncontrollability of the stressor, inclusion of emotional expression and emotional regulation in the primary control coping factor may account for the significant inverse relation with aggressive behaviors. The ability to regulate emotions commonly associated with aggressive behaviors, most notably anger, might serve as a salient indicator of fewer aggressive problems. In contrast, involuntary engagement responses to stress (e.g., emotional and physiological arousal, intrusive thoughts, rumination) were related to increased ratings of anxiety/depression and aggression. Children who were unable to modulate their arousal and to shift the focus of their attention from problems they had with their parents appeared to have more adjustment problems. This finding is consistent with research on the effects of rumination (focusing on negative mood or aspects of self) on depression in adults (Nolen-Hoeksema, Larson, & Grayson, 1999). Disengagement coping (e.g., avoidance) and involuntary disengagement responses (e.g., emotional numbing, cognitive interference) were unrelated to symptoms of anxiety/depression or aggression.

The path model analyses provide support for the role of secondary control coping and involuntary engagement stress responses as mediators of the relation between stress and symptoms. Both secondary control coping and involuntary engagement responses mediated the effects of parental withdrawal stressors on parents' ratings of children's symptoms of anxiety/depression. Involuntary engagement responses also mediated the effects of parental withdrawal stressors on aggressive behavior problems. In addition, secondary control coping responses mediated the association between parental intrusiveness stress-

ors and anxiety/depression symptoms. The proportion of variance accounted for in the mediational model was moderate for both symptoms of anxiety/depression (R^2 = .26) and aggression (R^2 = 19). These findings indicate that coping and involuntary stress responses are important pathways through which the stress associated with parental depression affects children and adolescents. Children who are exposed to higher rates of parental withdrawal and parental intrusiveness stressors are less likely to use secondary control coping to manage these stressors. Thus, these findings suggest that children of depressed parents are affected not only by their exposure to these stressors, but also by their failure to utilize coping responses that may be the most adaptive. Furthermore, children exposed to high levels of these stressors are more likely to respond with high levels of arousal, intrusive thoughts, and rumination, all of which are associated with higher levels of anxiety/depression and aggression symptoms. Children exposed to higher levels of stress used less of potentially adaptive coping strategies, suggesting that as the stressor load increased in these families, children were less able to use relatively complex cognitive coping strategies (cf. Matthews & Wells, 1996).

In spite of the potential importance of these findings, there are several limitations to this study. First, this study relied only on the depressed parents' reports of how their children cope with living with a depressed parent. Comparable analyses examining the role of coping and stress responses as mediators of the relation between stress and symptoms using children's reports of their coping and symptoms will be an important next step. In addition, direct comparison of parent and child reports of coping and symptoms is critical, especially with respect to more covert coping responses. Second, it is important to recognize that the cross-sectional design of this study precludes causal conclusions regarding the direction of the relation between stress coping and symptoms. Third, all analyses were based on questionnaire data. Although the method of assessing our critical variables relied on reliable and valid measures, future studies should assess behaviors from a variety of methods. Future research can build on the findings of this study by examining a larger sample to examine specific child characteristics, specifically age and sex, and differences in onset and severity of parental depression. Additionally, future research is needed to examine families coping with depression from a variety of backgrounds, both economically and ethnically. In addition, future research should make every attempt to include a larger sample of depressed fathers, to better understand whether fathers differentially contribute to children's adjustment (Phares & Compas, 1992). Assessment of at-risk children's cognitive functioning, especially biased information processing (e.g., Gotlib & Krasnoperova, 1998) and thought suppression (e.g., Wenzlaff & Bates, 1998) may clarify processes though which disengagement and involuntary coping responses are related to children's adjustment problems.

These limitations notwithstanding, the findings of this study extend our understanding of the role of coping in the behavioral and emotional functioning of children living with a depressed parent. Both volitional and involuntary responses to the stress of living with a depressed parent appear to be important components in understanding the process through which parental depression affects child psychopathology. Specifically, these findings provide information on adaptive forms of coping, suggesting that secondary control engagement coping is a positive form of adaptation to stress related to parental depression. In addition, this study expands the scope of stress responses to include involuntary responses to the stress of living with a depressed parent. These findings also have several implications for health professionals who work with depressed adults who have children. The identification of more, as well as less, adaptive responses to stress can provide the foundation for interventions to teach children more effective skills to deal with the stress of living with a depressed parent (Compas, Langrock, Keller, Merchant, & Copeland, 2001). Future research examining the effectiveness of interventions aimed at increasing secondary control engagement strategies and more effective ways to manage involuntary stress responses and uncontrollable stressors would provide important data to corroborate the findings of this study.

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