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Moderators of Intervention Effects on Parenting Practices in a Randomized Controlled Trial in Early Childhood

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Abstract

Objective—The current study examined whether parent psychological resources (parenting stress, depression, and social support from friends and family), moderated the effects of early family preventive intervention on parenting among high-risk families.

Method—Ninety-two preschool-age children (Mean age = 3.94 years) at familial risk for conduct problems participated in a randomized controlled trial of a family intervention to prevent conduct problems. The majority of families were African American or Latino and experienced multiple stressors associated with poverty and familial antisocial behavior. Families were randomized to a 22-session group-based intervention or to a no-intervention, assessment-only control condition. Parents reported on their psychological resources (parenting stress, depression and social support from friends and family) at baseline. Parenting (responsive, harsh, stimulation for learning) was assessed through self-report and observational measures four times over 24 months.

Results—Previously-reported intervention effects on responsive parenting and stimulation for learning were moderated by depression and social support from friends, respectively, such that benefits were concentrated among those at greatest risk (i.e., depressed, limited support from friends). The intervention effect on harsh parenting was not moderated by any of the parent psychological resources examined, such that parents with high and low resources benefited comparably.

Conclusions—Consideration of moderators of preventive intervention effects on parenting provides important information about intervention impact in families experiencing multiple barriers to engagement and effective parenting. Findings suggest that parents with diminished psychological resources are just as likely to benefit. Family-centered, group-based intervention is promising for strengthening parenting among the highest risk families.

Keywords

parenting; prevention; conduct problems; moderation

Compelling evidence supports the causal role of parenting for child mental health problems, including conduct problems (Sandler, Schoenfelder, Wolchik, & MacKinnon, 2011). Studies have shown that poverty and stress often negatively impact parenting and jeopardize children's successful development (Blair & Raver, 2012). As highlighted in a meta-analysis of parenting interventions, poverty not only interferes with parenting and child development, but it also decreases the likelihood that families will engage in and benefit from parenting interventions (Lundahl, Risser, & Lovejoy, 2006).

Fortunately, a number of family-focused interventions delivered early in development have been effective in targeting conduct problems in low-income families (e.g., Olds et al., 1998; Webster-Stratton, Reid, & Hammond, 2001; Gardner et al., 2009). These preventive interventions were developed specifically to engage low-income families. The Family Stress Model (McLoyd, 1998; Conger et al., 2002) posits that financial hardship impacts child development through its interaction with family factors, such as parent psychological resources (e.g., parenting stress, depression, support), to make parenting more difficult. Thus, the effects of preventive interventions on parenting among those experiencing financial hardship may vary based on parent psychological resources. It is plausible that preventive intervention may not be sufficient for parents with depleted resources, or alternatively, that these parents are most in need of preventive services and therefore most likely to benefit.

Indeed, the few prevention trials that have considered moderators of parenting outcomes show comparable or even greater benefits for high-risk parents. In randomized controlled trials (RCTs) of the Nurse-Family Partnership with low-income families, mothers with fewer resources (e.g., low social support) benefited the most (e.g., Cole, Kitzman, Olds, & Sidora, 1998). A study of the Triple-P Positive Parenting Programme demonstrated that parents were successful in altering negative parenting strategies regardless of initial stress levels (McTaggart & Sanders, 2007). Additionally, in an RCT with low-income families, the impact of the Incredible Years Series (IYS) was similar or greater for mothers with fewer resources (e.g., depression, anger, substance use), although the pattern of results differed somewhat across moderator and domains of parenting (e.g., benefits for depressed mothers were comparable to non-depressed mothers, whereas mothers with anger problems showed similar changes in positive parenting and even greater reductions in harsh parenting, relative to mothers without anger problems; Baydar, Reid, & Webster-Stratton, 2003). Thus, the small body of work that has examined moderators of program effects on parenting suggests that benefits are just as likely to occur among parents with fewer psychological resources. This is in contrast to the mixed results from the broader literature that has examined moderators of program effects on child outcomes. For example, parental depression has often been considered as a moderator of child outcomes, yielding some evidence that children of depressed parents do not benefit as much as those of non-depressed parents, and questioning whether preventive interventions are sufficient for depressed parents (e.g.,

Lundahl et al., 2006). The current study aims to add to the literature on moderators of impact on parenting by examining psychological resources among very high-risk families.

In the context of an RCT with families of preschoolers at very high-risk for negative outcomes based on poverty and sibling antisocial behavior, Brotman and colleagues reported that family-focused preventive intervention (an augmented version of IYS; Webster-Stratton, 1989) resulted in immediate and one-year effects on parenting and child conduct problems (Brotman et al., 2005; Brotman et al., 2008). Intervention led to improvements on the three key aspects of parenting specified by developmental theory and the theory of change for the intervention: harsh parenting, responsive parenting, and stimulation for learning. Findings were based on masked observations of parent-child interactions in the home and laboratory settings. In this very-high risk sample, the study found five-fold group differences on observed physical aggression prior to school entry (Brotman et al., 2005; Brotman et al., 2008). Moreover, consistent with the theory of change, intervention-induced improvements in parenting accounted for a large portion of variance in the intervention effect on child physical aggression (Brotman et al., 2009). Additional findings for this high-risk sample highlight the complex relations among parenting, stress, and behavior in families; for example, early family intervention increased and normalized cortisol levels in these high-risk children (Brotman et al., 2007) and intervention-induced changes in cortisol mediated changes in aggression among children whose parents showed low baseline responsiveness (O'Neal et al., 2010).

To understand if this group-based preventive intervention impacted parenting broadly in this high-risk sample or for certain subgroups, the current study examines whether initial levels of parent psychological resources moderate previously-reported intervention effects on three aspects of parenting (Responsive Parenting, Harsh Parenting, and Stimulation for Learning). The Family Stress Model suggests that the following psychological resources are associated with parenting and potentially relevant as moderators: parenting stress, depression, and social support. Based on the extant literature on moderators of preventive intervention effects on parenting in high-risk samples, we hypothesized that parents with lower psychological resources at baseline (i.e., high parenting stress, high depression, low social support from families and friends) would benefit to a comparable or greater extent than parents with higher psychological resources.

Method

Participants

Staff reviewed family court records of adjudicated youth in Manhattan and the Bronx, NY, and identified 1,228 cases with some indication that a 3 – 5 year old sibling lived in the home. Parents were mailed a study description and then called to assess for eligibility. The majority of families ($n = 1,136$) were ineligible (e.g., English language limitations, no younger sibling living in the home) or could not be reached (e.g., non-working number). Of 190 remaining families, 92 enrolled in the trial (Figure 1). On average, children were 3.94 years old ($SD = 0.7$), and ranged from ages 3 – 5. Eighty-three percent of parents were biological mothers, 10% were grandmothers, 3% were adoptive mothers, 2% were other female relatives, and 2% were biological fathers. Sixty-one percent of parents self-identified

as African American, 24% Latino, and 15% were from other racial backgrounds (e.g., biracial). Regarding household annual gross income, 60% reported income less than \$15,000, and 34% reported an income between \$15,000 and \$40,000. Almost half of parents (45%) did not complete high school.

Procedure

Participants were recruited in five cohorts and randomized to intervention ($n = 47$) or no-intervention, assessment only control ($n = 45$) conditions. A statistician unfamiliar with the study design randomized families to condition after baseline assessments were completed in each cohort. Informed consent was provided in person, and families were assessed at four time points over a two-year period at home and in the study center: baseline (T1); post-intervention, 8 month (T2), 16 month (T3) and 24 month (T4) follow-up. Assessors were masked to intervention assignment. Parents were compensated for completing assessments (T1: \$100, T2-4: \$50). The School of Medicine Institutional Review Board approved this study.

Intervention

The intervention was an adaptation of IYS, augmented to meet the needs of very high-risk families experiencing multiple stressors related to urban disadvantage and familial history of antisocial behavior. The intervention extended IYS with additional 2-hour concurrent groups for parents and children (total groups = 22), with 30 minutes during each group focused on parent-child interactions. Additionally, 10 biweekly 90-minute home visits were added. Families could also request up to 6 additional visits. Parenting groups encouraged the use of less critical, more consistent disciplinary strategies, positive reinforcement and parent-child play interactions to promote responsiveness and children's social competence. In child groups, leaders taught social skills, reinforced positive behaviors, and provided consequences for negative behaviors. During the guided parent-child interactions, leaders coached, modeled and reinforced the use of effective parenting strategies. The average attendance at groups was 13 of 22 sessions ($SD = 7$), and the average number of completed home visits was 6 of 10 planned visits ($SD = 3$). Families in both the intervention and control conditions received monthly telephone calls to assess service utilization, update contact information, and provide referral and linkage as needed.

Measures

Parenting Stress—Parenting stress was measured through the *Parenting Stress Index-Short Form* (PSI-SF; Abidin, 1995), a 36-item parent report measure with response options on a 5-point Likert scale. The measure includes three subscales: Parental Distress (e.g., “I feel trapped by my responsibilities as a parent”), Parent-Child Dysfunctional Interaction (e.g., “My child rarely does things for me that make me feel good”) and Difficult Child (e.g., “My child does a few things which bother me a great deal”). Subscales were moderately correlated ($r = .40 - .47$). The mean of the subscales was used as an indicator of overall parenting stress ($\alpha = .86$).

Parent Depression—The *Beck Depression Inventory-Second Edition* (BDI-II; Beck, Steer, & Brown, 1996), a 21-item self-report measure, was used to assess depressive

symptoms over the past 2 weeks. Nineteen of the items (e.g., “crying,” “worthlessness”) include ordinal response options ranging in severity from 0 – 3. Two items assessing changes in sleeping patterns and changes in appetite include 7 response options, signifying no change (0) and differing degrees of “more” or “less” sleep or appetite. A total sum scale was used ($\alpha = .92$) to create a dichotomized variable. A score of 20 or higher indicated depression (moderate to severe; Beck, Steer, & Brown, 1996).

Parent Social Support—Social support was measured through the *Perceived Social Support from Friends and from Family* measure (Procidano & Heller, 1983). Parents responded “Yes” or “No” to 40 items (e.g., “I rely on my friends for emotional support”) assessing their perception of support. Items were summed to create two continuous scale scores (friends, family). The wording of the questions in each scale is nearly identical (i.e., the root of each item is the same except for the words “friend” and “family”). The scales were not significantly correlated ($r = .09$); therefore separate measures were retained to assess support from *Friends* (20 items; $\alpha = .92$) and *Family* (20 items; $\alpha = .94$).

Parenting

Responsiveness—Masked observations of structured parent-child interactions on three standard tasks (free play, puzzle, and clean-up) conducted in the family’s home and through videotaped interactions in the laboratory were coded using two systems: *Dyadic Parent-Child Interactive Coding System-Revised* (DPICS-R; Webster-Stratton, Reid, & Hammond, 2001), a microanalytic behavioral coding system, and the *Global Impressions of Parent Child Interactions* (GIPCI; Brotman, 2003). The DPICS-R Praise scale was used as an indicator of responsiveness (e.g., “Thanks for putting the blocks away as soon as I asked”). Inter-rater agreement (ICC) was high (.85 for in-person interactions, .84 for videotaped interactions). Three GIPCI scales were used: Valence (emotional tone), Responsiveness (verbal and nonverbal attention and mirroring of parent towards child), and Affection (verbal and nonverbal behaviors that give a sense of warmth and affection). A total GIPCI score was calculated ($\alpha = .84$, $ICC = .79$). Ratings from the DPICS-R and GIPCI were moderately correlated ($r = .45$, $p < .001$) and combined to form the Responsiveness composite ($\alpha = .88$).

Harsh Parenting—Harsh parenting was based on masked observational ratings on the DPICS-R and GIPCI and parent self-report. Parents completed two subscales from the *Parenting Practices Interview* (PPI; Webster-Stratton, 1998), including four closed-ended items (e.g., “How often do you yell at your child;” rated from “Never” to “Frequently;” $\alpha = .76$) and 9 open-ended items (e.g., “What would you do if your child hit another child?”). Open-ended responses were coded by masked raters as “Harsh” or “Not Harsh” ($ICC = .87$). The DPICS-R Critical Statements subscale (e.g., “You are not trying,” “That is stupid;” $ICC = .80$) and the GIPCI Harsh global rating (e.g., “Mother is negative, critical, intrusive, and/or punitive towards the child;” $ICC = .61$) were averaged to form a mean composite scale ($\alpha = .71$).

Stimulation for Learning—Stimulation for children’s academic learning in the home was measured through the *Home Observation for the Measurement of Environment-Early*

Childhood Version (HOME-EC; Caldwell & Bradley, 1984). The HOME-EC assesses the frequency of home environment conditions from a list of 55; 11 items on learning, language, and academic stimulation were used in this study ($\alpha = .82$). Sample items include, “Child has toys or games which help teach numbers”; “Child has at least 10 children’s books.”

Baseline Characteristics—During face-to-face interviews, parents reported on demographic characteristics, including race/ethnicity, age, household income, educational status, and marital status.

Analyses

Attrition and imputation strategies—Overall, the retention rate was high; 87%, 77%, and 77% had data at T2, T3, and T4, respectively. No significant differences by intervention status emerged regarding cases with missing data at any time point. Additionally, there were no baseline differences between participants with complete data versus missing data at later time points, and there were no significant baseline-by-intervention interactions that predicted missingness. To account for missing data, we used multiple imputation methods (Schafer & Graham, 2002), assuming data were missing at random, with 10 replicated imputations using the SAS[®] Multiple Imputation procedure. The imputation made use of the joint distribution of child sex, race/ethnicity, age, parenting practices and moderators, and was conducted separately for the control and intervention conditions to account for the possibility of different missing data patterns by condition (Little & Rubin, 2002). SAS PROC MIANALYZE was used to combine the results for the final inference testing (SAS 9.1.3).

Moderation of intervention effects—Analyses of intervention effects included the full sample of 92 families and followed intention-to-treat principles. Moderation of intervention effects on parenting practices was evaluated via multilevel modeling (Singer, 1998; Willett, Singer, & Martin, 1998) using SAS PROC MIXED. We modeled post-intervention outcome scores (3 time points for Responsiveness and Harsh Parenting and 2 time points for Stimulation were available) as a function of baseline level, intervention status, time, moderator, and the moderator-by-intervention interaction. In addition, for Stimulation, the model included the time-by-intervention interaction term because prior analyses indicated that the intervention effect increases in magnitude over time (Brotman et al., 2008); for Responsiveness and Harsh Parenting, the time-by-intervention interaction was not significant, indicating that the intervention effect was maintained over time, so this term was not included in the model. All analyses adjusted for the nesting of multiple time points within individuals by modeling time as a random effect (centered at T3). Significant moderator-by-intervention interactions reflected the overall or average moderation effect across time. Intercorrelations among the dependent variables at baseline were low; r ranged from .12 to .25. Baseline correlations among the moderators (stress, depression, support) were small to moderate ($r_s = .09$ to .46), supporting consideration of each moderator in a separate model.

Results

Descriptive Statistics and Equivalence of Intervention Conditions

Table 1 includes baseline mean scores and SDs of the moderators and outcomes. There were no significant differences between intervention and control groups on any baseline measure.

Moderation of Intervention Effects

As shown in Table 2, there was some indication of moderation of intervention effects on two of the three aspects of parenting. For Responsiveness and Stimulation for Learning, intervention effects were moderated by parent depression and friend-support, respectively. Specifically, the intervention effect on Responsiveness was concentrated among depressed parents, with increases to levels that were even greater than those observed for non-depressed parents (Figure 2). The interaction effect explained 2.24% of variance in Responsiveness, above and beyond the main effects of intervention and depression (shown in Table 2). Similarly, the intervention effect on Stimulation was concentrated among parents with low levels of friend-support (Figure 3). The interaction effect explained 3.34% of variance, above and beyond the significant main effects of intervention and friend-support. There was also a marginally significant effect ($p = .09$) for friend-support as a moderator of the intervention effect on Responsiveness, with greater benefits for parents with limited friend-support. Parenting stress and family-support were not significant moderators of intervention effects on any domain of parenting. Notably, parents in this sample reported experiencing high parenting stress (Mean = 79, > 1 SD above the mean in the normative sample). The intervention effect on Harsh Parenting was not moderated by any of the parent psychological resources measured in the current study.

To explore the possibility that the significant moderation effects were attributable to differences in dose (e.g., depressed parents or those with little support attended more sessions), we examined whether attendance was related to parent psychological resources. These factors did not predict the number of sessions attended (all $ps > .05$), and notably, average attendance rates were high and comparable for higher- and lower-risk parents (e.g., 13 out of 22 sessions attended by depressed parents vs. 11 for non-depressed parents, $p = .30$).

Discussion

The present study investigated whether parent psychological resources (i.e., parenting stress, depression, and social support from friends and family) moderated intervention effects on parenting practices in low-income, high-risk families of preschool-aged children. The Family Stress Model (McLoyd, 1998; Conger et al., 2002) posits that living in poverty diminishes parents' psychological resources, which in turn, compromise parents' capacity to effectively respond to their children. In previous reports (Brotman et al., 2005, 2008), we found that family-focused preventive intervention resulted in immediate and sustained effects on three aspects of parenting: harsh parenting, responsiveness, and stimulation for learning. In the current study, intervention effects on responsiveness and stimulation for learning were concentrated among depressed parents and those with low levels of support,

respectively. Intervention effects on harsh parenting held across varying levels of initial psychological resources. In all domains of parenting, parents with fewer psychological resources benefitted at least as much or to a greater extent than families with greater psychological resources.

For both responsiveness and stimulation for learning, the intervention effects reported were found to be concentrated primarily among parents with depression and weak support from friends. For parents with fewer psychological resources, the intervention resulted in large effects (*Cohen's d* = 1.57 and 1.20; shown in Figures 2 and 3), whereas the intervention effects for parents with more resources were evident, but much smaller in size (*d* = 0.36 and 0.19). This pattern is striking, but the magnitude of the moderation is small. Nevertheless, the pattern is consistent with other prevention trials that have considered moderation of intervention effects on parenting, and have found similar or greater impact for parents with fewer resources (e.g., Baydar et al., 2003; Cole et al., 1998; McTaggart & Sanders, 2007). We speculate that depressed mothers in our sample had been experiencing strain or discomfort in their relationships with their children (Lovejoy, Graczyk, O'Hare, & Neuman, 2000), and therefore may have reaped the greatest benefits from the intervention designed to increase parents' responsiveness and attunement in parent-child interactions. The intervention's ongoing skill-building (e.g., increases in praise, attending, affection) may have been especially helpful for parents whose depression had dampened their expressions of responsiveness.

As with parent depression, support from friends seems to be a salient influence on the efficacy of preventive parenting programs, with evidence in the present study that social support moderated intervention effects on both stimulation for learning and responsive parenting (albeit a trend). Limited friend support may be an important indicator of isolation and insularity that diminishes both aspects of parenting, such that having less support from friends rendered parents especially responsive to the group-based intervention that provided ongoing support for making positive changes in parenting practices.

In contrast to depression and support from friends, intervention effects on parenting were not moderated by parenting stress or support from family members. In addition, it is noteworthy that this sample showed very high levels of stress; the restricted range in the data precluded the assessment of differential intervention effects for those with lower levels of parenting stress. Regarding family support, it is possible that effects were obscured because the relation between current family support and one's own parenting is particularly complex for those with a history of strained family relationships and stressors related to poverty.

The present study extends our prior findings for harsh parenting by demonstrating that a substantial intervention effect (approximately ½ standard deviation difference between intervention and control conditions) occurred for parents with high and low psychological resources. This pattern is consistent with evidence that stressed parents reduced negative parenting following participation in Triple-P as much as non-stressed parents did (McTaggart & Sanders, 2007). Although it has been suggested that parents with lower psychological resources are more likely to use harsh practices (e.g., Baydar et al., 2003), none of the resources examined in the current study were related to harsh parenting at

baseline or over time. Instead, it may be that parents responded harshly to children's misbehavior primarily because they did not have alternative discipline strategies, and not because they were stressed, depressed or lacking support. Thus, the intervention's expansion of parents' repertoire of behavior management strategies was equally beneficial for all parents, regardless of their psychological resources. The robust impact on harsh parenting is particularly meaningful in the context of prior work demonstrating that intervention-induced reductions in harsh parenting mediated intervention effects on child conduct problems in this very high-risk sample.

Strengths of this study include that parenting outcomes were assessed by masked observers during parent-child interactions in laboratory and home settings, while moderators were assessed via parent interview, eliminating confounds between measures. Limitations include the relatively small sample size (resulting in limited power to detect small moderation effects), and lack of control for Type I error (allowing for the possibility that significant results were due to chance, although based on $\alpha = .05$, fewer than 1 of the 12 models were expected to be significant by chance). Accordingly, results should be viewed as suggestive and require replication. The unique sample is both a strength and a weakness; although results may not generalize to less disadvantaged populations, this sample provided a great opportunity to examine a set of psychological resources that are often clustered in high-risk families.

Conclusions

Group-based, family-centered preventive intervention in early childhood resulted in reductions in harsh parenting and increases in responsive parenting and stimulation for learning, especially among parents with diminished psychological resources. The breadth of benefits among high-risk families suggests the potential for population-level impact. Additionally, findings suggest that researchers and clinicians should optimistically consider the influence of parent psychological resources on responsiveness to intervention, based on a small but growing literature showing that disadvantaged parents are just as likely to engage in and benefit from preventive intervention.

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FIGURE 1.
Flow Diagram of Enrollment, Randomization, and Follow-up of Participants

FIGURE 2.

Parent Depression as a Moderator of Intervention Effect on Responsive Parenting

Note. Parent depression was based on a dichotomized indicator (BDI ≥ 20).

FIGURE 3.

Friend Support as a Moderator of Intervention Effect on Stimulation for Learning

Note. Line graph is presented because Friend Support was measured on a continuous scale.

TABLE 1

Demographics and Baseline Levels of Moderator and Outcome Variables by Intervention Condition

	Intervention	Control
	<i>n</i> = 47	<i>n</i> = 45
	%	%
Child Gender (Female)	47.0%	60.0%
Parent Race/Ethnicity:		
African American	60.9%	60.0%
Latina/o	26.1%	24.4%
Other (Biracial)	13.1%	15.5%
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Responsive Parenting	1.70 (0.53)	1.50 (0.59)
Harsh Parenting	1.07 (0.46)	0.91 (0.36)
Stimulation for Learning	0.68 (0.29)	0.76 (0.21)
Parenting Stress	79.31 (16.29)	78.53 (13.19)
Parent Depression	13.38 (12.03)	10.36 (8.58)
Social Support- Friends	15.81 (5.11)	15.73 (4.80)
Social Support- Family	13.30 (6.21)	13.55 (6.30)

Note: No significant group differences ($p > .05$) on all listed baseline family and parenting characteristics. In the study sample, 20.7% of parents had moderate or severe depression (23.4% for intervention and 17.8% for control, $p = .51$). The mean parenting stress level in this sample was more than 1 SD above the norm mean.

TABLE 2
Parenting Stress, Depression, and Social Support as Moderators of Intervention Effects on Parenting over Time

	Responsive Parenting		Harsh Parenting		Stimulation for Learning	
	<i>b</i> (<i>SE</i>)	<i>p</i>	<i>b</i> (<i>SE</i>)	<i>p</i>	<i>b</i> (<i>SE</i>)	<i>p</i>
Parenting Stress	0.00 (0.01)	.506	0.01 (0.01)	.209	0.00 (0.00)	.542
Intervention	0.35 (0.12)	.005	−0.22 (0.10)	.035	0.24 (0.07)	<.001
Stress-by-Intervention	0.00 (0.01)	.673	−0.01 (0.01)	.423	0.00 (0.01)	.605
Parent Depression	−0.40 (0.23)	.087	0.17 (0.20)	.403	0.00 (0.13)	.969
Intervention	0.20 (0.13)	.123	−0.18 (0.12)	.125	0.23 (0.07)	.001
Depression-by-Intervention	0.68 (0.29)	.019*	−0.22 (0.22)	.332	0.04 (0.16)	.804
Family Support	0.02 (0.02)	.278	0.00 (0.01)	.865	0.01 (0.01)	.480
Intervention	0.35 (0.12)	.004	−0.22 (0.10)	.036	0.18 (0.06)	.003
Support-by-Intervention	−0.03 (0.02)	.208	0.00 (0.02)	.802	−0.01 (0.01)	.588
Friend Support	0.02 (0.02)	.203	0.00 (0.01)	.979	0.02 (0.01)	.026
Intervention	0.35 (0.12)	.004	−0.22 (0.10)	.036	0.24 (0.06)	<.001
Support-by-Intervention	−0.04 (0.02)	.092	−0.01 (0.02)	.740	−0.03 (0.01)	.017*

Note: The previously-reported effect sizes for the main effect of intervention (across three post-intervention time points) are as follows: Responsive Parenting $b(SE) = 0.35(0.12)$, $p = .004$, $d = .63$; Harsh Parenting $b(SE) = -0.22(0.10)$, $p = .035$, $d = .51$; Stimulation for Learning $b(SE) = 0.18(0.06)$, $p = .004$, $d = .69$. Betas presented in the table are non-standardized. All moderators were measured on a continuous scale except for parent depression, which was dichotomized based on normative data for the BDI (1=moderate to severe depression). In addition to the terms shown in the table, the model included time (centered at T3) and the corresponding baseline measure for each outcome (not shown). For Stimulation for Learning, analyses also controlled for time-by-intervention as this interaction was significant in prior analyses. The reference category was the control group.

* $p < .05$