Chapter 3
Observed Parenting in Families Exposed to Homelessness: Child and Parent Characteristics as Predictors of Response to the Early Risers Intervention

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Introduction

Positive parenting is one of the most important mechanisms capable of protecting children from threats to healthy development posed by homelessness (Cutuli & Herbers, 2014). While it is important to recognize that parents who are homeless can still be committed to their parenting role and maintain positive parenting practices (Gewirtz, DeGarmo, Plowman, August, & Realmuto, 2009; Holtrop, McNeil, & McWey, 2015), experiencing homelessness exposes parents to a host of risk factors that can erode effective caregiving (Cutuli & Herbers, 2014).

Homeless parents report a number of life stressors which have been associated with negative parenting (Torquati, 2002). Individuals experiencing homelessness are also at risk for acute trauma exposure. Homeless women face high rates of

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physical and sexual victimization (Arangua, Andersen, & Gelberg, 2005) that exceed those of impoverished, housed women (Rayburn et al., 2005). Homeless men also report extensive trauma histories (Kim, Ford, Howard, & Bradford, 2010). Experiencing trauma can present many risks to parenting (Appleyard & Osofsky, 2003), and among homeless parents, adulthood trauma may be a risk factor for parent–child separation (Zlotnick, Tam, & Bradley, 2007). Furthermore, homeless women report experiencing significantly less social support and greater levels of conflict than never homeless women (Anderson & Rayens, 2004). These factors in particular have been associated with harsh parenting practices among homeless mothers (Marra et al., 2009). It is clear that parenting is an important intervention target among homeless families (Gewirtz, Burkhart, Loehman, & Haukebo, 2014; Perlman, Cowan, Gewirtz, Haskett, & Stokes, 2012).

Efforts to support positive parenting among homeless families are critical for promoting the mental health and developmental needs of children exposed to homelessness. Among homeless and formerly homeless families, positive parenting behaviors have been associated with better child adjustment and may serve as protective factors (Gewirtz et al., 2009; McNeil Smith, Holtrop, & Reynolds, 2015). Fortunately, there have been a number of recent efforts to develop and implement interventions with the goal of improving parenting practices and child outcomes among homeless families (see Gewirtz, 2007; Haskett, Loehman, & Burkhart, 2016; Perlman et al., 2012). While these efforts appear promising (e.g., Gewirtz & Taylor, 2009; Perlman et al., 2012), the empirical research examining these interventions is still underdeveloped (Gewirtz et al., 2014; Haskett et al., 2016). Specifically, there is a need for further research utilizing larger sample sizes, control groups, and more sophisticated measurement strategies (Haskett et al., 2016). It is also critical to attend to the substantial heterogeneity in characteristics and needs among homeless families when providing and evaluating interventions (Herbers & Cutuli, 2014; Perlman et al., 2012). In this regard, examining moderation can help explain variability in treatment response and offer insight about the subpopulations most likely to benefit from an intervention. This could provide important data for tailoring interventions to diverse homeless populations and enhancing the clinical impact and cost-effectiveness of intervention efforts. Accordingly, the aim of the current study was to identify parent and child characteristics among families exposed to homelessness that differentially predict changes in parenting in response to a psychosocial preventive intervention.

Focal Intervention: The Early Risers Program

The Early Risers program is a preventive intervention that seeks to avert the development of conduct disorders and substance abuse among high-risk children (August, Realmuto, Hektner, & Bloomquist, 2001; August, Realmuto, Winters, & Hektner, 2001). The program includes both a child and family/parent component to promote skill development in multiple domains. The intervention component meant

to strengthen parenting skills draws on social learning theory, with the goal of teaching parents behavioral management strategies that can interrupt coercive family processes and ultimately improve child compliance (August, Realmuto, Hektner, et al., 2001). Longitudinal investigations of the Early Risers program have confirmed changes in parenting practices play an important mediational role in promoting positive child behavioral outcomes (e.g., Hektner, August, Bloomquist, Lee, & Klimes-Dougan, 2014). Efforts to better understand changes in parenting practices resulting from the Early Risers intervention, therefore, constitute a valuable area for further exploration.

A strength of the Early Risers intervention is that it has been implemented and evaluated in a variety of contexts (e.g., August, Lee, Bloomquist, Realmuto, & Hektner, 2003; August, Realmuto, Hektner, et al., 2001). The current study will examine findings from a cluster randomized effectiveness trial among formerly homeless families living in a number of supportive housing agencies. Outcome data indicate the Early Risers intervention was successful at improving parent self-efficacy and reducing parent reports of child depression 2 years post-baseline. Improvement in parent self-efficacy was also found to predict effective observed parenting, which in turn was associated with better child adjustment (Gewirtz, DeGarmo, Lee, Morrell, & August, 2015). At 3 years post-baseline, participation in the Early Risers intervention was associated with reduced growth in child conduct problems. Child executive functioning was found to fully mediate these improvements (Piehler, Bloomquist, et al., 2014). However, no main effect of the Early Risers intervention was found on parenting practices (Gewirtz et al., 2015). The impetus behind the current study is to extend our understanding beyond main effects of the intervention condition to an examination of predictors of variability in intervention response.

Predictors of Intervention Response

Child behavior problems. In contrast to earlier reports suggesting increased behavior problem severity is linked to poor treatment response (e.g., Assemany & McIntosh, 2002), meta-analytic studies indicate higher levels of initial child problem behavior are associated with greater effect sizes for child behavioral outcomes (Lundahl, Risser, & Lovejoy, 2006; Menting, Orobio de Castro, & Matthys, 2013). A significant moderation effect, however, was not evidenced in at least one recent study (Gardner, Hutchings, Bywater, & Whitaker, 2010). Specific to the Early Risers intervention, pretreatment levels of child aggression have been found to differentially predict child outcomes over time, with treatment outcomes at follow-up favoring the more severely aggressive children (August, Hektner, Egan, Realmuto, & Bloomquist, 2002; August et al., 2003). Less research has examined parenting practice outcomes. Meta-analytic results suggest baseline level of child behavior problems may not significantly influence intervention impact on parenting (Lundahl et al., 2006; Nowak & Heinrichs, 2008). Yet, Chamberlain et al. (2008)

found parents in their intervention group significantly improved on positive reinforcement only when their child had more behavior problems; this change was not evident among parents of children with fewer behavior problems, indicating a moderator effect. In Early Risers research, child behavior problems have been implicated in a complex interaction with intervention dosage to affect parental distress but not discipline practices (August et al., 2002; August, Realmuto, Hektner, et al., 2001).

Parental depression. Maternal depression has generally been associated with poorer treatment response in studies examining child behavioral outcomes (Reyno & McGrath, 2006). When investigated in the presence of a control group, maternal depression has been implicated as a significant moderator of treatment effect on child behavior (Gardner et al., 2010). In this case, mothers with a higher level of depression reported better child outcomes in the intervention condition compared to the control condition; this difference was largely due to depressed mothers in the control condition reporting particularly poor child outcomes. However, not all studies have found evidence of moderation (van den Hoofdakker et al., 2010). The literature examining the effect of parental depression on parenting practice outcomes is limited. Baydar, Reid, and Webster-Stratton (2003) found similar patterns of change in parenting among intervention attenders regardless of high or low depressive symptoms. In a study of moderators of coercive parenting, McTaggart and Sanders (2007) did not find a significant interaction between parental depression and intervention group status. Yet, related research on Early Risers found parental well-being moderated parenting efficacy outcomes in response to intervention delivery method (Piehler, Lee, Bloomquist, & August, 2014), suggesting a continued need to investigate the influence of parental depression.

Parenting self-efficacy. In a study of the association between parenting self-efficacy and intervention outcomes, higher parenting self-efficacy was found to be significantly associated with better intervention-specific parenting scores for mothers; a similar, although marginally significant, association was found for fathers (Spoth, Redmond, Haggerty, & Ward, 1995). Beyond these predictive effects, investigations examining the role of parenting self-efficacy have suggested that it may function as a mediator between intervention participation and improvements in parenting practices (McTaggart & Sanders, 2007), child outcomes (O'Connor, Rodriguez, Cappella, Morris, & McClowry, 2012; but see Gardner, Burton, & Klimes, 2006), or both (Gewirtz et al., 2015). Efforts to test parenting self-efficacy as a moderator of treatment outcome have generally not found support (McTaggart & Sanders, 2007; Spoth et al., 1995). However, maternal self-efficacy was found to moderate treatment response in a study of children with attention deficit/hyperactivity disorder (ADHD; van den Hoofdakker et al., 2010). That study examined child and parent variables influencing the effectiveness of adding a parent training component to routine clinical care for ADHD, as compared to routine clinical care alone. Results showed that adding the parent training component resulted in superior child outcomes, but only among families with higher parenting self-efficacy. Recent findings have also highlighted the role of parenting self-efficacy within the Early Risers intervention (Gewirtz et al., 2015; Piehler, Lee, et al., 2014), suggesting an opportunity for further research.

Parent–child attachment. The bulk of research investigating the influence of attachment on child and parent intervention outcomes has focused on assessing general parental attachment, as opposed to parent–child attachment, and has evaluated programs targeting the early parent–child relationship. In an intervention for couples experiencing the transition to parenthood, parent reports of attachment insecurity in close relationships moderated intervention effects, with individual and family outcomes showing greater benefit in situations where parents—especially fathers—had poor initial attachment scores (Feinberg & Kan, 2008). In contrast, a study of the effects of Early Head Start on parenting practices showed an opposite pattern; program mothers demonstrated more favorable effects when they had better self-reported initial attachment scores with people emotionally close to them (Berlin et al., 2011). Other findings have been disparate and suggest maternal self-reported attachment may interact with depression to differentially predict intervention outcomes within home visiting programs (Duggan, Berlin, Cassidy, Burrell, & Tandon, 2009; Robinson & Emde, 2004). Further research is needed to determine how attachment, particularly parent–child attachment, influences intervention outcomes and to evaluate programs targeting families of school-age children, such as Early Risers.

Purpose of the Study

The literature examining predictors of child and parent intervention outcomes and moderators of treatment response is limited and largely inconclusive. Further research is needed to determine which characteristics differentially predict parenting practice outcomes following participation in psychosocial preventive interventions. The purpose of this study was to identify which child and parent characteristics predict differential responses to the Early Risers intervention among formerly homeless families residing in supportive housing. We chose to examine changes in parenting practices as our focal outcome because of the importance ascribed to positive parenting within Early Risers as well as among families exposed to homelessness. In this study, the parenting practice variable was derived from repeated, observational assessment of ineffective discipline practices measured across four waves of data collection, which constitutes a key study strength and contribution to the literature on parenting and homeless families. We hypothesized that child behavior problems, parental depression, parenting self-efficacy, and parent–child attachment would each function as moderators influencing the effect of the Early Risers intervention on change in observed ineffective discipline practices. Given the disparate findings in previous research investigating these moderators, we chose not to make specific predictions about the directionality of the effects. The results of this study have the potential to advance understanding of variability in response to treatment among subgroups of homeless families and inform future efforts to optimize impact of the Early Risers intervention on parenting practices.

Methods

Intervention Sites

Through a community–university collaboration dedicated to helping children and families exposed to homelessness (the Healthy Families Network; Gewirtz, 2007), a randomized effectiveness trial of the Early Risers intervention was conducted across 16 private, nonprofit supportive housing agencies in a large metropolitan area of the Midwest. These agencies serve more than 95% of the single-site family supportive housing population in the area. To qualify for supportive housing, families had to be homeless at the time of admission. In addition, most sites required families to demonstrate additional burden, such as caregiver mental illness, substance use, or the need to evade domestic violence. The 16 housing sites were randomly assigned to either the intervention condition or treatment as usual. Usual services varied somewhat across sites, but typically included case management, education and/or job training, and access to medical services. Some sites also offered childcare or after-school activities.

Participants

To be eligible for the current study, parents had to reside at one of 16 participating supportive housing sites and be living with at least one child between 6–12 years old. Initial enrollment included 161 parents with 270 children. One of the housing sites did not have any eligible participants and was dropped from the study. After enrolling in the study, but prior to providing baseline data, some families relocated or dropped out of the study. More detailed information about the recruitment process and participant retention is reported by Gewirtz et al. (2015). The current study utilized data from four assessment points and includes a sample of 137 parents with 223 children from 15 supportive housing sites. The study sample included all single-headed families; in the vast majority of cases (98.5%) families were headed by a female. Almost half (48%) of the parents in the sample were African American, 21% were multiracial, 19% were Caucasian, and 12% were from other racial/ethnic groups. Average annual parent income was $10,457.22 (SD = $5594.65). Parents had the equivalent of about a high school education (M = 12.00 years of education; SD = 1.66). Among the children in the study, the mean child age was 8.12 years (SD = 2.3). The gender dispersal was fairly even (49% girls). The majority (68%) of children also had a sibling in the study, and the number of children per family ranged from 1 to 5, with a mean of 1.6 children per family. The number of families participating in the study at each different supportive housing site varied from 1 to 34; an average of 14.87 children participated per site. Study families had moved an average of 1.4 times (SD = 1.4) in the year prior to baseline

enrollment, and 18.5% of families had moved three or more times that year. As many as one-third (34%) of the children were part of an open child protection case at the baseline assessment.

Intervention

Early Risers is an evidence-based, multicomponent preventive intervention that targets risk factors at various ecological levels (e.g., child competence, family interactions, peer influence, community context) and works to build child and parent competencies that promote positive outcomes. In this study, intervention programming was delivered over the course of 2 years. The child component consisted of skills-focused education and behavioral intervention meant to improve academic success, emotion regulation, and interpersonal competence. This took place through an after-school program held during the school year and a 6-week camp offered during the summers. The child component utilized the Promoting Alternative Thinking Strategies (PATHS) curriculum (Kusché & Greenberg, 1994) along with a literacy enhancement component. The parenting skills component included two different elements. The first year of programming offered "family fun nights" which provided opportunities for positive parent–child interaction combined with information on child development. During the second year, parents participated in the evidence-based Parenting Through Change program (PTC; Forgatch & DeGarmo, 1999). The goal of PTC is to help parents improve five core parenting practices: skill encouragement, discipline, monitoring, problem solving, and positive involvement. In addition, the Early Risers intervention integrated a family support component in which participants received access to family support (i.e., case management) services on an individualized basis. Fidelity to the Early Risers program and its associated intervention components (i.e., PATHS, PTC) was confirmed using observational measures. Further information about the intervention, including the fidelity assessment process, is reported elsewhere (Gewirtz et al., 2015).

Interventionists

The Early Risers intervention was delivered by family advocates. Each family advocate had prior experience providing case management or advocacy services to homeless families and had a bachelor's degree or at least some relevant higher education. Advocates were each in charge of providing services at two housing sites. Approximately 40 h of initial training was provided to the advocates in the overall Early Risers intervention as well as in specific aspects of PATHS and PTC. Advocates also received ongoing coaching through weekly meetings with the Early Risers program manager.

Assessment Procedures

Prior to beginning assessments, written consent was received from participants in accordance with the procedures approved by the Institutional Review Board. Research assistants met with participants in their home in order to complete assessments, either on-site at the supportive housing agency or off-site if the family had transitioned to other housing. The parent and target child both participated in the assessment process. In families where more than one child participated in the study, individual assessment sessions were conducted with each parent and child. Each parent received a $50 gift card for their participation in the assessment. Assessments were conducted at four time points: at baseline (T0), after 1 year of intervention (T1), after 2 years of intervention (T2), and at 1-year follow-up post-intervention (T3).

Measures

Demographic covariates. Information regarding parent race/ethnicity, parent education, child age, and child gender was gathered during a structured interview conducted with parents during baseline data collection.

Parenting practices. Parenting practices were evaluated through observational ratings of parent–child interaction during structured Family Interaction Tasks (FITs). In the current study, the FITs protocol lasted approximately 20 min and included the following four activities: (a) a dyadic problem solving task, (b) a guessing game, (c) a labyrinth game, and (d) a "tangoes" puzzle activity. Families were debriefed upon completion to address any questions or concerns.

The FITs assessments were videotaped and coded using established ratings of key parenting practices (DeGarmo, Patterson, & Forgatch, 2004). Trained coders, blind to intervention condition, viewed the tapes and rated parent and child behavior during each of the four activities according to a four-point scale ranging from *Hardly Ever Applies* to *Applies All of the Time*. Reliability checks were performed by evaluating interrater reliability among a randomly selected subset of tapes (24 %). The overall FITs protocol and coding procedure has been described elsewhere in more detail (Gewirtz et al., 2009; Gewirtz et al., 2015).

For the current study, an ineffective discipline score was derived as the focal outcome for the parenting practices variable. The score was computed using 11 items reflecting observed discipline practices within the FITs, such as "Overly strict, authoritarian, oppressive," "Expresses anger/hostility when disciplining," "Uses nagging or nattering to get compliance," "Threatens or uses physical punishment," and "Erratic, haphazard, inconsistent." Chronbach's alpha for the scale ranged from 0.75 to 0.86 at each wave of assessment. The overall intraclass correlation coefficient (ICC), an index of interrater reliability, was 0.69.

Child behavior problems. Parents completed the Parent Rating Scales of the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). Child behavior problems were assessed using the 30-item Externalizing Problems composite scale, which measures indicators of aggression, conduct problems, and hyperactivity. Parents indicate the frequency of each child behavior on a four-point scale ranging from *never* (0) to *almost always* (3). T scores were then derived for use in the analyses, with higher scores reflecting greater child behavior problems. The BASC-2 is a well-established assessment with demonstrated psychometric properties (Reynolds & Kamphaus, 2004).

Parental depression. The Brief Symptom Inventory 18 (BSI 18; Derogatis, 2000) was administered to measure parent psychological distress. For this study, the six items designed to assess depression were used to derive a score on the parental depression variable. Parents indicated how distressed they felt by each symptom on a five-point scale ranging from *not at all* (0) to *extremely* (4). Items were then summed and converted to standardized T scores, with higher scores indicating greater depressive symptoms. Use of the BSI 18 has been validated within a variety of populations and contexts (e.g., Prelow, Weaver, Swenson, & Bowman, 2005).

Parenting self-efficacy. Parenting self-efficacy scores were derived from the Parenting Relationship Questionnaire (PRQ; Kamphaus & Reynolds, 2006). This self-report measure assesses multiple domains of parenting and has shown evidence for reliability and validity (Kamphaus & Reynolds, 2006). Specifically, the 8-item Parenting Confidence scale was used to assess feelings of competence and control in the parenting role. Each item was rated on a four-point scale ranging from *never* (0) to *almost always* (3). Items were then summed and converted to standardized T scores, with higher scores indicating greater levels of parenting self-efficacy.

Parent–child attachment. The PRQ (Kamphaus & Reynolds, 2006) was also used to assess parent–child attachment. The 11-item Attachment scale measures various aspects of the parent–child relationship, as reported by the parent, that are associated with emotional responsiveness (e.g., empathy, understanding). Items are rated on a four-point scale ranging from *never* (0) to *almost always* (3). Items were then summed and converted to standardized T scores, with higher scores indicating greater levels of parent–child attachment.

Results

Analytic Strategy

Intent-to-treat analyses were used to examine intervention effects. Latent growth models (LGM) were estimated using the structural equation modeling program Mplus version 7 (Muthén & Muthén, 2012). Growth was modeled over four assessment time points, including baseline, year one, year two (post-intervention),

and year three (one-year follow-up). All variables examined in a moderating role were measured at baseline.

The multilevel nature of the dataset was accounted for in all primary analyses. Parent–child dyads (n = 223) represented the primary level of analysis. These dyads were nested within families (n = 137), and families were nested within intervention sites (n = 15). Data from parent–child dyads within a family and shared intervention site are not fully independent and could violate standard assumptions of independence. Note that Mplus does not treat repeated measures on individual subjects as a level of analysis in clustered data (Muthén & Muthén, 2012).

Two approaches were utilized to account for the multilevel nature of the dataset. First, in order to account for the nesting of individual parent–child dyads within families, we used the Mplus "TYPE IS COMPLEX" feature. This feature computes adjusted standard errors of parameters and chi-square tests of model fit to account for multilevel data. It is useful for complex models such as the described LGM. However, the COMPLEX feature is only able to account for single clustering variable and cannot incorporate an additional level of analysis (Muthén & Muthén, 2012). Therefore, the additional level of the dataset (nesting within intervention sites) was accounted for using a more traditional two-level modeling approach (e.g., Duncan et al., 1997) in conjunction with the COMPLEX feature (COMPLEX TWOLEVEL). This required the estimation of all growth models at both the individual parent–child dyad (i.e., within) level and at the site level (i.e., between). Because of the cluster-randomized design, all intervention effects were examined at the site level of analysis. To examine moderation, all interaction effects with intervention condition were computed at the parent–child (within) level.

A stepwise approach was used to test for moderation. First, the slope of the multilevel LGM was regressed on all covariates as main effects (i.e., direct effects), including demographic covariates (i.e., parent race/ethnicity, parent education, child age, child gender), intervention status (i.e., intervention versus control), and child/parent variables (i.e., child problem behaviors, parental depression, parenting self-efficacy, parent–child attachment). All covariates were centered around their means and allowed to covary with the latent intercept in the model, with the exception of intervention status. Following estimation of the main effects model, interaction models were estimated, including interaction terms between intervention status and each parent/child variable. Because of multicollinearity between interaction terms, each interaction term was initially added to the main effects model individually to test for significance. Those interaction terms that achieved significance were retained and added together to a final interaction model. Nonsignificant child/parent predictors were dropped from the model in order to examine the most parsimonious model. All demographic variables were retained in the final model regardless of significance.

Missing values were present in the dataset due to the longitudinal nature of the design, but adequate covariance coverage was present (ranging from 0.51 to 0.96). A missing value analysis was conducted using SPSS software version 22. The Little's MCAR test conducted on all measures included in the models was

consistent with values missing completely at random, $\chi 2(108) = 125.64$, $p = 0.12$. Missing data in all models were managed with the full information maximum likelihood (FIML) procedure used by Mplus version 7. This method has been shown to be very efficient when analyzing data from samples with moderate levels of missing values. When using FIML, the estimation of each parameter is made on the basis of all available information from each participant. Consequently, we can retain participants with missing data in the analysis so they contribute to model estimation.

The fit of each estimated model to the data was evaluated. A good model fit should yield a nonsignificant χ^2 value, but this test often does not provide a complete picture of model fit and other fit indices may be preferred (Kline, 2005). We evaluated fit indices according to Hu and Bentler (1999), who suggest a CFI < 0.95 and an SRMR < 0.09 indicate acceptable model fit.

Preliminary Analyses

Table 3.1 includes correlations and descriptive statistics of key study variables. Attrition over the course of the intervention was examined for the two conditions. Attrition was due to loss of families at follow-up or a family's decision to drop out of the study. For the present study, we also considered those families who declined to participate in the FIT at the 1-year follow-up (T3) to have attrited. Over the four assessment points, 223 parent-child dyads provided data, including 215 at baseline. A few participants (often siblings) entered the study after the baseline assessment. At baseline (T0), 155 parent–child dyads completed the FIT, 136 at year one (T1), 118 at year two (T2), and 108 at year three (T3). One-hundred and eighty-five parent–child dyads completed the FIT at some point during at least one of the four assessment points.

An analysis comparing participants who attrited at any point during the study (n = 115) with those participants who completed the FIT in the third year of data collection (i.e., the final assessment point used in the current study [T3]; n = 108) was conducted. Parents who completed the FIT at T3 reported completing more years of education than those who did not complete the FIT, $t(214) = -2.48$, $p < 0.05$. No significant group differences were found on any other variables included in the present analyses, including intervention condition or in demographic variables (i.e., child gender, child age, parent race/ethnicity).

Primary Analyses

We first evaluated a multilevel latent growth model including latent ineffective discipline intercept and slope factors estimated at both the parent–child dyad level and the housing site level. This model included four demographic covariates

Table 3.1 Descriptive statistics and correlations

Measure	T0 ineffective discipline ($n = 155$)	T1 ineffective discipline ($n = 136$)	T2 ineffective discipline ($n = 118$)	T3 ineffective discipline ($n = 108$)	BASC-2 child externalizing ($n = 215$)	BSI parental depression ($n = 215$)	PRQ parenting confidence ($n = 212$)	PRQ attachment ($n = 212$)
T0 ineffective discipline	–							
T1 ineffective discipline	0.32*	–						
T2 ineffective discipline	0.09	0.17	–					
T3 ineffective discipline	0.28*	0.17	0.26*	–				
BASC-2 child externalizing	0.32**	0.04	0.12	0.01	–			
BSI parental depression	−0.05	−0.22***	−0.06	−0.20***	0.14***	–		
PRQ parenting confidence	−0.20***	−0.02	−0.05	0.16	−0.47**	−0.32**	–	
PRQ attachment	−0.16***	−0.04	0.03	0.10	−0.35**	−0.15***	0.58**	-
Female gender	−0.09	−0.08	−0.15	0.06	−0.03	−0.03	−0.03	−0.02
Parent education (years)	−0.08	−0.09	−0.11	−0.28*	0.06	0.00	0.05	0.17***
Child age at T0	0.03	0.22***	0.01	0.13	−0.05	0.06	−0.01	0.03
European American ethnicity	0.11	0.00	−0.03	−0.21***	0.27**	0.05	−0.22*	−0.04
Mean	2.39	2.20	2.22	2.38	59.30	54.66	44.51	45.38
Standard deviation	0.73	0.56	0.53	0.47	12.44	9.61	10.90	10.40

Note. *T0* Time 0 (baseline), *T1* Time 1 (after 1 year of intervention), *T2* Time 2 (after 2 years of intervention), *T3* Time 3 (1-year follow-up post-intervention), *BASC-2* Behavior Assessment System for Children, Second Edition, *BSI* Brief Symptom Inventory, *PRQ* Parenting Relationship Questionnaire
*$p < 0.01$; **$p < 0.001$; ***$p < 0.05$

(i.e., parent race/ethnicity, parent education, child gender, child age) and four child/parent covariates (i.e., child behavior problems, parental depression, parenting self-efficacy, parent–child attachment). The within-level latent ineffective discipline slope was regressed onto each covariate. Each covariate was allowed to covary with the latent ineffective discipline intercept. The between-level slope was regressed onto intervention status. The main effects model including all covariates demonstrated an adequate fit for the data on some fit indices and a marginal fit on other indices, $\chi^2(51) = 71.27$, $p = 0.03$; CFI = 0.91; RMSEA = 0.042; SRMR = 0.077. Child behavior problems was the only significant predictor of the within-level latent ineffective discipline slope, $b = -0.003$, $p < 0.05$. Higher levels of externalizing behavior at baseline were associated with greater reductions in ineffective discipline over the 3 years of the study. Intervention condition was not a significant predictor of the between-level ineffective discipline slope.

We next estimated interaction models. Each interaction term between the child/parent variables and intervention condition was first entered individually to the main effects model. When added separately to the main effects model, two interaction terms, child behavior problems X intervention condition and parental depression X intervention condition were each significant predictors of the within-level latent slope within their respective models. These two interaction terms were retained for the final model. The interaction terms involving intervention condition and parenting self-efficacy and parent–child attachment did not explain significant variance in the slope. Because these variables did not contribute as main effect predictors or as interaction terms, they were dropped from the final model.

Figure 3.1 depicts the final interaction model. The model was an acceptable fit for the data, $\chi^2(58) = 51.78$, $p = 0.70$; CFI = 1.00; RMSEA = 0.00; SRMR = 0.085. In the within parent–child dyad model, child gender was reliably associated with the ineffective discipline intercept, cov $= -0.028$, $p < 0.05$. Parents of female children tended to have lower initial levels of ineffective discipline. The child behavior problems variable was also associated with the ineffective discipline intercept, cov $= 1.90$, $p < 0.001$. Parents of children with higher levels of externalizing behaviors tended to have higher initial levels of ineffective discipline. Also in the within model, parent minority status was a significant predictor of ineffective discipline slope, $b = -0.10$, $p < 0.05$. Caucasian parents tended to demonstrate greater reductions in ineffective discipline over the course of the study than parents of other racial/ethnic groups. Child behavior problems remained a significant predictor of ineffective discipline slope, $b = -0.006$, $p < 0.001$.

The model revealed a significant interaction term between baseline child behavior problems and intervention status in predicting ineffective discipline slope, $b = 0.005$, $p < 0.01$. Figure 3.2a illustrates this interaction. For parents in both the intervention and control groups, higher levels of initial baseline child externalizing behaviors were associated with greater improvements in discipline over the 3 years of the study (i.e., lower slopes). However, among parents of children with high levels of externalizing behavior, those parents in the intervention group showed greater reductions in ineffective discipline over the course of the study when compared to parents in the control group. Thus, when comparing outcomes

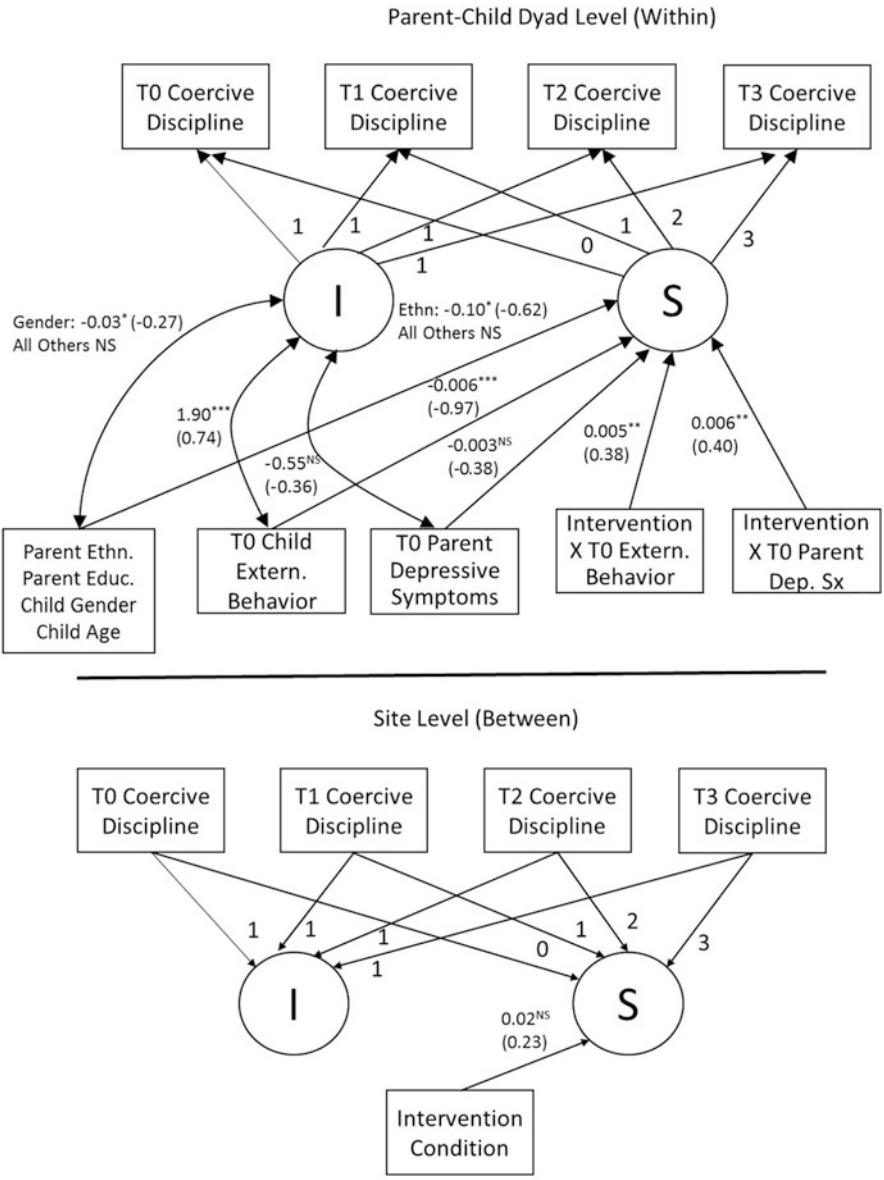

Fig. 3.1 Final multilevel latent growth model of observed ineffective discipline including maternal depression and child externalizing behavior covariates and interaction terms with intervention condition. *Note*. *I* intercept, *S* slope; Unstandardized factor loadings are depicted (with standardized parameters included in parentheses). *NS* non-significant. $*p < 0.05$; $**p < 0.01$; $***p < 0.001$. $n = 223$. Fit statistics: $\chi^2(58) = 51.78$, $p = 0.70$; CFI = 1.00; SRMR = 0.08

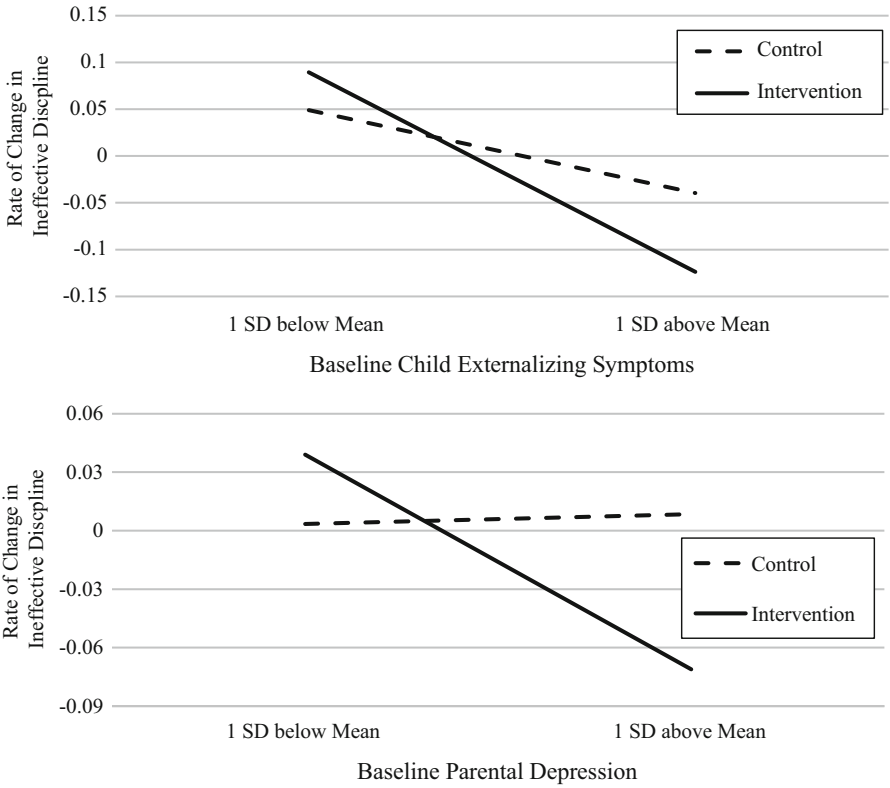

Fig. 3.2 (**a**) Interaction between intervention condition and baseline child externalizing symptoms in predicting rate of change in observed ineffective discipline. (**b**) Interaction between intervention condition and baseline parental depression in predicting rate of change in observed ineffective discipline

between conditions, parents of children with high levels of externalizing behavior demonstrated the most benefit in their discipline practices from participation in the intervention.

The model also revealed a significant interaction between intervention status and baseline parental depression in predicting ineffective discipline slope, $b = 0.006$, $p < 0.01$. The interaction is plotted in Fig. 3.2b. For parents in the intervention condition, higher levels of baseline depressive symptoms predicted greater improvements over the 3 years of the study in ineffective discipline than those parents reporting few depressive symptoms. For those parents in the control condition, level of depressive symptoms had little impact on their rate of change in ineffective discipline. When comparing outcomes (i.e., ineffective discipline slope) between intervention and control groups, those parents with high levels of depression exhibited the largest benefit in discipline practices from participation in the intervention.

Discussion

This study sought to identify child and parent characteristics predicting differential responses to a psychosocial preventive intervention among formerly homeless families in supportive housing. This was accomplished by testing moderation effects within the context of a randomized effectiveness trial. Observed ineffective discipline across four waves of assessment were examined using multilevel latent growth modeling to allow for analysis of data nested within parent–child dyads, families, and supportive housing sites. The findings were partially in support of the hypothesized moderators, indicating child behavior problems and parental depression each influenced the effect of the Early Risers intervention on change in observed parenting practices.

For both child behavior problems and parental depression, families experiencing the greatest level of initial distress fared the best in the intervention condition, observed in terms of steeper reductions in ineffective discipline practices compared to the control group. In fact, over the 3 years of the study, high distress families in the intervention condition showed greater improvements in observed parenting than any other group. These findings are not without precedent. Prior research has suggested families of children with more behavior problems (August et al., 2002; August et al., 2003) and those with a more depressed parent (Gardner et al., 2010) derive greater benefit from intervention participation in terms of improvements in child behavior. The current study extends these results by demonstrating these greater gains are also apparent in observed parenting practices. This is an exciting addition to the literature suggesting that psychosocial preventive interventions, such as Early Risers, are capable of serving at-risk families facing high levels of distress.

The potential moderating role of parenting self-efficacy and parent–child attachment was also examined in this study, but neither was supported. This finding is consistent with other studies which have not found support for parenting self-efficacy as a moderator of treatment outcome (McTaggart & Sanders, 2007; Spoth et al., 1995). Interestingly, research has suggested the influence of parenting self-efficacy on child outcomes is mediated by maternal depression (Weaver, Shaw, Dishion, & Wilson, 2008). When considered alongside extant intervention research (e.g., Gewirtz et al., 2015; McTaggart & Sanders, 2007), it seems parenting self-efficacy may exert an effect on parenting practices and child behavior through a complex causal chain operating over time, rather than acting in a moderating role. The lack of a significant result with regard to the moderating effect of parent–child attachment also adds to existing literature, which to date has largely focused on interventions targeting the early parent–child relationship and produced inconsistent results (e.g., Berlin et al., 2011; Feinberg & Kan, 2008). Study results suggest initial parent–child attachment does not predict differential responses to a psychosocial preventive intervention among formerly homeless families with school-age children.

Some additional findings also emerged. Child gender and baseline level of child behavior problems were each significantly associated with initial levels of ineffective discipline, such that parents of male children and parents of children with more externalizing behavior demonstrated greater ineffective discipline at the start of the study. Other research has shown a tendency for male children to receive harsher discipline than their female counterparts and has established a positive association between harsh discipline and child behavior problems (McKee et al., 2007). The current study extends these findings with a broader measure of ineffective discipline, beyond just harsh discipline, and among formerly homeless families in supportive housing.

The findings also highlight interesting main effects regarding change in ineffective discipline over time. Parents of children with more behavioral problems at baseline showed greater reductions in ineffective discipline over the course of the study, regardless of intervention condition. This is an encouraging finding suggesting homeless families experiencing an upheaval in child behavior problems tend to improve after entering supportive housing. This speaks to the capacity for resilience among homeless families (Cutuli & Herbers, 2014; Holtrop et al., 2015) as well as the potential effectiveness of supportive housing (i.e., housing plus case management services) in bolstering family functioning. Future research should substantiate and explore this finding, examining the mechanisms of this improvement to ensure it represents more than just a regression to the mean phenomenon. A less encouraging finding was that Caucasian parents seem to have shown more improvement in ineffective discipline than parents of racial/ethnic minority status. It could be families of color were facing additional challenges to positive parenting, such as discrimination, not accounted for in this study. Research with African American mothers has shown that facing high levels of discrimination can exacerbate the negative impact stressor pileup has on maternal psychological functioning and parent–child relationships (Murry, Brown, Brody, Cutrona, & Simons, 2001). It is also possible bias was present within the observational coding, yet such a bias would have been expected to lead to a difference in the ineffective discipline intercept as well.

The findings should be considered in light of study limitations. The families in this sample were overwhelmingly headed by a single, female parent. While this aligns with the typical demographic profile of homeless families in the USA (U.S. Department of Housing and Urban Development, 2012), care should be taken in extending study findings to other family types. While the use of observational methods to assess parenting practices represented a notable study strength, all hypothesized moderators were assessed through parent report. Relying only on parent report could introduce reporter biases to the measurement of these constructs. This study also encountered considerable attrition over the four waves of data collection, which was not unexpected given the transitional context of homeless families. The use of a cluster-randomized trial design is a limitation with respect to power. The use of this design, while necessary due to logistical considerations, limits the ability to successfully detect intervention effects.

Implications for Practice and Policy

The results of this research suggest important implications for intervention delivery among homeless populations meant to optimize impact on parenting practices. The focal intervention in this study demonstrated greater effectiveness for parents of children with more severe behavior problems and depressed parents. Although some practitioners may be reluctant to refer more highly distressed families to services, not wanting to unduly burden the family or intervention staff, the results of our study suggest these more highly distressed families actually stand to gain the most from intervention participation. Parents of children with more behavioral problems and depressed parents may be the most likely to benefit from comprehensive prevention programming and should be most actively recruited and engaged within these types of services. Yet the process of identifying these families may be complex. Families likely experience disruptions in functioning as they move into a shelter setting, and it is important to identify those truly in need of services without interfering with the adaptive capacity of family systems (Cutuli & Herbers, 2014). As our findings attest, families of children with more severe behavior problems tended to improve in discipline practices over time, regardless of intervention condition. This speaks to the need for sensitive assessment processes that can identify certain characteristics (i.e., child behavior problems, parental depression) that suggest families stand to gain meaningful benefits from intervention participation, as opposed to a one-size-fits-all approach that assumes all homeless families are in need of intensive treatment.

Study results may also help to inform policy. We echo the call of other scholars to implement and evaluate evidence-based programming with families exposed to homelessness (Haskett et al., 2016; Herbers & Cutuli, 2014). Our study findings can further guide these efforts, by underscoring the need to examine subgroups of responders to better understand for whom programming is most effective. In the case of this Early Risers effectiveness trial, despite other positive findings, no main effects of the intervention on observed parenting outcomes were found at 2 years post-baseline, using intent-to-treat analyses (Gewirtz et al., 2015). However, the current study identified parent and child characteristics that differentially predicted response to treatment after 3 years. When developing policy, it is important to recognize the effectiveness of these types of comprehensive interventions may not always be evident when evaluating the response of participants using intent-to-treat analyses, and that further investigation into the types of families best served by an intervention may be critical for meeting the needs of this heterogeneous population. Overall, the results of our study are encouraging. They indicate homeless families seemingly most at risk—those with children with more severe behavior and those with depressed parents—may be the most responsive efforts to improve parenting practices. This suggests the importance of allocating financial support and other resources toward efforts to reach out to those high-risk families with effective programming.

By investing in evidence-based interventions capable of promoting positive parenting among homeless families, we can help to stave off the negative repercussions of exposure to homelessness and support the mental health and developmental needs of homeless children.

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