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Observed Parental Responsiveness/Warmth and Children's Coping: Cross-Sectional and Prospective Relations in a Family Depression Preventive Intervention

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The current study examined concurrent and prospective relations between observed parenting behaviors and children's coping strategies in the context of a preventive intervention designed to change both parenting and children's use of secondary control coping. Questionnaires and direct observations were obtained from parents with a history of depression ($N = 180$) and their children (ages 9–15 years) at baseline, 6-month (after completion of the intervention), and 18-month follow-up assessments. Cross-sectional analyses indicate that baseline observed parental responsiveness/warmth was significantly associated with composite parent/child reports of children's baseline primary control, secondary control, and disengagement coping. Using a mixed effects model, prospective mediational analyses indicate that intervention-driven improvements in observed parental responsiveness/warmth from baseline to 6 months significantly accounted for increases in children's use of secondary control coping strategies from baseline to the 18-month follow-up assessment. No significant mediation effects emerged for primary control coping or disengagement coping. The present findings suggest that it may be possible to improve children's coping strategies not only through targeted interventions, but also indirectly by improving responsive and warm parenting behaviors. Limitations and strengths are noted and implications for future research are outlined.

Keywords: coping, parental responsiveness, parental warmth, cognitive–behavioral intervention, parental depression

Examining the development of processes of coping with stress is fundamental to understanding individuals at risk for emotional and behavioral problems, as research has identified specific coping strategies that are differentially associated with adjustment. For example, engagement coping strategies (e.g., problem-solving) are generally more adaptive than disengagement coping strategies (e.g., avoidance) in children's responses to stressors (e.g., Compas, Jaser, Dunn, & Rodriguez, 2012). Accordingly, the identification of processes through which individuals learn and develop specific coping skills, including the role of parents, is an important step in research on coping, as the development and use of effective regulatory strategies is a critical resource in reducing risk in those who are faced with stress.

The conceptual model of coping that guides the current study includes three distinct responses: primary control, secondary control, and disengagement. Primary control refers to efforts to act directly on a stressor or emotions through problem-solving, emotional modulation, or emotional expression; secondary control refers to efforts to adapt to a source of stress through acceptance, positive thinking, cognitive reappraisal, or distraction; lastly, disengagement represents efforts to evade the stressor or emotions through denial, avoidance, or wishful thinking. This model of coping has been validated using confirmatory factor analysis in both children and adolescents from diverse cultural backgrounds and in response to a wide range of sources of stress (e.g., Compas et al., 2006; Connor-Smith et al., 2000).

A small but emerging body of research has examined the role of parents as socializing agents of coping strategies in children and adolescents. Parenting behaviors may represent one salient pathway by which parents influence their children's coping skills (Kliewer, Sandler, & Wolchik, 1994). Parents who are sensitive to the emotional experiences of their children may be more aware and accepting of their own and their children's emotions, thus com-

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municating a message that emotions are understandable and can be expressed, and may engage their children in conversations about how to modulate emotions and cope with stress (e.g., Shipman & Zeman, 2001). Further, caregivers who are warm and supportive may serve as resources through the provision of informational support (e.g., offer concrete ways to cope), emotional support (e.g., comfort and listen), or instrumental support (e.g., problem-solve with the child) and as a consequence, these children may be more likely to approach their parents for support during stress (Thompson & Meyer, 2007). On the other hand, parents who are insensitive and minimize their children's emotions may communicate a message that emotions are unacceptable and should be suppressed and promote the use of disengagement coping (e.g., Eisenberg et al., 1996). Caregivers who respond inconsistently to their children's emotions and behaviors may create an unpredictable emotional climate, which may limit their children's willingness to seek guidance and undermine feelings of security in discussing and expressing emotions (Thompson & Meyer, 2007).

Several studies have documented significant cross-sectional associations between children's coping and dimensional measures of both positive and negative parenting behaviors; that is, children of parents who are more warm, responsive, and supportive use more engagement and fewer disengagement strategies, including more positive cognitions (Gaylord-Harden, 2008), greater problem-solving strategies (Meesters & Muris, 2004), and less emotional suppression (Jaffe, Gullone, & Hughes, 2010). Conversely, children of intrusive, withdrawn, and coercive parents use less engagement and more disengagement coping, including greater avoidance (Eisenberg, Fabes, & Murphy, 1996) and fewer cognitive reappraisal strategies (Jaffe et al., 2010).

Randomized intervention trials offer a particularly interesting opportunity to examine the relationship between parenting processes and children's coping to the degree that they directly attempt to change one or both of these processes. In doing so, these studies provide an experimental design to more stringently investigate the relationship between parenting practices and children's regulatory strategies. Only one study has examined relations between parenting and children's coping in the context of an intervention (i.e., Vélez, Wolchik, Tein, & Sandler, 2011). Specifically, Vélez and colleagues conducted a randomized clinical trial testing a preventive intervention for divorced mothers and their children comparing an intervention that taught a combination of parenting and children's coping to an informational control group. The intervention led to improvements in parenting behaviors (i.e., composite mother-child report of relationship quality and discipline), although it had no effect on children's coping. Furthermore, intervention-induced improvements in parental relationship quality at 6 months predicted children's reports of their use of active coping 6 years later. Changes in maternal discipline did not predict children's use of active or avoidant coping. Vélez et al. noted an important next step for research is to replicate and build on these prospective findings in other at-risk populations.

Parental depression presents a unique and important context in which to examine the associations between parenting behaviors and children's coping strategies, as both processes have been shown to be significantly impaired in this high-risk population. First, depressed parents display more negative parenting and less positive parenting behaviors in interactions with their children (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). Specifically, parents with depression have been found to be more irritable, withdrawn, inconsistent in their discipline, offer less praise, and display less positive affect toward their children; further, these disruptions have been found to remain, although tempered, even after the remission of a depressive episode. Second, children of depressed parents rely on less adaptive coping strategies in response to stress (e.g., Jaser et al., 2005). For example, as stress associated with parental depression increases in the family, children have been found to use less primary control and secondary control strategies and greater disengagement strategies (Jaser et al., 2005). Despite the importance of both parenting and coping in children of depressed parents, no study to our knowledge has examined relations between these processes in this at-risk population. It is plausible that depressed parents may contribute to their children's use of ineffective coping strategies through parenting behaviors.

The potential importance of both parenting and children's coping is highlighted in recent research that found that a family group cognitive–behavioral preventive intervention program for families with a history of parental depression was effective in teaching children to use secondary control coping to deal with the stress associated with parental depression as well as increasing parents' positive parenting in interactions with their children (Compas et al., 2010, 2011; 2009). Secondary control coping was targeted based on evidence that it is particularly well-suited to adapting to uncontrollable stressors faced by children of depressed parents (e.g., Jaser et al., 2005). Further, changes in children's use of secondary control coping and changes in positive parenting partially mediated the effects of the intervention on children's symptoms from baseline to 12 months (Compas et al., 2010) and changes in parents' depressive symptoms led to subsequent changes in negative but not positive parenting (Forehand et al., 2012). However, changes in coping have not yet been examined (in regards to this particular intervention) except immediately postintervention, nor have relations between parenting and children's coping in the context of the intervention. Building on Vélez et al. (2011), it is important to examine parenting and children's coping in the context of this intervention designed to change both processes.

The present study builds on previous research in several ways. First, many studies have relied exclusively on a single informant to report on children's coping and parenting behaviors (e.g., Meesters & Muris, 2004); as a consequence, shared method variance may account for a portion the significant relations found. Second, most studies have used only questionnaire measures of parenting behaviors (e.g., Vélez et al., 2011) and the use of observational measures of parenting has been limited (see McKernon, Holmbeck, Colder, Hommeyer, Shapera, & Westhoven, 2001, for an exception). Third, a number of studies have used unstandardized measures of children's coping (e.g., Kliewer, Parrish, Taylor, Jackson, Walker, & Shivy, 2006), making it difficult to draw clear conclusions from individual studies and compare findings across studies. Lastly, most studies have been cross-sectional and conclusions about the direction of the association cannot be determined (see McKernon, Holmbeck, Colder, Hommeyer, Shapera, & Westhoven, 2001; Vélez et al., 2011 for exceptions). The current study addressed each of these issues by obtaining child and parent reports on a standardized measure of children's coping and using observations to assess parenting in a longitudinal design.

The present study concurrently and prospectively examined the association between observed responsive/warm parenting behaviors and children's coping strategies in the context of a preventive intervention designed to teach parenting and coping skills (Compas, Keller, & Forehand, 2011). First, based on previous research, we hypothesize that observed responsive/warm parenting will be positively associated with primary and secondary control coping and negatively associated with disengagement coping at baseline. Second, building on previous findings (Compas et al., 2010), we hypothesize that intervention-driven improvements in observed parental responsiveness/warmth from baseline to 6 months will mediate the effects of the intervention on subsequent changes in children's use of secondary control coping. Further, exploratory analyses examined the effects on primary control and disengagement coping, although they were not expected to be affected by the intervention.

Method

Participants

The sample included 180 families (160 mothers) with 242 children (121 boys) between the ages of 9 and 15 ($M = 11.53$, $SD = 2.02$). The target parents all met criteria for at least one episode of major depressive disorder during the lifetime of their children ($Mdn = 4.0$). A number of families had more than one child participating. To address the possible nonindependence of children within the same family, one child was randomly selected from each family for analyses.

The final sample included 180 children (91 boys) between the ages of 9 and 15 ($M = 11.46$, $SD = 2.00$) and their parent (160 mothers) who met criteria for at least one episode of major depressive disorder during their child's lifetime ($Mdn = 4.0$). The sample was largely Euro American (74.4% of the children and 82.2% of the target parents). Parents ranged from 24 to 69 years of age ($M = 41.96$, $SD = 7.53$). Parents' level of education varied with 55.0% reporting at least a college degree. The majority of parents were married or cohabiting (61.7%). Annual household income ranged from less than $5,000 to more than $180,000, with a median of $40,000. Chi-square comparisons for the categorical demographic variables as well as independent samples t tests for baseline parenting, baseline coping, and parent and child age indicated randomization was successful, as there were no significant differences between the two conditions at baseline.

Procedure

Participants were invited to enroll in a study testing the efficacy of a family group cognitive–behavioral intervention (FGCB) to prevent depression and other mental health problems in children of parents with a history of major depressive disorder. Families were recruited through a variety of sources in and around a southern metropolitan area and a small northeastern city, including mental health clinics and local media outlets. The FGCB intervention is a manualized 12-session program for four families (parents and children) in each group (Compas et al., 2011). Goals are to educate families about depression, increase awareness of the impact of stress and depression on functioning, help families recognize and monitor stress, and most relevant to the current analyses, improve parenting skills and the development of children's secondary control coping skills for managing stress related to their parents' depression. In the Written Information (WI) condition, families were mailed written materials to provide education about depression, the effects of parental depression on families, and the signs of depression in children. After the family made initial contact, a trained research assistant conducted a phone screen with the target parent to determine family eligibility (for a more complete description of the FGCB and WI materials, inclusion and exclusion criteria, and enrollment process, see Compas et al., 2009).

Families identified as eligible were invited into the laboratory to participate in a baseline assessment that included semistructured diagnostic interviews, a battery of questionnaires, and two 15-min parent–child videotaped interaction tasks. Eligible families were randomized to either the FGCB or the WI comparison condition. Figure 1 presents the flowchart for participant contacts, screenings, baseline, randomization, and retention. Participating families returned for a 6-month follow-up that included semistructured interviews, a similar battery of questionnaires, and two 15-min parent–child interaction tasks. The same battery of questionnaires was sent to the home at the 18-month postbaseline assessment. The Institutional Review Boards at the two universities approved all procedures. Clinical psychology graduate students conducted all semistructured interviews and interaction tasks. Families were compensated $40 for each assessment.

Measures

Observed parental responsiveness/warmth. At both baseline and 6-month assessments, parents and children participated in two 15-min video recorded interaction tasks. In the first task, the parent and child were instructed to discuss a recent pleasant family activity using a list of prompted questions that were written to elicit positive affect from the dyad (e.g., What are some other fun activities that we would like to do together?). In the second task after the discussion of the pleasant activity, the parent and child discussed a recent family stressful event that involved the parent and child using a list of questions written to elicit negative affect from the dyad (e.g., When mom/dad is sad, down, irritable or grouchy what usually happens?).

Parenting behaviors in the two parent–child interaction tasks were coded separately using a macrolevel coding system, the Iowa Family Interaction Rating Scale (IFIRS), which is designed to code interactions at both the individual and dyadic level (Melby, Conger, Book, Reuter, Lucy, & Repinski, 1998). Each code is rated on a 9-point Likert scale (1 = *not at all characteristic* to 9 = *mainly characteristic*) based on the frequency, intensity, and duration of such things as parental verbal and nonverbal behaviors, affect, and tone of voice.

IFIRS coding of each task was conducted by highly trained research assistants who were blind to condition and who coded each task independently by watching the 15-min task five times before rating each code on the 9-point Likert scale. When both research assistants had completed coding the task, they met to compare their codes and reach a consensus on any discrepant codes (i.e., codes that were two or more points off from each other); if the coders were one point off, the higher code was given. The IFIRS coding system has been validated through correlational

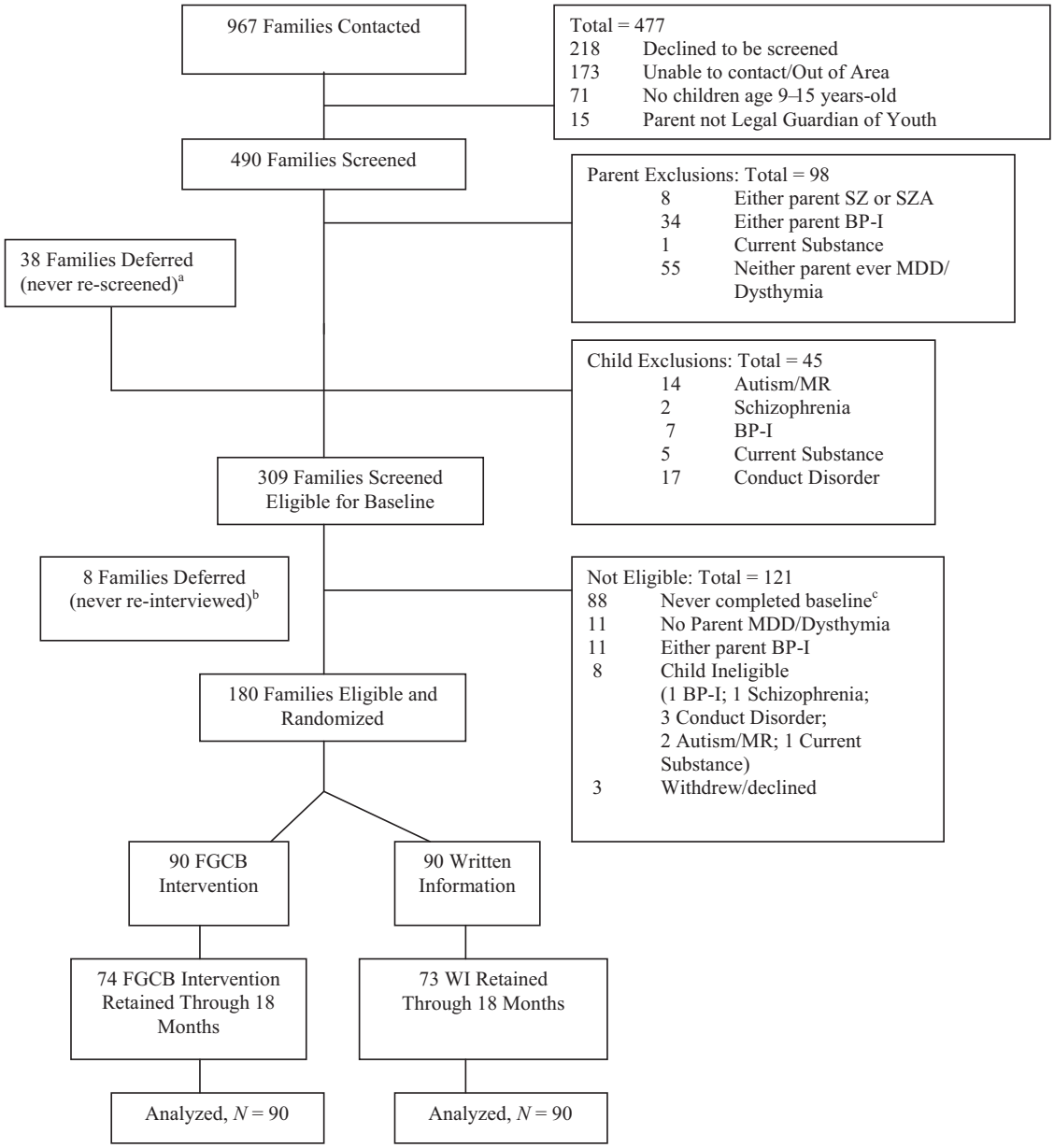

Figure 1. Participant screening and randomization. [a] = 15 families deferred because of youth major depressive episode; [b] = 5 families deferred because of youth major depressive episode; [c] = 8 youth not interested; 56 parent not interested; 3 families moved; 1 parent not legal guardian; 19 not reachable; and 1 contacted study after enrollment closed. FGCB = family group cognitive–behavioral intervention; SZ = schizophrenia; SZA = schizoaffective disorder; BP-I = bipolar I; MDD = major depressive disorder; MR = mental retardation; WI = written information.

and confirmatory factor analysis (Alderfer et al., 2008; Melby & Conger, 2001).

Parents and children were coded separately on a number of emotional and behavioral codes; the current study focuses on the parenting codes that were used to create a composite score of *parental responsiveness/warmth*, reflective of theory-driven and empirically supported parenting behaviors associated with children's coping responses. Following procedures used previously with the IFIRS codes (e.g., Compas et al., 2010; Melby et al., 1998), scores were averaged across the two tasks and summed to create the composite code for *responsiveness/warmth*. Specifically, the parenting behaviors included warmth, listener responsiveness, communication, prosocial behaviors, quality time, and child-centeredness. Internal consistency for the composite was $\alpha = .89$ at baseline and $\alpha = .91$ at 6 months.

Children's coping responses. Parents and children completed the 57-item parental depression version of the Responses to Stress Questionnaire (RSQ-PD; Connor-Smith et al., 2000; Jaser et

al., 2005) to assess the ways in which children cope with and react to the stress associated with their parent's depression. All analyses in the present study focus on the three coping factors confirmed in factor analytic studies (e.g., Compas et al., 2006; Connor-Smith et al., 2000): primary control (i.e., emotional modulation, emotional expression, and problem-solving), secondary control (i.e., acceptance, cognitive reappraisal, distraction, and positive thinking), and disengagement (i.e., avoidance, denial, and wishful thinking). To control for response bias in item endorsement, proportion scores were calculated by dividing the total score for each coping factor by the total score obtained on the RSQ-PD (Vitaliano, Maiuro, Russo, & Becker, 1987). Composite scores of children's coping were created separately for each coping factor creating standardized scores (*z*-scores) of the parent and child report and computing the mean, as Compas et al. (2006) showed through latent variable analysis that parent and child reports on the RSQ adequately converge. The correlations between parent and child report of coping ranged from $r = .17$ to .37. Internal consistencies for the composite scores of the coping factors at baseline and 18-month assessments were $\alpha = .77$ and $\alpha = .85$ on primary control coping, $\alpha = .73$ and $\alpha = .83$ on secondary control, and $\alpha = .79$ and $\alpha = .80$ on disengagement coping, respectively.

Data Analytic Approach

Correlational analyses. Bivariate Pearson's correlations were calculated to examine associations among observed parental responsiveness/warmth at baseline and 6 months with composite reports of children's primary control, secondary control, and disengagement coping strategies at both the baseline and 18-month follow-up assessment periods.

Mediation analyses. Following the approach used by Compas et al. (2010), mediation analyses were tested drawing on MacKinnon et al. (2007, 2002) and Kraemer et al. (2002). As shown in Figure 2, following the guidelines from MacKinnon et al. (2007, 2002), evidence for mediation is found by examining the joint significance of the path from the intervention to the mediator (α path) and the path from the mediator to the outcome (β path) after accounting for the effects of the intervention. Kraemer et al. (2002) proposed that evidence for mediation of an intervention requires random assignment to the intervention and a comparison condition, a significant association between the intervention and change in the mediator (α), and either a significant main effect of changes in the mediator on changes in the outcome (β) or a significant effect of the interaction between the intervention and change in the mediator on changes in the outcome (β'). Further, changes in the mediator must be assessed before and independent of changes in outcome (Kraemer et al., 2008, 2002; MacKinnon et al., 2007, 2002). Therefore, we calculated a change score from baseline to the 6-month assessment for observed parenting and measured coping at the later 18-month follow-up, covarying for baseline levels of coping.

A mixed effects model was used to test the effects of the intervention on the outcome of children's coping (τ path), the intervention on the mediator of parental responsiveness/warmth (α path), and the effects of change in the mediator on change in the outcome (β and β' paths; see Figure 2). Given that half of the participants were randomized to the FGCB condition and half were not in groups in the WI condition, the design involved partial nesting within groups (see Bauer, Sterba, & Halfors, 2008; and Sterba, Preacher, Hardcastle, Forehand, Cole, & Compas, in press, for a detailed discussion of this analytic approach). In the FGCB group, each set of participants was nested within one of 24 intervention groups comprised of four families per group. Within the WI condition, there was no such nesting. Using SAS PROC MIXED with restricted maximum likelihood estimation (i.e., method = REML), we implemented

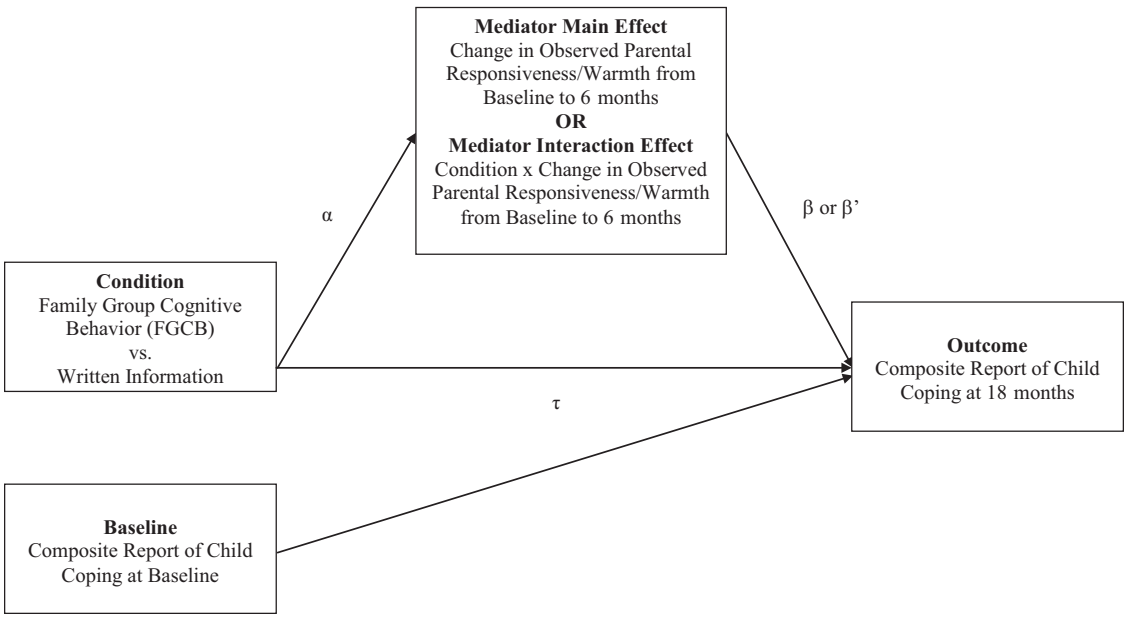

Figure 2. Mediational model.

a multivariate, mixed-effects model to test the effect of the intervention condition on the parenting mediator variable at the 6-month follow-up assessment. All participants were retained in the data analysis, including those with partial data. Fixed effects included the baseline and 6-month intercepts. Program condition was a random effect at baseline and at 6 months, which allowed intervention means at each time point to vary across intervention condition. This amounted to estimating a between-groups random effect variance for intervention at each time point and estimating a within-group residual variance.

The FGCB intervention condition was coded in two ways to address separate recommendations of Kraemer et al. (2002) for tests of mediation and of Bauer et al. (2008) to account for partial nesting. Following recommendations of Bauer et al., we coded the intervention condition as 1 and the comparison condition as 0 in the RANDOM statement of the Proc MIXED code. Because we included the Treatment × Mediator interaction terms, we followed the recommendation of Kraemer et al. (2002) and coded the intervention condition as .5 and the comparison condition as −.5 in the MODEL statement of the MIXED code.

The degrees of freedom vary across analyses because they are approximated, not exact, and the information involved in the approximation varies across analyses. In the mixed model, when there is a complex covariance structure and an unbalanced sample size (as in the current analyses), there is an unknown null distribution of the *F* statistic (Schaalje, McBride, & Fellingham, 2002). Several ways of approximating this test distribution have been proposed in this context, and the most commonly recommended one (e.g., Fitzmaurice et al., 2009, p. 274; Fitzmaurice et al., 2004, p. 98) was used here: the Kenward-Roger method (Kenward & Roger, 1997). This method uses a Taylor series approximation to generate approximate moments of the null distribution of the test statistic and equates these to an *F* distribution to solve for a scaling factor and denominator degrees of freedom. With this approximation, degrees of freedom may not be integers (Schaalje et al., 2002).

The effect size for the mediation analysis was calculated based on procedures described by MacKinnon et al. (2007) and also reported in Compas et al. (2010). The numerator was the difference between the direct effect of the intervention on coping and the indirect effect of the intervention on coping ($\tau - \beta$) after controlling for baseline coping scores and the denominator was the direct treatment effect (τ).

Results

Correlations Among Observed Responsiveness/Warmth and Children's Coping Strategies

Bivariate Pearson's correlations among observed parental responsiveness/warmth and composite scores of children's coping responses at baseline are presented in Table 1. Consistent with our first hypothesis, observed baseline parental responsiveness/warmth was significantly and positively correlated with baseline composite reports of children's primary control ($p < .01$) and secondary control ($p < .05$) coping, and significantly and negatively correlated with children's use of disengagement coping ($p < .001$). Baseline responsiveness/warmth was also significantly correlated with 18-month composite reports of children's primary control ($p < .05$) and disengagement ($p < .01$) coping, and approached significance with children's secondary control coping ($p < .10$). Observed responsiveness/warmth at 6 months was not significantly associated with composite reports of coping at baseline, but it approached significance, in the expected directions, on composite reports of all three types of children's coping at 18 months.

Mediation Analyses

Direct effects of the intervention on children's coping strategies. The FGCB intervention led to significant increases in children's use of secondary control coping strategies from baseline to the 18-month assessment, $t = -3.88$, $p < .001$ relative to participants in the WI condition. Consistent with the targeted skills in the intervention (i.e., secondary control coping), the program condition did not lead to changes in children's use of primary control coping or disengagement coping from baseline to 18 months.

Effects of the intervention on observed parental responsiveness/warmth. The condition to which families were assigned significantly predicted changes in observed parental responsiveness/warmth from baseline to 6 months (after completion of the intervention), $t = -2.40$, $p < .05$. Parents who participated in the FGCB condition significantly increased their use of observable responsive and warm parenting behaviors relative to participants in the WI condition. Given that the α path was significant, parental responsiveness/warmth met criteria to be tested as a mediator of the intervention on children's coping outcomes. We also tested the direct effect of the program condition on a negative parenting composite that included intrusiveness, hostility, antiso-

Table 1
Bivariate Pearson's Correlations Among Parental Responsiveness/Warmth and Children's Coping

	1	2	3	4	5	6	7	8
1. Baseline observed parental responsiveness/warmth	—							
2. 6-Month observed parental responsiveness/warmth	.73***	—						
3. Baseline primary control coping composite	.25**	.08	—					
4. Baseline secondary control coping composite	.19*	.11	.33***	—				
5. Baseline disengagement coping composite	−.27***	−.06	−.71***	−.23**	—			
6. 18-Month primary control coping composite	.25*	.21†	.41***	.10	−.47***	—		
7. 18-Month secondary control coping composite	.19†	.21†	.13	.38***	−.19†	.40**	—	
8. 18-Month disengagement coping composite	−.32**	−.20†	−.45***	−.11	.62***	−.76***	−.50***	—

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

cial behaviors, and guilty coercion. In line with the findings reported in Compas et al. (2010), the intervention did not have a significant effect on changing negative parenting from baseline to the 6-month follow-up, and so it did not meet criteria for testing mediation outlined by MacKinnon et al. (2007, 2002) and was not included in the analyses.

Mediation of intervention effects on children's coping. Observed change in warm and responsive parenting was tested as a mediator on child coping according to the criteria outlined by Kraemer et al. (2002; i.e., the main effect of changes in the mediator on the outcome variable in the presence of the main effect of the intervention, β path, or a significant interaction of changes in the mediator with the intervention condition on the outcome variable, β' path; see Figure 2). As shown in Table 2, a significant effect emerged for changes in warm and responsive parenting from baseline to 6 months on secondary control coping from baseline to 18 months (main effect and interaction effect $ps < .05$). The magnitude of the mediation effect was 0.30.

Additionally, to examine the specificity of responsive/warm parenting on changes in children's secondary control coping, we also controlled for a baseline composite of negative parenting that included hostile and intrusive behaviors. The mediation effect of observed responsive/warm parenting on children's secondary control coping remained significant. Significant effects for responsiveness/warmth were not found on children's primary control or disengagement coping. As noted above, the direct effect of the intervention on primary control or disengagement coping (τ path) was also not significant.

Discussion

Results of the present study build on and extend previous research by concurrently and prospectively examining relations between children's coping strategies and observed parental responsiveness/warmth in the context of an intervention designed to change both processes. Previous research has shown significant relations between parenting and children's coping based primarily on questionnaire reports of both constructs with more positive parenting tending to be related to children's greater use of engagement coping responses and more negative parenting tending to be associated with children's greater use of disengagement coping efforts (e.g., Jaffe et al., 2010). The current study provides some of the strongest evidence to date of the influence of parenting behaviors on children's use of coping strategies through the use of direct observations of parenting, multiple informants to report on children's coping, and analyzing these relationships in a prospective, three-wave, mediational design in a preventive intervention.

In support of the first hypothesis, we found at baseline that observed parental responsiveness/warmth was significantly positively correlated with composite scores based on parent and child reports of children's primary control and secondary control coping, and negatively correlated with children's disengagement coping. Further, observed parenting at the baseline assessment was significantly correlated with children's primary control coping and disengagement coping at the 18-month follow-up assessment. Baseline parenting only approached significance in its relation to children's secondary control coping at 18 months; however, this likely is a consequence of the successful intervention-driven changes in children's use of secondary control coping strategies, independent of parenting behaviors. Observed parenting at the 6-month assessment was not significantly related to children's coping strategies at baseline and only approached significance in relation to children's coping efforts at 18 months. However, subsequent analyses provided support for a more complex relationship between parenting and coping in the context of the FGCB preventive intervention.

In support of the second hypothesis, intervention-driven improvements in responsive and warm parenting from baseline to 6 months (immediately postintervention) mediated the effects of the intervention on children's greater use of secondary control coping from baseline to 18 months. The magnitude of this mediation effect was .30. Although there continues to be debate regarding the interpretation of the practical significance of effect sizes in mediation analyses (e.g., MacKinnon et al., 2007; Preacher & Kelley, 2011), using Cohen's (1988) rule of thumb, this would be comparable to a medium effect. These mediational findings are consistent with those of Vélez et al. (2011) who found that intervention-driven changes in relationship quality as reported by mothers and children predicted later changes in active coping. Further, the current findings build on this work through the use of direct observations of parenting and the findings of intervention-driven changes in both parenting and children's coping.

In the exploratory analyses, significant mediational findings did not emerge for either primary control or disengagement coping. As expected, the intervention did not lead to changes in children's use of either primary control or disengagement strategies and it may be that warm and responsive parenting does not have a direct effect on children's use of these strategies. The nonsignificant findings for disengagement coping are consistent with those of Vélez et al. who found that changes in relationship quality and discipline did not significantly predict children's avoidant coping across time. Vélez et

Table 2
Effects of Observed Parenting as a Mediator of the Intervention Effects on Children's Coping Strategies (β and β' Paths)

	Primary control coping			Secondary control coping			Disengagement coping		
	df	*t*	*p*	*df*	*t*	*p*	*df*	*t*	*p*
Intercept	66	0.47	0.64	65.8	0.11	0.91	76	−0.08	0.93
Baseline coping (covariate)	54	3.32	<.01	70.8	5.10	<.0001	71.4	6.35	<.0001
Intervention main effect (τ)	66	0.68	0.50	65.8	−4.92	<.0001	76	0.27	0.79
Parental responsiveness/warmth main effect (β)	74.9	−0.46	0.65	52.3	2.33	0.02	70.7	1.13	0.26
Interaction of intervention × responsiveness/warm parenting (β')	74	−0.45	0.65	51.6	−2.69	0.01	70.5	−0.35	0.73

[a] FGCB Intervention (coded as 0) vs. WI Comparison Condition (coded as 1).

al. suggested that children's disengagement coping may be more influenced by individual difference factors (e.g., temperament) rather than parenting.

Although not directly tested in the present study, there are a number of potential mechanisms by which responsive/warm parenting may lead to improvements in children's use of secondary control coping. First, parents who are responsive/warm to their children's emotional needs may engage their children in conversations about stressors, as preliminary evidence suggests that observed parenting behaviors are significantly related to the coping coaching suggestions parents communicate to their children (Watson et al., 2013). Second, parents who are responsive/warm may actively engage their children in distracting activities, such as playing a game or watching a movie. Third, Thompson and Meyer (2007) theorized that parents who are warm and responsive to their children's emotions may be more aware and accepting of emotions and communicate that emotions are acceptable responses. As a consequence, their children may be more likely to accept their own emotional experiences, a form of secondary control coping. Fourth, parents' ability to regulate their emotions and display more warm and responsive parenting may model adaptive ways to regulate emotions, as the strategies parents use to cope with stress are significantly related to their parenting (e.g., Rodenburg et al., 2007).

The findings from the present study have several implications. First, they replicate other intervention studies and provide additional evidence that responsive/warm parenting behaviors, including behaviors observed by independent raters, may be directly malleable through an intervention designed to teach and enhance these skills (e.g., Compas et al., 2010; Vélez et al., 2011). Second, measurable changes in parenting not only has significant consequences for children's subsequent symptoms (e.g., Compas et al., 2010), but the present findings provide evidence that warm and responsive parenting can have a direct influence on children's use of secondary control coping strategies 1 year postintervention. It is noteworthy that changes in responsive/warm parenting in the current study partially accounted for the changes reported in children's use of secondary control coping strategies in the context of an intervention that also directly taught these skills to the children. These findings suggest that not only is it possible to directly improve children's coping strategies through targeted interventions (e.g., Compas et al., 2010; Tein et al., 2004), but that coping strategies may also be indirectly affected by improving responsive and warm parenting (e.g., Vélez et al., 2011). Accordingly, it may be beneficial in child-based coping interventions to incorporate parenting skills into the program. However, while the findings suggest that responsive and warm parenting behaviors are significant contributors to children's use of secondary control coping, there are likely other processes involved in the development and use of children's coping skills that future research should continue to address.

The present study has several limitations that should be noted. Children who met criteria for a diagnosis of Conduct Disorder were excluded from the study, and children with a current diagnosis of major depressive disorder were put on hold and reassessed at a later time. As such, the sample is not entirely representative of children of depressed parents, as some children with higher levels of symptoms were excluded. Second, fathers were included but were not well-represented. These limitations were offset in part by several strengths, including multi-informants of coping as well as observational parenting data to which coders were blind to condition in a prospective design.

The findings from the present study can be extended in future research. First, the cross-sectional and prospective relations among observed parenting behaviors and children's coping warrant examination in other at-risk populations. Second, the intervention did not successfully change negative parenting, and therefore was not tested in the mediational model. Previous cross-sectional studies have provided preliminary support for its relation to children's coping (e.g., Eisenberg et al., 1996), and future research should examine the role of negative parenting on children's coping using prospective designs to determine if negative parenting has long-term effects on children's coping. Third, future research should examine bidirectional relations between observed parenting and children's coping across time, as it is conceivable that children who are better able to regulate their emotions and behaviors would elicit more warmth and responsiveness from their parents. Fourth, future research should examine whether parenting behaviors have a prospective effect on children's coping strategies in a more naturalistic setting without an intervention. That is, in the present study the intervention targeted parenting and children's coping skills and found that changes in parenting behaviors *can* have a direct effect on subsequent changes in children's coping. However, it is unclear the extent to which parenting and children's coping influence one another overtime in the absence of intervention. Lastly, research should continue to examine socialization processes in the development of children's coping strategies. Extensive research has underscored the importance of coping on mental health, and so an understanding of the influential pathways that lead to the development of children's responses has the potential to provide an opportunity to intervene with both parents and children to provide children with adaptive strategies to respond to stressors to prevent future problems.

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