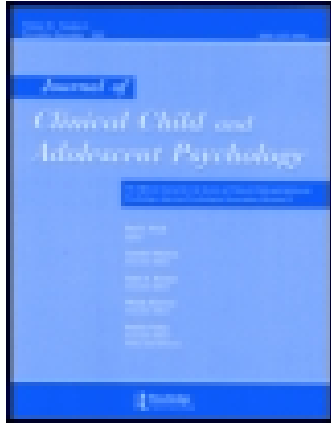


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Coping With the Stress of Parental Depression II: Adolescent and Parent Reports of Coping and Adjustment

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This study examined associations between adolescents' self-reports and parents' reports of adolescents' exposure to family stress, coping, and symptoms of anxiety/depression and aggression in a sample of 78 adolescent offspring of depressed parents. Significant cross-informant correlations were found between adolescents' reports of family stress, their stress responses, and their coping and parents' reports of adolescents' symptoms of anxiety/depression and aggression, but not between parents' reports of adolescents' stress and coping and adolescents' self-reported symptoms. Adolescents' reports of secondary control engagement coping and involuntary engagement stress responses mediated the relation between adolescents' reports of parental stress and parents' reports of adolescents' anxiety/depression symptoms. Moderate levels of correspondence were found in the correlations between parent and adolescent reports of adolescents' exposure to stress, coping, stress responses, and symptoms even after controlling for parents' current depressive symptoms. However, depressed parents reported higher levels of symptoms of anxiety/depression and aggression and more family stress than did their adolescent offspring. Implications for future research on coping and adjustment in offspring of depressed parents are highlighted.

There is compelling evidence that parental depression is a significant risk factor for emotional and behavioral problems in children (Goodman & Gotlib, 1999). Offspring of depressed parents are at risk for increased rates of depression and depressive symptoms, as well as elevated rates of anxiety and externalizing problems (e.g., Anderson & Hammen, 1993; Hammen, Burge, Burney, & Adrian, 1990). Having established that children of depressed parents are at high risk, attention has turned to the biological, psychological, and interpersonal processes through which parental depres-

sion adversely affects children's development (Goodman & Gotlib, 1999, 2002).

Two potentially important mechanisms are the level of stress experienced in families of depressed parents (Adrian & Hammen, 1993; Hammen, 1997, 2002) and the ways that children and adolescents respond to and cope with this stress (Compas, Langrock, Keller, Merchant, & Copeland, 2002). Parental depression can lead to increased stress within the family, including stressful parent-child interactions related to parental withdrawal (e.g., avoidance, unresponsiveness) and parental intrusiveness, hostility, or irritability (Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Nelson, Hammen, Brennan, & Ullman, 2003). Knowledge of the ways that children and adolescents respond to the stress of parental depression has implications for processes of risk and for preventive interventions to enhance resilience in these children (Compas et al.,

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2002). In spite of the potential importance of examining the ways that children and adolescents cope with the stress of living with a depressed parent, research in this area has been limited (Klimes-Dougan & Bolger, 1998; Radke-Yarrow, 1998; Radke-Yarrow & Brown, 1993).

This study examined stress, stress responses, and coping in adolescent offspring of depressed parents. This study was based on a model that distinguishes between two types of stress responses: (a) controlled, voluntary coping responses and (b) involuntary, automatic responses to stress (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). Coping responses are defined as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas et al., 2001, p. 89). Coping includes primary control engagement responses that involve efforts to directly change the source of stress or one’s emotional reactions to it (e.g., problem solving, emotional expression), secondary control engagement responses that involve attempts to adapt to the stressor (e.g., acceptance, cognitive restructuring), and disengagement coping that involves efforts to avoid the source of stress and one’s emotional response (e.g., denial, wishful thinking, cognitive and behavioral avoidance). Involuntary responses are automatic processes that are not under volitional control and include involuntary engagement (e.g., emotional and physiological arousal, intrusive thoughts) and involuntary disengagement (e.g., emotional numbing, cognitive interference). Confirmatory factor analyses have provided empirical support for this model with diverse samples of adolescents responding to a variety of different stressors (Connor-Smith et al., 2000; Wadsworth, Reickman, Benson, & Compas, 2004).

Only one study has examined coping and involuntary stress responses as mediators of the effects of parent–child stress on internalizing and externalizing problems in offspring of depressed parents (Langrock, Compas, Keller, Merchant, & Copeland, 2002). Langrock et al. found high levels of stressors related to both withdrawn and intrusive behavior in depressed parents, which were significantly and positively correlated with children’s and adolescents’ symptoms of anxiety/depression and aggression. Children’s and adolescents’ use of secondary control coping was significantly and negatively correlated with symptoms of anxiety and depression. Conversely, children’s and adolescents’ involuntary engagement stress responses were significantly and positively related to symptoms of anxiety and depression. Furthermore, secondary control coping and involuntary engagement stress responses mediated the relation between parental withdrawal and children’s and adolescents’ symptoms of anxiety and

depression. This study provided the first evidence of coping and stress responses as mediators of the effects of stress related to parental depression. However, it was limited by the use of depressed parents as the sole source of information on family stress, children’s and adolescents’ coping and stress responses, and children’s and adolescents’ symptoms of anxiety/depression and aggression. As a result, these findings may have been confounded by shared method variance in the measurement of these constructs.

Building on the findings of Langrock et al. (2002), this study addressed both substantive and methodological issues related to stress, coping, stress responses, and emotional and behavioral problems in adolescent offspring of depressed parents. Adolescence is an important developmental period in which to examine these effects, as rates of depression and other forms of psychopathology increase significantly during the second decade of life (Compas, 2004; Steinberg, 2002). This study is the first to examine reports provided by adolescents of depressed parents on their exposure to family stress, their coping and stress responses, and their emotional and behavioral problems. Obtaining adolescents’ self-reports of these processes is important because some aspects of coping and stress responses are cognitive and covert and, as a result, may not be easily observed by parents. Further, reports of both adolescents and parents can be used to test the relation between coping and emotional and behavioral problems in a way that is not confounded by common method variance that occurs when a single informant is used to measure all of these constructs.

In addition to the benefits of testing the associations among coping, stress responses, and symptoms with reports from two sources, there are important methodological issues to contend with when one source of information is reports from depressed parents. Previous research has not found evidence that depressed parents’ ratings of their children’s emotional and behavioral problems are distorted or inaccurate (Richters, 1992). However, it remains important to carefully examine the degree of correspondence between reports of depressed parents and their children by accounting for parents’ current levels of depression. With regard to the processes studied here, the degree of cross-informant correspondence (correlation) between the reports of stress, coping, and symptoms by depressed parents and their children is unknown. The associations between the reports of parents and their children can provide important information on the convergent validity of these reports and can be used to examine the degree to which current parental depressive symptoms affect this correspondence. By way of comparison, in two community samples of nondepressed parents and their adolescent children, Connor-Smith et al. (2000) found mean convergent validity correlations between parent and adolescent reports of adolescents’ coping and

stress responses of .23 and .33, both of which were greater than the discriminant validity correlations for these samples.

Based on previous studies of adolescents' coping and stress responses (e.g., Wadsworth & Compas, 2002), we hypothesized that primary control (i.e., problem solving, emotional expression, emotional modulation) and secondary control engagement coping (i.e., cognitive restructuring, positive thinking, acceptance, distraction) would be adaptive responses to family stress and would be related to lower emotional and behavioral problems. Both of these forms of engagement coping involve efforts to regulate and manage negative emotions and cognitions in the face of stress and have been associated with lower levels of symptoms of anxiety, depression, and aggression (Compas et al., 2001). Conversely, we expected that disengagement coping (i.e., avoidance, denial, wishful thinking) and involuntary engagement (e.g., emotional and physiological arousal, intrusive thoughts) and disengagement (e.g., emotional numbing, escape) responses would be positively associated with emotional and behavioral problems (Compas et al., 2001). Further, we hypothesized that coping and symptoms of anxiety, depression, and aggression would be significantly correlated in cross-informant analyses of parents' and adolescents' reports, after controlling for shared method variance. Based on the findings of Langrock et al. (2002), in multiple regression analyses we expected that secondary control coping and involuntary engagement stress responses would mediate the relation between stressors related to parental depression and adolescents' symptoms. Secondary control coping responses (e.g., acceptance, cognitive restructuring) may be particularly well suited to coping with the uncontrollable nature of parental withdrawal and intrusiveness that is associated with parental depression. Involuntary engagement stress responses (e.g., emotional and physiological reactivity) are temperamentally based responses to stress that are associated with increased symptoms of anxiety and depression (Compas, Connor-Smith, & Jaser, 2004).

We also examined the effect of current parental depressive symptoms on the reports of depressed parents and their adolescent children. Based on the findings reviewed by Richters (1992), we anticipated that adolescents' self-reports regarding their levels of stress, coping, and internalizing and externalizing problems would not differ significantly from their depressed parents' reports of these variables. Further, based on previous analyses of the correlations between the reports of parents and children (Achenbach, McConaughy, & Howell, 1987; Connor-Smith et al., 2000), we expected that parents' and adolescents' reports of stress, coping, and symptoms would be positively and significantly correlated; that is, we expected modest to moderate convergent validity coefficients for adolescents'

self-reports and parental reports of adolescents' coping and stress responses. However, to examine the possible effects of parental depression, we covaried for parents' current level of depressive symptoms.

Method

Participants

Participants included 57 adults (52 mothers, 5 fathers) and their 78 adolescent offspring between the ages of 10 to 16 years old ($M = 12.8$ years, $SD = 1.5$, 51% boys). This age range is similar to previous studies of offspring of depressed parents (e.g., Anderson & Hammen, 1993; Rudolph & Hammen, 2000). The participants in this study were part of a larger sample of depressed parents and their families ($n = 91$) participating in a longitudinal study evaluating an intervention to help families cope with parental depression (Compas et al., 2002). All data reported here were collected prior to the intervention program. This article focuses on those families with at least one child age 10 or older, as the focus of this study was on adolescent adjustment to stress and the minimum age for completing the self-report measures selected for this study was 10 years old.¹

Families were considered eligible for the larger study if at least one parent (the index parent) had been diagnosed with major depressive disorder (MDD) or dysthymia (DYS) during the lifetime of the child and if the index parent lived with and parented a child between 10 and 16 years of age. The mean ages for the depressed mothers and fathers were 41.9 years ($SD = 5.9$) and 49.8 years ($SD = 7.0$), respectively. The sample was White, which is representative of the region in northern New England from which the sample was drawn. Sixty-one percent of the depressed parents were married (including all of the depressed fathers), 30% were either divorced or separated, and 9% were single. Based on the Hollingshead (1975) 9-point occupational scores, the mean occupational status of the parents was 5.0 ($SD = 1.9$), which is characterized by clerical and sales workers and small-business owners. On average, families had 1.4 children between the ages of 10 to 16 (ranging from one to three children).

Depressed parents and their families were recruited to participate in the study through direct mailings to Vermont Kaiser Permanente Family Health Care members and local newspaper advertisements that specified that the study was looking for parents with a history of depression (i.e., parents who responded to the letters and advertisements were those who self-identified as having a history of depression). On receipt of the family's signed informed consent forms (and assent forms

¹We used the definition of adolescence as the second decade of life (e.g., Lerner & Steinberg, 2004).

completed by adolescents), telephone interviews were conducted with the index parents to assess symptoms of MDD and DYS using rules for deriving diagnoses based on the criteria from 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). The interviews were used to screen for a history of MDD or DYS and to rule out parents who had no history of these disorders. Because the recruitment method targeted depression, the majority of those who were screened met criteria for either MDD or DYS. After ruling out parents with no depressive disorder, the following percentages of index parents met criteria for lifetime mood disorders: 81% for MDD, 9% for DYS, and 10% for both MDD and DYS. Thirty percent of index parents met criteria for current MDD or DYS, and 70% met criteria for a previous episode but were not currently depressed. Onset of the most recent depressive episode for parents with a history of depression ranged from 1 to 46 months prior to the interview.

Following the telephone interview, the index parent, his or her spouse, and any children between the ages of 10 and 16 completed written questionnaires at home and returned them by mail. Families were paid \$40 for their participation in the study.

Measures

Responses to Stress Questionnaire (RSQ): Parent-child stressors. To assess frequency of exposure to the stressors associated with parental depression, as well as children's responses to these stressors, the index parents and adolescents completed the parent-report and adolescent self-report versions, respectively, of the RSQ (Connor-Smith et al., 2000). The RSQ was designed to be adapted to specific stressors or domains of stress. In this study, the parental depression version of the RSQ was used (see Langrock et al., 2002). The RSQ consists of two sections—the first section assesses how often in the past 6 months the target child experienced each of 12 stressful events, and the second section assesses how he or she responded to and coped with those stressors.

The 12 stressful events were selected to provide examples of three areas of parenting behavior that previous research has shown to be affected by parental depression (Lovejoy et al. 2000): parental conflict, parental withdrawal (or disengagement), and parental intrusiveness (or hostility). Based on previous analyses that indicated the parental conflict items were not related to child adjustment, these items were dropped from our analyses (Langrock et al., 2002). Items for parental withdrawal included (examples of wording are

from the parent report version): “My child wishes that I would spend more time with her,” and “My child sees me crying a lot or acting sad.” Items for parental intrusiveness (or hostility) included (examples of wording are from the adolescent report version): “My mom is upset, tense, grouchy, angry, and easily frustrated,” and “My mom worries about bad things happening to me.”

Respondents were asked to report on the recent (i.e., past 6 months) occurrence of each of the stressors on a 4-point Likert scale of 0 (*never*) 1 (*a few times*), 2 (*many times*), and 3 (*almost every day*). Parallel versions of the parental stressors were developed for the adolescents' self-report and parents' report of their adolescents' responses (e.g., “My mom does not listen to me or pay attention to events in my life”; “My child thinks I do not listen or pay attention to events in his/her life”). The Cronbach's alphas for the parental stressors on the adolescent self-report version of the RSQ were $\alpha = .67$ for parental intrusiveness and $\alpha = .49$ for parental withdrawal. For the parent-report version, alphas for the parental stressors RSQ were $\alpha = .55$ for parental intrusiveness and $\alpha = .67$ for parental withdrawal. These moderate to low levels of internal consistency suggest that the occurrence of the stressors in each of these domains were somewhat independent of each other and may constrain the degree to which these scales can correlate with other variables. The stability of parents' and adolescents' reports of these stressors was examined over a period of 3 months, and these correlations were significant for parent reports ($r = .57$) and adolescent reports ($r = .68$) of parental intrusiveness, and parent reports ($r = .81$) and adolescent reports ($r = .80$) of parental withdrawal (all $ps < .01$). The correlations between adolescents' and parents' reports of parental withdrawal ($r = .54$) and parental intrusiveness ($r = .45$) were statistically significant and moderate in magnitude, indicating that these measures were adequate indicators of family stress associated with parental depression in this sample (see the following for further discussion).

RSQ: Coping and stress responses. The second section of the RSQ contains 57 items that ask the respondent to report how he or she (or the target child) responded during the past 6 months to those stressors that had occurred in this time. Confirmatory factor analyses of the RSQ have identified five primary factors: primary control engagement coping (i.e., problem solving, emotional regulation and expression), secondary control engagement coping (i.e., positive thinking, cognitive restructuring, acceptance, and distraction), disengagement coping (i.e., avoidance, denial, and wishful thinking), involuntary engagement (i.e., rumination, intrusive thoughts, and emotional and physiological arousal), and involuntary disengagement (i.e., emotional numbing, cognitive interference, inaction, and escape; Connor-Smith et al., 2000). Drawing

on the work of Stanton, Danoff-Burg, Cameron, and Ellis (1994), items were selected to minimize possible confounding between the coping items and symptoms of psychological distress. To assess the degree to which or frequency with which the target child responded to the identified stressors, respondents were asked to rate each item on a 4-point Likert scale of 1 (*not at all*), 2 (*a little*), 3 (*some*), or 4 (*a lot*).

The RSQ coping and stress response items have demonstrated good reliability and validity (Connor-Smith et al., 2000), including internal consistency, test-retest reliability, and convergent and discriminant validity. In this study, the internal consistency reliabilities (Cronbach's alphas) of the five factors for adolescents' self-reports and parents' reports of their adolescents' were $\alpha = .81$ and $.79$ for primary control engagement, $\alpha = .78$ and $.76$ for secondary control engagement, $\alpha = .72$ and $.66$ for disengagement, $\alpha = .92$ and $.87$ for involuntary engagement, and $\alpha = .86$ and $.84$ for involuntary disengagement, respectively.

To control for response bias and individual differences in base rates of item endorsement (e.g., gender differences in response rates), proportion scores were used for all analyses (see Connor-Smith et al., 2000; Osowiecki & Compas, 1998; Vitaliano, Maiuro, Russo, & Becker, 1987). Furthermore, proportion scores allow us to compare amounts of coping across participants and situations in terms of the ratio of a particular coping response to their overall coping. Proportion scores were calculated by dividing the total score for each factor (e.g., primary control engagement coping) by the total score for the entire set of RSQ coping and stress response items (Connor-Smith et al., 2000).

The Child Behavior Checklist (CBCL; Achenbach, 1991) was used to assess parent reports of child's behavioral and emotional problems over the past 6 months. The CBCL is a 118-item checklist designed to assess the child's problem behaviors and competencies over the past 6 months. Parents rate each item as 0 (*not true*), 1 (*somewhat or sometimes true*), or 2 (*very true or often true*). The CBCL has been shown to have excellent reliability and validity (Achenbach & Rescorla, 2001).

The Youth Self-Report (YSR; Achenbach, 1991) was used to assess adolescents' (ages 10 to 16) views of their own functioning over the past 6 months. The YSR is a 112-item checklist designed to assess the youth's view of his or her own problems and competencies. The YSR has also been shown to have excellent reliability and validity (Achenbach & Rescorla, 2001). The CBCL and YSR are designed to be scored at either the level of the broadband internalizing and externalizing syndromes or any of the eight narrowband syndromes. Because we were specifically interested in depressive symptoms in offspring of depressed parents, the anxious/depressed syndrome was selected for

analyses. The aggressive syndrome was selected as a prototypic narrowband externalizing syndrome. Data are reported as normalized *T* scores, based on separate norms for age and sex, but raw scores were used in all analyses to allow for maximum variance.

Beck Depression Inventory-II. Parents' current symptoms of depression were measured by the BDI-II (Beck, Steer, Ball, & Ranieri, 1996). The BDI-II 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

Preliminary Analyses

Preliminary analyses were conducted to ensure that no significant differences existed as a function of some parents completing more than one set of questionnaires for their children (a possible violation of independence of informant). Intraclass correlations (Shrout & Fleiss, 1979) for the sample of 57 children (i.e., those with only one child per family) revealed associations comparable in direction and magnitude to those found for the full sample of 78 children (see also, Langrock et al., 2002). To maximize the number of participants and ensure sufficient power to detect moderate size effects, all adolescent children were included in the reported analyses. Preliminary analyses were also conducted to determine if significant differences existed as a function of the index parent's gender. Multivariate analyses indicated that mothers and fathers did not differ significantly on any of the variables. Therefore, to maximize the sample size and statistical power, data from both depressed mothers and fathers were included in all analyses. We also compared intact and divorced or separated families and found no significant differences as a function of parental marital status. Furthermore, we conducted preliminary analyses to ensure that no significant differences existed as a function of child gender. There were no differences between boys' and girls' reports, with the exception of disengagement coping, in which girls reported using significantly more than boys, and involuntary engagement, in which boys scored significantly higher than girls. Because these were the only differences as a function of adolescent gender and these differences were small in magnitude, gender was not included in the analyses.

We also conducted analyses to determine if age was related to any of the variables (see Table 2). Age was correlated with only one variable (parental withdrawal stress); therefore, age was not included in the correlation and regression analyses. Finally, we examined the correlations of the BDI-II with the scales for parental withdrawal and intrusiveness stressors on the RSQ. Parental intrusiveness ($r = .21, p < .05$) and parental with-

drawal ($r = .30, p < .01$) were significantly correlated with parents' BDI-II scores, indicating that the level of these stressors was related to the level of parents' current depressive symptoms.

Descriptive Statistics

Means and standard deviations for adolescents' anxiety/depression and aggressive symptoms, parental stressors, and adolescents' coping are presented for adolescents' self-reports and parents' reports in Table 1. The mean *T* scores for the anxious/depressed and aggression scales on the YSR are approximately 0.5 *SD* above the normative mean, and these scores on the CBCL are approximately 1 *SD* above the norm. Thus, as expected, the adolescents in this sample were experiencing significant levels of emotional and behavioral problems. Comparisons of adolescents' and parents' reports on the RSQ, YSR, and CBCL are presented in detail in the following.

Correlations of Adolescent Self-Reports of Stress, Coping, Stress Responses, and Symptoms

Correlations were used to test the hypotheses regarding the relations between adolescents' stress, coping, and symptoms; correlations between parent-adolescent stressors, coping, involuntary stress responses; and adolescent symptoms of anxiety/depression and aggression based on adolescents' self-reports (see Table 2). Stressors related to parental intrusiveness were significantly and positively correlated with anxiety/depression and aggressive symptoms. As hypothesized, secondary control engagement coping was significantly and negatively correlated with anxiety/depression and aggression, whereas involuntary engagement was significantly and positively correlated with both types of symptoms. Involuntary disengagement was also significantly and positively correlated with anxiety/depression symptoms.

Table 1. Means and Standard Deviations of Adolescent and Parent Reports of Adolescents' Stress, Coping, and Psychological Symptoms

Parental Stressors	Adolescent Self-Report		Parent Report		<i>t</i> Test	Effect Size (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Withdrawn	3.07	2.18	5.44	2.54	$t = 7.43, p < .001$	1.0
Intrusive	3.90	2.54	4.41	2.22	$t = 2.37, p = .021$	0.21
Coping Factors						
Primary control engagement	.17	.04	.17	.04	<i>ns</i>	—
Secondary control engagement	.22	.05	.20	.05	$t = 2.85, p = .006$	0.40
Disengagement	.20	.03	.20	.03	<i>ns</i>	—
Involuntary engagement	.23	.04	.25	.04	$t = 2.79, p = .007$	0.50
Involuntary disengagement	.18	.03	.18	.04	<i>ns</i>	—
Psychopathology						
Anxiety/Depression						
<i>T</i> score	55.9	8.05	60.1	8.94	$t = 4.49, p < .001$	0.49
Percent above clinical cutoff	6.4%		11.5%			
Aggression						
<i>T</i> score	55.9	7.60	59.9	9.67	$t = 3.07, p = .003$	0.46
Percent above clinical cutoff	3.8%		12.8%			

Table 2. Within Informant Correlations of Adolescents' Self-Reports of Stress, Coping, Stress Responses, and Internalizing and Externalizing Symptoms

	1	2	3	4	5	6	7	8	9	10
1. Withdrawn	—									
2. Intrusive	.37**	—								
3. Primary control coping	-.26*	-.16	—							
4. Secondary control coping	-.35**	-.41**	.32**	—						
5. Disengagement coping	.08	.24*	-.58**	-.30**	—					
6. Involuntary engagement	.34**	.40**	-.33**	-.80**	-.03	—				
7. Involuntary disengagement	.34**	.15	-.69**	-.65**	.30**	.41**	—			
8. Anxiety/depression	.22	.27*	-.03	-.53**	.04	.47**	.25*	—		
9. Aggression	.17	.26*	-.05	-.32**	.10	.27*	.14	.67**	—	
10. Age	.26*	.12	.05	-.12	.03	-.06	.08	-.01	.05	—

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

Cross-Informant and Cross-Construct Correlations

To address the second research question regarding the associations among stress, coping, and symptoms across parent and adolescent reports, the associations of stress and coping with symptoms of anxiety/depression and aggression were tested using correlational analyses. These analyses controlled for method variance by testing the cross-informant correlations of these constructs (see Table 3). Based on adolescents' reports of their coping and stress responses and parents' reports of adolescents' anxiety/depression symptoms on the CBCL, parental intrusiveness was positively correlated with anxiety/depression ($r = .24, p < .05$), secondary control coping was negatively correlated with anxiety/depression ($r = -.24, p < .05$), and involuntary engagement responses were positively correlated with anxiety/depression ($r = .25, p < .05$). For parents' reports of adolescents' aggression on the CBCL, adolescents' reports of parental intrusiveness were correlated with higher levels of aggression ($r = .36, p < .01$), primary control coping was negatively correlated with symptoms of aggression ($r = -.26, p < .05$), and disengagement coping was positively correlated with symptoms of aggression ($r = .26, p < .05$). Thus, the associations of adolescents' reports of stress, coping, and stress responses with parents' reports of anxiety/depression and aggression were significant once shared method variance was controlled for in these analyses.

However, parents' reports of adolescents' coping and stress responses were not correlated with adolescents' reports of symptoms of anxiety/depression or aggression on the YSR. In these analyses, only the correlation between parents' reports of adolescents' use of secondary control coping and adolescents' reports of their anxiety/depression on the YSR approached significance ($r = .21, p < .10$).

Cross-Informant Tests of Coping and Stress Responses as Mediators

The correlations between adolescents' reports of parental intrusiveness and their own coping and stress responses and parents' reports of their adolescents' symptoms met the criteria for tests of the hypothesized mediational relations among these constructs (Baron & Kenny, 1986). Specifically, secondary control coping and involuntary engagement responses met the criteria as potential mediators of parental intrusiveness stressors and adolescents' anxiety/depression, and primary control engagement coping and disengagement coping met the criteria as possible mediators between parental withdrawal and adolescents' aggression. Two sets of multiple regression analyses were conducted.

First, we tested adolescents' reports of secondary control engagement coping and involuntary engagement as mediators of the relation between parental intrusiveness and parents' reports of adolescents' anxiety/depression on the CBCL. Second, we tested adolescents' reports of primary control engagement coping and disengagement coping as mediators of the relation between parental intrusiveness and parents' reports of adolescents' aggressive problems on the CBCL.

As seen in Table 4, for the regression equation predicting anxiety/depression on the CBCL, when adolescents' reports of parental intrusiveness and secondary control coping were included together, the overall equation was significant, $F(2, 64) = 3.89, p = .025$, and secondary control coping was a significant predictor, $\beta = -.26, t = -1.99, p = .051$. Although the correlation between parental intrusiveness and anxiety/depression approached significance in the bivariate analyses, it was no longer a significant predictor when entered along with secondary control coping in the regression equation. When parental intrusiveness and involuntary engagement were entered in a regression, the overall equation was significant, $F(2, 65) = 4.51, p = .015$, and involuntary engagement was a significant predictor, $\beta = .27, t = 2.16, p = .035$. Parental intrusiveness was no longer a significant predictor when entered along with involuntary engagement in the regression equation. In a third regression, adolescents' reports of both secondary control coping and involuntary engagement were entered along with parental intrusiveness in predicting anxiety/depression on the CBCL. The overall equation approached significance, $F(3, 63) = 2.69, p = .051$. However, neither secondary control nor involuntary engagement was a significant predictor when entered together. This is due to the high correlation ($r = -.80$) between these two factors in adolescents' self-reports, resulting in multicollinearity between them as predictors. Thus, the findings indicate that secondary control coping and involuntary engagement responses fully mediate the relation between parental intrusiveness stressors and adolescents' anxiety/depression symptoms, but their effects on symptoms are shared.

In the regression equation predicting aggression on the CBCL, adolescents' reports of parental intrusiveness and primary control engagement coping were entered together, and the overall equation was significant, $F(2, 65) = 7.71, p < .001$. Parental intrusiveness was a significant predictor, $\beta = .32, t = 2.82, p = .006$, and primary control engagement coping was also significant, $\beta = -.25, t = -2.25, p = .028$. The equation with adolescents' reports of parental intrusiveness and disengagement coping was also significant, $F(2, 65) = 6.28, p = .003$. Parental intrusiveness was a significant predictor, $\beta = .31, t = 2.68, p = .009$; however, disengagement was not significant in this equation. Finally, adolescents' reports of parental intrusiveness, primary control cop-

Table 3. Cross-Informant Correlations for Parent Reports and Adolescent Self-Reports of Stress, Coping, Stress Responses, and Internalizing and Externalizing Symptoms (n = 78)

Parent Report	Adolescent Self-Report								
	Withdrawn	Intrusive	Primary Control Coping	Secondary Control Coping	Disengage Coping	Involuntary Engagement	Involuntary Disengage	Anxiety/Depression	Aggression
Withdrawn	.45** (.61**) (.39**)	.30*	-.15	-.21	.02	.27*	.15	.09	.07
Intrusive	.08	.54** (.69**) (.51**)	-.26*	-.22	.27*	.21	.20	.00	.19
Primary control coping	.03	-.26*	.47** (.63**) (.63**)	.12	-.35**	-.10	-.27*	.09	-.02
Secondary control coping	-.04	-.35**	-.03	.34** (.50**) (.37**)	-.07	-.34**	-.07	-.21	-.14
Disengagement coping	.02	.31*	-.24*	-.17	.41** (.58**) (.42**)	-.01	.19	-.09	.01
Involuntary Engagement	.00	.12	-.13	-.18	-.07	.38** (.55**) (.42**)	.07	.13	.15
Involuntary disengagement	-.01	.34**	-.17	-.16	.25*	.05	.14 (.24) (.08)	.02	-.01
Anxiety/depression	-.02	.24*	-.14	-.26*	.18	.25*	.12	.28** (.42**) (.20)	.36**
Aggression	.04	.36**	-.26*	-.17	.26*	.14	.21	-.03	.29** (.42**) (.31*)

Note: Convergent correlations are on the diagonal. Intraclass correlation coefficients for are in parentheses along the diagonal. Partial correlations controlling for parental BDI-II scores are in parentheses and italics along the diagonal.

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

Table 4. Linear Multiple Regression Analyses Predicting Parents' Reports of Adolescents' Symptoms From Adolescents' Reports of Family Stressors, Coping, and Stress Responses

Step	R ²	β at Entry	t
Predicting anxiety/depression			
1. Parental intrusiveness stress	.09	.30	6.21**
2. Parental intrusiveness stress		.12	.95 <i>ns</i>
Secondary control coping	.11	-.26	-1.99*
3. Parental intrusiveness stress		.13	1.06 <i>ns</i>
Involuntary engagement	.12	.27	2.16**
4. Parental intrusiveness stress		.11	.88 <i>ns</i>
Secondary control coping		.12	.61 <i>ns</i>
Involuntary engagement	.11	-.17	-.84 <i>ns</i>
Predicting aggression			
1. Parental intrusiveness			
2. Parental intrusiveness		.32	2.82**
Primary control coping	.19	-.25	-2.25*
3. Parental intrusiveness stress		.31	2.68**
Disengagement coping	.16	.19	1.61 <i>ns</i>
4. Parental intrusiveness stress		.36	2.95**
Primary control coping		-.18	-.31 <i>ns</i>
Disengagement coping	.18	.09	.66 <i>ns</i>

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

ing, and disengagement coping were all entered as predictors of aggression on the CBCL, and the overall equation was significant, $F(3, 64) = 5.10, p = .003$. Only parental intrusiveness was a significant individual predictor in this equation, $\beta = .31, t = 2.70, p = .009$. Thus, there was no support for primary control coping or disengagement coping as mediators between parental intrusiveness stressors and adolescents' symptoms of aggression.

Tests of Effects of Current Parental Depressive Symptoms: Comparison of Parent and Adolescent Reports

Several analyses were conducted to examine the research question regarding the possible effects of parents' depressive symptoms on their reports about their adolescent children. First, parent and adolescent reports were compared in two multivariate analyses of variance (MANOVAs) followed by paired t tests for those MANOVAs that were significant. Next, multivariate analyses of covariance were conducted, controlling for current parental depressive symptoms on the BDI-II to determine if any observed differences between parent and child reports remained significant after accounting for current parental depressive symptoms. Finally, difference scores were calculated based on child and parent reports of the same constructs, and regressions were run to determine if parents' BDI-II scores were significant predictors of the difference scores.

Adolescents' symptoms of anxiety/depression and aggression and parental stressors. The MANOVA that included the anxiety/depression and aggression

syndromes on the CBCL and YSR and parental withdrawal and parental intrusiveness stress on the RSQ was significant, $F(1, 59) = 7.51, p = .008$. The difference between adolescents' and their parents' reports of adolescents' anxious/depressed symptoms was significant, $t(77) = 4.49, p < .001$. Adolescents and their parents also differed in their reports of aggressive behavior problems. The difference between adolescents' and their parents' reports of adolescents' aggression was also significant, $t(77) = 3.07, p = .003$. Consistent with previous research on rates of psychopathology for children of depressed parents, this sample exhibited approximately two to six times greater than the expected rate of anxious/depressed and aggressive problems in the normative sample.²

The MANOVA indicated that adolescents and their parents also differed in their reports on the RSQ of exposure to stress related to parental depression in the previous 6 months. Adolescents reported that they were exposed to low to moderate levels of parental intrusiveness and parental withdrawal. However, parents reported significantly higher levels than adolescents of both withdrawn parenting and intrusive parenting, suggesting that parents perceived adolescents as being exposed to moderate levels of both parental stressors.

The multivariate analyses of covariance, covarying for current parental depressive symptoms on the BDI-II, indicated that the overall F for the comparison of parent and adolescent reports of anxiety/depression, aggression, and parental withdrawal and intrusiveness was no longer significant. That is, the difference between the reports of parents and adolescents was accounted for by parents' current depressive symptoms. Informant differences were no longer significant in the individual analyses for covariance for anxiety/depression, aggression, or parental intrusiveness stressors after covarying for parental depressive symptoms; however, the difference remained significant for reports of parental withdrawal stressors.

Following Richter's (1992) suggestion, we then ran regression equations to determine if parent's BDI-II scores predicted the difference in child and parent reports. The BDI-II scores predicted a significant amount of the variance in the difference scores for adolescents' symptoms of aggression ($R^2 = .068, p < .021$) and parents' withdrawal ($R^2 = .164, p < .001$), but not for adolescents' symptoms of anxiety/depression or parents' intrusiveness.

²The percentages of adolescents in borderline clinical range on the CBCL and YSR were similar. The borderline clinical range is set at the 95th percentile; thus, 5% of the population would be expected to exceed this cutoff. In this sample, 9% of adolescents on the YSR and 24.7% of adolescents on the CBCL were in the borderline clinical range on anxiety/depression symptoms. For aggressive behavior problems, 14.1% of adolescents on the YSR and 23.1% on the CBCL scored in the borderline clinical range. These rates are two to five times greater than would be expected in the normal population.

Adolescents' coping and involuntary stress responses. Adolescents' and parents' reports of the relative level of the five coping and stress responses factors on the RSQ are presented in Table 1. The overall MANOVA did not indicate a significant main effect for informant, but there was a significant interaction between informant and the factors on the RSQ, $F(4, 73) = 3.45, p = .012$. Adolescents reported higher levels of secondary control coping (e.g., acceptance, cognitive restructuring) than their parents, and parents reported higher levels of involuntary engagement stress responses (e.g., emotional and physiological arousal, intrusive thoughts) than adolescents reported. Parents and adolescents did not differ in their reports of adolescents' primary control coping, engagement coping, disengagement coping, or involuntary disengagement responses.

The results of the multivariate analyses of covariance indicated that the interaction of informant by RSQ factor remained significant even after controlling for current parental depressive symptoms on the BDI-II, $F(4, 72) = 4.39, p = .003$. That is, the differences between parents' and adolescents' reports of adolescents' secondary control coping and involuntary engagement were not accounted for by parents' current depressive symptoms.

To further test for potential distortion due to parents' depression, we ran regression equations to predict the difference in parent and child reports of coping from parents' BDI-II scores. BDI-II scores predicted a significant amount of the variance in the difference scores for primary control coping ($R^2 = .10, p < .005$) and disengagement coping ($R^2 = .06, p < .031$), but not for adolescents' symptoms of anxiety/depression or parents' intrusiveness.

Correlations of Stress, Coping, Stress Responses, and Symptoms Across Parent and Adolescent Reports

Finally, to further test the possible effects of parental depression on parents' reports of their adolescents' stress, coping, and symptoms, the correlations of the RSQ factor scores between adolescents' self-reports and parents' reports are presented in Table 3. It is noteworthy that four of the five convergent validity correlations (i.e., cross-informant reports on the same scales of the RSQ and the CBCL and YSR) were positive, and all but one was statistically significant (involuntary disengagement $r = .14$). Moreover, four of the five convergent validity coefficients met or exceeded the range of .30 to .50, suggested as acceptable by Fiske and Campbell (1992). In addition, none of the discriminant validity correlations exceeded the convergent validity correlations in magnitude, meeting the 5% criterion for high discriminant validity suggested by Byrne and Goffin (1993). As a point of comparison, these correla-

tions compared quite favorably with the correlations of parent reports on the CBCL and adolescent reports on the YSR (Achenbach & Rescorla, 2001).

The pattern of convergent and discriminant validity correlations was further tested using Fisher's z transformation to contrast mean of the convergent validity correlations of the same RSQ coping and stress response scales on the RSQ across informants (e.g., adolescents' reports of primary control engagement with parents' reports of primary control engagement), with the mean of the discriminant validity correlations between different scales across informants (e.g., adolescents' reports of primary control engagement with parents' reports of secondary control engagement). The difference between the mean of the convergent correlations ($r = .35$) and discriminant correlations ($r = -.08$) was significant, $z = 2.68, p < .01$.

Because there were significant differences in the mean levels of parents' and adolescents' reports for most variables, intraclass correlations were also computed to examine the convergence of parent and adolescent reports, taking into account the mean level differences (Richters, 1992). As shown on the diagonal in Table 3, all of the cross-informant intraclass correlations were statistically significant except for involuntary disengagement, which also was not significant for the Pearson correlation. Moreover, all of the intraclass correlations were higher than the Pearson correlations (r s ranged from .24 to .69).

As a further test of the relation between parents' depression and cross-informant reports, partial correlations were run to partial out the variance accounted for by parents' BDI scores. The correlations between parent and child report on measures of stress, coping, and child functioning, partialling out parents' BDI scores, were very similar to the Pearson correlations. Only the correlation between parent and adolescent reports of adolescents' involuntary disengagement stress responses was no longer significant after controlling for parental depressive symptoms.

Discussion

This study is the first to examine adolescents' reports of family stress, adolescents' stress responses and coping, and adolescents' psychological symptoms in adolescent offspring of depressed parents. Adolescents' self-reports provide important information on the potential role of coping and involuntary stress responses in adolescents' adjustment to stressors related to their parents' depression. Moreover, in analyses that controlled for shared method effects, cross-informant multiple regression analyses indicated that adolescents' reports of secondary control engagement coping and involuntary engagement stress responses mediated the relation between *adolescents'* reports of parental

intrusiveness and *parents'* reports of adolescents' anxiety/depression symptoms. Comparisons of adolescents' and parents' reports also shed further light on the effects of parental depression on the assessment of adolescents' stress, coping, and emotional and behavioral problems.

Correlational analyses of adolescents' self-reports indicate that stressors related to parental intrusiveness and irritability (e.g., "My mom is upset, tense, grouchy, angry, and easily frustrated"; "My mom worries about bad things happening to me") were related to higher levels of symptoms of anxiety/depression and aggression. Adolescents' use of secondary control engagement coping (e.g., distraction, cognitive restructuring) to cope with family stressors was related to lower levels of symptoms of anxiety/depression and aggression. In contrast, adolescents' involuntary engagement stress responses (e.g., emotional and physiological reactivity, rumination) were related to higher levels of both types of symptoms. These findings represent an important replication and extension of findings reported by Langrock et al. (2002) in their study of parents' reports of these same processes. That is, the pattern of correlations found here in adolescents' self-reports was the same as that reported by Langrock et al. in analyses of the reports of depressed parents. Thus, based both on parent and adolescent reports, secondary control coping appears to be an adaptive response to the stress of living with a depressed parent, and involuntary engagement stress responses appear to be maladaptive.

The most important analyses for testing the role of stress and coping responses in the adjustment of adolescent offspring of depressed parents are the cross-informant correlations and multiple regressions with these constructs. The findings indicate that, after controlling for method variance, adolescents' reports of their secondary control engagement coping (i.e., distraction, acceptance, positive thinking, and cognitive restructuring) were related to lower parental reports of symptoms of anxiety/depression on the CBCL, whereas adolescents' reports of involuntary engagement stress responses (i.e., emotional and physiological arousal, rumination, intrusive thoughts, impulsive action) were related to higher levels of anxiety/depression symptoms on the CBCL. Furthermore, in the multiple regression analyses, secondary control coping and involuntary engagement stress responses mediated the relation between parental intrusiveness stressors and adolescents' anxiety/depression symptoms on the CBCL.

The importance of secondary control engagement coping and involuntary engagement responses suggested by these analyses is consistent with the path model results presented by Langrock et al. (2002) based on parent reports, as secondary control engagement coping and involuntary engagement were the

only significant mediators of the relation between parental intrusiveness stressors and adolescents' anxiety/depression symptoms. These findings suggest that preventive interventions could be helpful by increasing adolescents' skills in using secondary control coping strategies and reducing involuntary stress reactions (Compas et al., 2002).

It is important to note, however, that these same cross-informant correlations were not significant in the analyses of parents' reports of stressors and adolescents' coping and stress responses with adolescents' reports of anxiety/depression symptoms. This suggests that adolescents may be relatively better at reporting on their coping and stress responses, which are internal and covert to a significant degree. These findings emphasize the importance of taking into account both parents' and adolescents' reports as opposed to relying solely on parental reports.

With regard to methodology, the findings indicate that there are both important consistencies and important differences in the reports of depressed parents and their adolescent offspring. Mean levels of stress related to parental withdrawal and parental intrusiveness, adolescents' symptoms of anxiety/depression and aggression, and two forms of adolescents' coping and stress responses differed in the reports of parents and adolescents. Depressed parents reported higher mean levels of stress related to parental intrusiveness and parental withdrawal, adolescents' involuntary engagement stress responses, and adolescents' anxious/depressed and aggressive symptoms than were reported by their adolescent offspring. The size of these effects ranged from small ($d = .2$ for parental intrusiveness) to large ($d = 1.0$ for parental withdrawal), with most of the effects in the medium range ($d = .4$ to $.5$). Adolescents reported higher levels of only one factor, secondary control coping (an adaptive form of coping), and adolescents and parents did not differ in reports of adolescents' primary control coping, disengagement coping, or involuntary disengagement. It is noteworthy that the differences in parent and adolescent reports of stress and adolescents' symptoms were no longer significant after parents' current depressive symptoms were controlled for in the analyses of covariance. This suggests that the difference in these reports is due at least in part to parents' current depressive state.

In spite of the mean level differences in parents' and adolescents' reports, the convergent and discriminant validity coefficients suggest that there was good covariation between parents' and adolescents' reports of stress, stress responses, coping, and symptoms. Correlations among adolescents' and parents' reports of adolescents coping and stress responses and the cross-informant correlations for these variables indicated good convergent and discriminant validity. All of the convergent validity correlations were positive, and eight of the nine were statistically significant. They

ranged in magnitude from $r = .14$ (for adolescents' involuntary disengagement responses to stress) to $r = .54$ (for adolescents' secondary control engagement coping responses), and the mean of the nine correlations was .37. These findings compare favorably with those found in community samples of adolescents and their parents (Connor-Smith et al., 2000). Thus, although there were mean level differences in parent and adolescent reports for several aspects of adolescents' functioning, there was correspondence in the rank ordering of the parent-adolescent reports. This was further supported by the intraclass correlations, which take the mean differences between informants into account, and by the partial correlations, which controlled for parents' current depressive symptoms on the BDI. Taken together, these findings do not indicate that parental depressive symptoms resulted in significant distortion of their reports of their adolescents' functioning, at least in comparison to adolescents' own reports about themselves.

Given the wide age range of the adolescents in this study (10 to 16 years old), it is reasonable to expect that age or developmental differences would be found in the use of different types of coping or in the association of coping with symptoms. However, the only age effect was found in the positive correlation of age with parental withdrawal stressors. This is consistent with previous studies that have failed to find evidence of age differences in parent-child interactions in families of depressed parents (see Lovejoy et al., 2000, for a review). Thus, it is possible that the effects of stressful parent behaviors and the ways that children cope with these stressors in families of depressed parents may be relatively stable across development. Habitual patterns of parent-child interactions and child responses may emerge early in these families and become stable patterns of interactions. Alternatively, this study may have been limited by the relatively small age range that was sampled (a relatively small number of participants at each age), and the measures used here may be relatively insensitive to developmental changes in coping. In spite of the null findings in this study, the issue of possible developmental changes in stress and coping warrants continued attention in future research.

This study had several limitations that could be addressed in future research. First, the relatively small sample size prevented us from using parent and adolescent reports to create latent variables that would control for errors attributable to informants. Future studies with larger samples will be able to utilize this methodology. Second, reflective of the geographic region in which the study was carried out, the sample was homogenous with regard to race and ethnicity. Third, the findings are cross-sectional and do not allow for tests of these associations over time. It is plausible that parental withdrawal and intrusiveness are actually responses by parents to symptoms of anxiety/depression

or aggression in their children (see Elgar, McGrath, Waschbusch, Stewart, & Curtis, 2004). Studies using prospective designs will be important to disentangle the direction of these effects.

Fourth, the measurement of coping and stress responses has been limited by problems of the confounding of these responses with symptoms of psychopathology (Compas et al., 2001; Skinner, Edge, Altman, & Sherwood, 2003). The items on the RSQ warrant further examination to eliminate possible confounding of this type. Fifth, the measures of stressors related to parental withdrawal and intrusiveness had poor internal consistency and may have not provided adequate indexes of these stressors. This portion of the RSQ needs to be improved if the scale is used in future studies of offspring of depressed parents. These limitations notwithstanding, this study underscores the importance of the relations between stress related to parental depression and adolescent symptoms of anxiety/depression, and the significance of adolescents' coping and stress responses as mediators of stress within families of depressed parents.

In summary, the results of this study may have potentially important implications for interventions with the adolescent children of depressed parents. Adolescents may benefit from learning to cope with the stress of living with a depressed parent by using secondary control coping strategies, such as distraction, acceptance, and cognitive restructuring, and learning to minimize their involuntary engagement strategies, such as intrusive thoughts and emotional arousal. Examining preventive interventions to enhance coping will provide an important test of these hypotheses.

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