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Factors Influencing Maternal Involvement in Early Childhood: Exploring the
Roles of Maternal Stress and Children's Narrative Representations of Mothers

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Factors Influencing Maternal Involvement in Early Childhood: Exploring the Roles of Maternal Stress and Children's Narrative Representations of Mothers

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Abstract

For children from low-income families, parent school involvement can be a crucial protective factor that supports children's cognitive and emotional development. The present study seeks to explore how maternal stress in early childhood is associated with mothers' later school involvement and whether children's internalized positive, disciplinary and negative maternal representations act as potential mediators of this relationship. Currently, little research has been done on the contextual factors influencing parent school involvement in early childhood and this study aims to fill this gap in the literature. The data included 169 children and mothers from low-income families. Mothers completed questionnaires designed to assess parenting stress and school involvement. Children completed story stem narratives. The results revealed that children of mothers reporting greater dysfunctional interactions with their child had fewer disciplinary representations in their stories. Also, mothers who were represented more negatively in the children's stories reported higher levels of Home-School Conferencing. Moreover, mothers who reported higher levels of Parental Distress at The Parenting Stress Index Short-Form (PSI-SF) also reported higher levels of Home-School Conferencing at the Family Involvement Questionnaire (FIQ). These results support an ecological and multidimensional construct of mother's school involvement. Interventions that target improved parent school involvement practices through addressing maternal stress and informed by children's representations are needed.

Keywords: parent involvement, maternal involvement, children's representations; maternal stress; early childhood education; preschool; parenting; school-based involvement; home-based involvement; home-school conferencing

Factors Influencing Maternal Involvement in Early Childhood: Exploring the Roles of Maternal Stress and Children's Narrative Representations of Mothers

Young children's development and learning are a result of the dynamic interplay between children's personal characteristics and the environment they live in (Bronfenbrenner & Morris, 1998). Proximal microsystem contexts such as home and school are the most important environments for this interplay (Galindo & Sheldon, 2012). According to Bronfenbrenner and Morris (1998), in addition to person-environment interactions, the connections between different proximal contexts (i.e., mesosystem interactions), have great influence on children's development. Communication between different contexts, joint participation, and having information about one another's setting are included in these influential interactions between different proximal contexts involving the child (Bulotsky-Shearer, Bouza, Bichay, Fernandez, & Gaona Hernandez, 2016; Galindo & Sheldon, 2012). Parents have a crucial role in their children's development and through school involvement they actively take part in cross-contextual interactions, which are critical for promoting children's development and learning. Parents' warmth and guidance at home influences their children's development through activities like spending time with the child to work on creative activities and sharing stories. On the other hand, these activities that parents engage at home also contribute to children's internal representations of their parents. Moreover, parents' involvement at school through activities like volunteering in child's classroom and participating in planning classroom activities influence their children's education and learning (Dearing, McCartney, Weiss, Kreider, & Simpkins, 2004; Jeynes, 2012) Such interactions are noted to be especially important for low-income families from racial, ethnic and linguistic minority backgrounds where discontinuities between home and school are more likely to occur due to cultural or linguistic differences (Bulotsky-Shearer et al.,

2016, Garcia Coll et al., 2002). For instance, Calzada and colleagues (2015) found that when compared to nonimmigrant parents, immigrant parents were reported to be more involved in home based activities than school based activities.

The present study took an ecological perspective and explored relationships between maternal stress while children are 3 years old and mothers' involvement at home and at school when children are 7 years old. The present study also considers children's maternal representations when children are 5 years old as potential mediators of this association, examining their relationship with maternal stress at age 3 and mothers' involvement at home and at school at age 7.

Maternal Stress

In most family settings, parents are challenged by demands of caregiving and children's behavior (Crnic & Greenberg, 1990; Crnic, Greenberg, Robinson, & Ragozin, 1984; Mulsow, Caldera, Pursley, Reifman, & Huston, 2002). Studies investigating parenting challenges have shown that responsibilities associated with parenting as well as the nature of the parent-child relationship may result in elevated levels of parenting stress (Abidin, 1992; Deater-Deckard & Scarr, 1996). Webster-Stratton (1990) suggested that maternal stress is a result of cumulative effects of multiple factors. Studies identified some of these factors as: mothers' perception of mother-child interactions (Anthony, Anthony, Glanville, Naiman, Waanders, & Shaffer, 2005; Östberg & Hagekull, 2000), child temperament (Chang et al., 2004; McBride, Schoppe, & Rane, 2002; Mulsow et al., 2002), lack of perceived social support (Crnic et al., 1984; Deater-Deckard & Scarr, 1996; Östberg & Hagekull, 2000), minority and disadvantaged backgrounds of families (Barroso, Hungerford, Garcia, Graziano, & Bagner, 2016; Franco, Pottick, & Huang, 2010), socio-economic status of families (Deater-Deckard & Scarr, 1996; Emmen, Malda, Mesman, van

Ijzendoorn, Prevoe, & Yeniad, 2013; Huston, McLoyd, & Garcia Coll, 1994) and education levels of parents (Deater-Deckard & Scarr, 1996). Minority background and higher poverty rates of families are inclusive of many of these factors that influence parenting stress (Barroso et al., 2016).

The current literature examining the associations between parenting stress and parent school involvement is very limited (Deniz Can & Ginsburg-Block, 2016). The existing literature often investigated maternal stress with an emphasis on its associations with child and parent behavior. Several studies have found that maternal stress is significantly associated with: increased child behavior problems (Eyberg, Boggs, & Rodriguez, 1993; Neece, Green, & Baker, 2012), children's mental health symptoms (Essex, Klein, Cho, & Kalin, 2002), insecure attachment (Jarvis & Creasey, 1991), children's adjustment problems and mother child interactions (Pett, Vaughan-Cole, & Wampold, 1994), and difficult infant temperament (Chang et al., 2004). Investigations have also indicated that children whose mothers are experiencing stress are at risk for adjustment problems at school including social, academic, emotional, and behavioral difficulties (Neece, Green, & Baker, 2012). While these problems might require parents to communicate with teachers, parents' psychological distress has been found to leave parents with less energy for developing relationships with their children's teachers (Wandersman & Nation, 1998). Neece and colleagues (2012) suggest a bidirectional relationship between parenting stress and related outcomes: Parenting stress causes a cycle of negative parent-child interactions, which may eventually result in further stress for parents (Webster-Stratton, 1990). These findings suggest that parenting stress and related outcomes appear as an important barrier to parent involvement at home and school.

Parent Involvement: School and Home

The term parent involvement includes a wide range of activities parents engage in at home and school, as well as communications between parents and school (Epstein, 1996; Fantuzzo, Tighe, & Childs, 2000). For the purposes of the current study, parent school involvement is conceptualized using Epstein's (1996) three-dimensional approach to parent involvement: School-Based Involvement, Home-Based Involvement, and Home-School Conferencing. School-Based Involvement refers to activities parents engage at school such as participating in school events and attending parent-teacher meetings., Home-Based Involvement includes learning activities provided for children at home like bringing home learning materials for the child and spending time to work with the child on reading skills, and Home-School Conferencing refers to communication practices between parents and school such as talking to child's teacher about child's difficulties or problems (DeLoatche, Bradley-Klug, Ogg, Kromrey, & Sundman-Wheat, 2015). Studies suggest that high levels of parent involvement are associated with positive social emotional and academic results for school children from pre-kindergarten to 12th-grade (Fantuzzo et al., 2013; Jeynes, 2012; Jeynes, 2003; Rimm-Kaufman, Pianta, Cox, & Bradley, 2003; Sheridan, Marvin, Knoche, & Edwards, 2008). Research also suggests that children's learning and school readiness is better promoted when parents are more involved in children's educational experiences (Bulotsky-Shearer, Bouza, Bichay, Fernandez, & Gaona Hernandez, 2016; Dearing, McCartney, Weiss, Kreider, & Simpkins, 2004). Some of the predictors of parent involvement are described as socio-economic status (Fantuzzo, McWayne, Perry, & Childs, 2004; Van Velsor & Orozco, 2007), past parental experiences with children's preschool education (DeLoatche et al., 2015), and parental education level (Schaller, Rocha, & Barshinger, 2007). Studies also indicate that parenting stress has been found to have direct negative impact on maternal warmth, home learning stimulation, and cultural socialization

(Baker & Iruka, 2013). These findings suggest that parental involvement might be influenced by parenting stress as well as by the shared experiences of parents and children.

Children's Representations of Family Relationships

Children's internal representations of family relationships offer valuable information about their inner world (Holmberg, Robinson, Corbitt-Price & Wiener, 2007; von Klitzing, Stadelmann & Perren, 2007; Oppenheim, 2006; Oppenheim, Emde & Warren, 1997; Page, 2001; Robinson, 2007; Robinson, Herot, Haynes & Mantz-Simmons, 2000; Vu, 2015). Through representations, children reflect their constructions of moral and emotional reality (Holmberg et al., 2007), conceptualizations of social relationships (Vu, 2015), and perceptions of parental behaviors (Oppenheim et al., 1997). Narrative story stems are important tasks to assess children's mental representations. Story stems enable researchers to study children's meaning making processes even at the early ages (Holmberg, et al, 2007) and also enable children to organize their feelings into coherent narratives (Robinson et al., 2000). By using story stems, researchers can gain first-hand insight into what children think about the relationships they have with different people (Vu, 2015). For instance, Yoo, Popp and Robinson (2014) demonstrated that when mothers reported more distress, their children's family representations were more conflictual. Similarly, in the present context, children's representations allow children to express their ideas, emotions and experiences relating to their family life experiences.

The present study was guided by the following research questions: (a) How is maternal stress associated with maternal involvement at home and at school? (b) How are children's positive, disciplinary and negative mother representations associated with maternal involvement at home and at school? (c) How does the association between maternal stress and maternal involvement vary based on children's internal representations? (d) Are there mean differences

among resultant dimensions on child's gender? (c) Are there mean differences among resultant dimensions on race/ethnicity?

Current Study

The goal of the current study was to examine the associations between maternal stress at age 3, children's maternal representations at age 5, and mother school involvement at age 7. First, it was expected that higher levels of maternal stress at age 3 would be associated with lower levels of Home-Based Involvement and School-Based Involvement and higher levels of Home-School Conferencing at age 7 (Hypothesis 1). Second, we anticipated that more negative mother representations in children's stories at age 5 would be associated with lower Home-Based Involvement, and School-Based Involvement, and higher Home-School Conferencing at age 7 (Hypothesis 2.1.). Conversely, more positive and disciplinary representations would be associated with higher Home-Based Involvement, higher School-Based Involvement, and lower Home-School Conferencing at age 7 (Hypothesis 2.2.). Third, we hypothesized that high levels of maternal stress at age 3 would be associated with fewer positive and disciplinary representations in children's stories at age 5 (Hypothesis 3.1.). Conversely, higher maternal stress would be associated with more negative mother representations in children's stories (Hypothesis 3.2.) at age 5.

Methods

Participants

The data used in the current study are drawn from the Early Head Start Research and Evaluation Project (EHSREP). The EHSREP project was designed to evaluate the overall effectiveness of Early Head Start (EHS) programs and services. The evaluation began in 1996, at 17 EHS sites. The data were collected when children were 14, 24, and 36 months old and 5 years

old. For a locally designed investigation, additional data collection was conducted at three EHS sites when children were 7 years old. The present study was a secondary data analysis including 169 English-speaking mothers and their children. Fifty-eight percent of children were girls and 42% were boys. The participant mothers' ethnicity was 23.1% White, 35.5% Hispanic, 34.3% Black, and 7.1% other. At enrollment in the study 39.6% of mothers did not have their high school diploma or GED, 23.7% had a high school diploma or GED, and 36.7% had some post-high school education. At the time of enrollment, 29% of mothers were employed and 39% of mothers were identified as a teenage mother. Approximately 70% of the children were the first-born child. At the time of enrollment, of the 169 mothers studied, 11.8% of mother indicated that they were living with their husband, 60.9% were living with other adults, and 27.2% were living alone. The mothers were between the ages of 14 and 46, with an average age of 22.60 years. Average mother ages for different racial/ethnic groups were as follows: White mothers 26.15, Black mothers 20.84, Hispanic mothers 22.23, and Other mothers 21.33 years. Further sample descriptives are presented in Table 1.

Procedures

Data collected at age 3, 5 and 7 was used in the current study. Of the 169 children and their mothers studied, 101 had complete data at all three ages: 3, 5, and 7. Mothers completed the Parenting Stress Index-Short Form (PSI-SF; Abidin, 1995) at age 3, 146 mothers had data for Parenting Distress and 140 mothers had data for Parent-Child Dysfunctional Interaction. At age 5, children completed story stem narratives during home visits, 147 children had data for narrative representations. Children were videotaped while the narrative story stem assessments were completed. Videotapes were reviewed and independently coded by a team of three coders. Mothers completed the Family Involvement Questionnaire (FIQ; Fantuzzo, Tighe, & Childs,

2000) at age 7, 144 mothers had data for School-Based Involvement and Home-Based Involvement, while 143 mothers had data for Home-School Conferencing.

Measures

Maternal stress. The Parenting Stress Index-Short Form (PSI-SF; Abidin, 1995) was administered to the mothers when children were 3 years old to measure maternal stress. The PSI-SF is a psychometric self-report questionnaire composed of 36 items and 3 subscales: parental distress, parent-child dysfunctional interaction, and difficult child. Parental Distress (PD, 12 items) measures distress related to personal parental factors. Parent-Child Dysfunctional Interaction (P-CDI, 12 items) measures how the child meets the expectations of the parent. Difficult Child (DC, 12 items) assesses the behavioral characteristics of the child that makes him/her difficult or easy to manage (Crugnalo, Ierardi, Ferro, Gallucci, Parodi, & Astengo, 2016). A total stress score summarizes the three subscales. Responses to the PSI-SF are obtained through a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with higher scores being reflective of higher maternal stress. The subscale scores range from 12 to 60, while the total score ranges from 36 to 180. In the current study, only the Parental Distress and Parent-Child Dysfunctional Interaction subscales were used. The PSI-SF has been shown to be highly reliable and valid measure for ethnically and socio-economically diverse populations including low-income families (Deniz Can & Ginsburg-Block, 2016).

Story stems. Children's maternal representations were measured by story stem narratives. The story stems used in the current study were drawn from the MacArthur Story Stem Battery (MSSB; Bretherton, Oppenheim, Buchsbaum, Emde, & MacArthur Narrative Group, 1990). Story stems were presented through small family of dolls consisting of a mom, dad, and two children while for the current study only the representations of mothers were taken into

consideration. Dolls presented was matching the focus child's gender. The story stems consisted of a brief story beginning that includes a social-emotional dilemma or a challenge. After the dilemma was presented, examiners invited children to show and tell what happened next. The procedure was videotaped, and generally took 25 to 30 minutes. The stories administered to children included Band-Aid, Hot Soup, and Stolen Candy. In Band-Aid and Hot Soup, the child got injured and Stolen Candy involved a defiant child.

Based on the characteristics demonstrated by mother characters during children's narratives, three types of representations were assessed: Positive, disciplinary, and negative. Positive representations included protection of the child from harm, caretaking actions, affectionate-warm caring actions, and helping and assisting the child. Disciplinary representations included the mother being represented as an authority figure, the mother telling the child what to do or setting limits, and well-regulated physical punishment. Negative representations included harsh and punitive actions, rejecting the child, pushing child away, and ineffectual parent behavior. The presence or absence of each characteristic was coded in each story, and an average for each variable was created representing the frequency across the three stories.

Maternal involvement. Mothers' involvement with their child was measured using the Family Involvement Questionnaire (FIQ; Fantuzzo, Tighe, & Childs, 2000). The FIQ is a multi-dimensional, self-report instrument with items rated on a 4-point Likert scale from 1 (rarely) to 4 (always). As described above, there are three dimensions of the FIQ: School-Based Involvement, Home-Based Involvement, and Home-School Conferencing. For this study, mothers responded to total number of 26 items in 3 subscales: 8 items for School-Based Involvement, 9 items for Home-Based Involvement, and 9 items for Home-School Conferencing. The FIQ has been

shown to be a highly reliable and valid measure with diverse families from low-income backgrounds such as families participating in Head Start (Bulotsky-Shearer et al., 2016). In the present study, the Cronbach's alpha values for Family Involvement Questionnaire were School-Based Involvement, .77; Home-Based Involvement, .83; and Home-School Conferencing, .86.

Data Analysis

The statistical analyses were conducted using IBM SPSS[®] 22. Pearson's correlation analyses were run between maternal stress, children's representations, and parent involvement measures. Descriptive statistics and correlations were run for both the entire sample and by gender. To determine if there was a significant difference in correlations by gender, the correlations were compared according to Fisher's *r*-to-*z*-transformation. Furthermore, a *t*-test analysis was conducted for all three key variables to examine the differences between boys and girls. ANOVA was used to test the racial/ethnic group differences on the key study variables. In order to test the mediating role of children's maternal representations as a mediator between maternal stress at age 3 and mothers' involvement behaviors at age 7, a partial correlation was run.

Results

Descriptive statistics were calculated for each variable for overall sample (Table 2). Mothers had a mean score of 23.70 (*SD* = 9.00) on Parental Distress, and 16.48 (*SD* = 5.14) on Parent-Child Dysfunctional Interaction scales of the PSI-SF. Both scores are in normal range within 16th to 84th percentiles of published scale averages. The average number of positive parent representations across children's stories was 0.20 (*SD* = 0.13). Approximately one in five stories included an explicit positive representation. The average number of disciplinary representations

was a bit lower ($M= 0.14$, $SD= 0.10$), and the average number of negative parent representations was low ($M= 0.04$, $SD= 0.07$). On the FIQ, mothers reported an average of 13.02 ($SD = 3.95$) out of a maximum of 30 in School-Based Involvement, indicating a low level of school involvement. However, mothers' reports for other types of involvement were higher. They reported an average score of 27.79 ($SD = 4.65$) in Home Based Involvement and 25.09 ($SD = 6.01$) in Home-School Conferencing, reflecting high levels of these types of involvements. Descriptive statistics were also calculated for each variable by racial/ethnic group (Table 3). Average scores for all variables indicated similar patterns with average scores of overall sample. Group differences based on maternal race/ethnicity were examined. There were no significant ANOVA differences regarding racial/ethnic group on any of the study variables (see Table 3 for means).

Gender Differences

An independent samples t-test revealed significant group differences based on child gender for a few variables. At age 5, the average number of positive representations observed in girls' stories ($M=0.22$, $SD=0.15$) was significantly higher than the average number of positive representations observed in boys' stories ($M=0.18$, $SD=0.11$; $t(145) = 2.14$, $p= 0.027$). Gender differences within the average number of disciplinary representations exhibited similar effects, ($t(145) = 22.38$, $p= 0.018$), with girls ($M=0.16$, $SD=0.10$) exhibiting significantly more disciplinary representations compared with boys ($M=0.12$, $SD=0.09$). The average number of negative representations also differed, ($t(145) = -2.18$, $p= 0.043$), with boys exhibiting significantly more negative representations ($M=0.06$, $SD=0.09$) compared with girls ($M=0.03$, $SD=0.05$). Moreover, at age 7, levels of the Home-School Conferencing reported by boys' mothers ($M=2.99$, $SD=0.62$) was significantly greater than the levels of Home-School Conferencing reported by girls' mothers ($M=2.65$, $SD=0.66$; $t(141) = -3.05$, $p= 0.003$). Other variables were equivalent across

genders.

Correlations

Pearson's correlation results for the overall sample are presented in Table 4. According to an analysis using the entire sample, a significant positive correlation existed between the two subscales of the PSI-SF at age 3; Parental Distress and Parent-Child Dysfunctional Interaction ($r = .529, p < 0.01$). Mothers who reported higher levels of Parental Distress also reported higher levels of Parent-Child Dysfunctional Interaction. Moreover, children's representation at age 5 revealed low to moderate correlations: the positive correlation between Positive and Disciplinary representations was significant ($r = .303, p < 0.01$), correlations between Positive and Negative representations ($r = .086, p = \text{n.s.}$) and between Disciplinary and Negative Representations ($r = .159, p = \text{n.s.}$) were also positive but non-significant. The FIQ data at age 7 revealed significant positive correlations among the subscale scores; between School-Based Involvement and Home-Based Involvement ($r = .280, p < 0.01$), between School-Based Involvement and Home-School Conferencing ($r = .273, p < 0.01$), and between Home-Based Involvement and Home-School Conferencing ($r = .277, p < 0.01$). Mothers who had high scores on one subscale of the FIQ also had high scores on other two subscales.

As hypothesized (Hypothesis 1), there was a weak, but significant positive correlation between Parental Distress at age 3 and Home-School Conferencing at age 7 ($r = .181, p < 0.05$). Mothers who reported higher levels of Parental Distress also reported higher levels of Home-School Conferencing. Also, as hypothesized (Hypothesis 2.1.), negative representations at age 5 were positively correlated with Home-School Conferencing at age 7 ($r = .218, p < 0.05$). Mothers who were represented with more negative characteristics across the children's stories reported higher levels of Home-School Conferencing.

Also, as hypothesized (Hypothesis 3.1.), analyses for the overall sample indicated a significant negative correlation between Parent-Child Dysfunctional Interaction at age 3 and children's Disciplinary representations at age 5 ($r = -.252, p < 0.01$). Children of parents reporting more dysfunctional interactions with their child had fewer disciplinary representations in their stories. Also, as hypothesized (Hypothesis 2.1.), negative representations at age 5 were positively correlated with Home-School Conferencing at age 7 ($r = .218, p < 0.05$). Mothers who were represented with more negative characteristics across the children's stories reported higher levels of Home-School Conferencing.

Partial correlation results revealed that children's representations at age 5 did not significantly mediated the association between Parental Distress and Home-School Conferencing ($r = .175, p = .085$); the partial correlation is virtually unchanged from the Pearson's ($r = .181$). Correlations by child gender are shown in Table 5 and Table 6. While some correlations were significant for girls and not boys, and vice versa, most did not appear to be different in magnitude.

However, for boys, there was a significant negative correlation between Parent-Child Dysfunctional Interaction and children's Disciplinary representations ($r = -.333, p < 0.05$). Boys of mothers who reported higher levels of Parent-Child Dysfunctional Interaction represented less maternal disciplinary characteristics in their stories. Moreover, analysis by gender revealed a moderate positive correlation between Negative Representations and Home-School Conferencing for girls ($r = .322, p < 0.01$). In girls' stories, mothers who were represented with more negative characteristics reported higher levels of Home-School Conferencing. When converted to z-scores using Fisher's z-transformation, the difference in the relationship between Negative representations and Home-School Conferencing was not significantly different between boys and

girls.

Discussion

The purpose of the current study was to explore the associations between maternal stress, children's narrative representations of mothers, and parent school involvement. The hypothesis that the higher levels of maternal stress would be associated with lower levels of Home-Based Involvement, lower levels of School-Based Involvement, and higher levels of Home-School Conferencing was partially supported by the positive correlation between Parental Distress and Home-School Conferencing. The Parental Distress subscale of the PSI assesses parent's perception of parenting competence, conflict with the partner, social support, and stress associated with the restrictions on roles other than parenting (Reitman, Currier, & Stickle, 2002). The Home-School Conferencing dimension is considered as representative for dynamic exchanges between teachers and parents about children's learning, behavior, difficulties and progress (Epstein, 1996; Fantuzzo et al., 2004). One way of interpreting the positive correlation between Parental Distress and Home-School Conferencing is; children of mothers with higher levels of stress may be more likely to show adjustment and behavior problems in school, consequently requiring mothers to be involved in more Home-School Conferencing activities. In regards to associations between parenting stress and behavior problems at school, research suggests that maternal stress influences early school-age behavior problems (Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998) and parenting stress is an important predictor of child behavior (Crnic, Gaze, & Hoffman, 2005). Research also indicate that maternal warmth and flexibility are positively associated with children's cognitive outcomes (Molfese, Rudasil, Beswick, Jacobi-Vessels, Ferguson, & White, 2010; Smith, Landry, & Swank, 2000). Mothers experiencing high levels of stress tend to lack maternal warmth and flexibility in parenting

(Baker & Iruka, 2013) and to be more unresponsive and intrusive (Spritz, Sandberg, Maher, & Zajdel, 2010). Thus, higher levels of maternal stress at age 3 might be influencing learning difficulties at age 7 through the lack of maternal warmth and flexibility. As a result, children's learning difficulties associated with maternal stress may be resulting in more frequent exchanges between mothers and teachers and higher scores in Home-School Conferencing.

In a recent study with low-income families, Deniz Can and Ginsburg-Block (2016) investigated the relationship between parenting stress and parental home-based educational activities and the results indicated that total parenting stress significantly correlated with Home-Based Involvement. The results from this study did not suggest similar significant findings regarding the association between higher levels of maternal stress with lower levels of Home-Based Involvement.

The hypothesis that more negative mother representations in children's stories would be associated with lower Home-Based Involvement, lower School-Based Involvement, and higher Home-School Conferencing was partially supported by the positive correlation between negative representations and Home-School Conferencing. Negative characteristics in children's narrative representations included harsh or punitive actions such as mother hitting a child; rejecting or pushing the child away, and ineffectual behavior like unwillingness to help when asked (Mudrick, 2016). Solomonica-Levi and colleagues (2001) demonstrated that maternal behavior precedes the formation of children's internal representations, and negative characteristics such as inconsistency and non-responsiveness observed in children's internal representations of mothers had important predictive value in explaining children's behavior problems. Research indicated that children who represented mothers in their play narratives as more positive, more disciplinary, and less negative had fewer behavior problems as reported by their mothers

(Oppenheim, Emde, & Warren, 1997). Similarly, it may be the case that internalized negative maternal behavior seen in children's narrative stories spills over to children's behavior and learning problems in school, requiring mothers to involve more in Home-School Conferencing activities. Further investigation is needed to determine if this is the case.

The hypothesis that high levels of maternal stress would be associated with fewer positive and disciplinary representations in children's stories was also partially supported through the negative correlation between Parent-Child Dysfunctional Interaction and children's Disciplinary representations. The Parent-Child Dysfunctional Interaction subscale reflects parent's perceptions regarding whether the child meets the parent's expectations or not and whether the interactions with the child is rewarding or not (Abidin, 1995). In the literature, disciplinary representations were found to be reasonable and appropriate limit setting practices (Oppenheim, Emde, and Warren, 1997), positively associated with positive representations as in this study. Similar to the findings of the current study, the results of the study done by Oppenheim and colleagues (1997) indicated that children who had more Positive and Disciplinary representations had fewer behavior problems and their mothers reported less psychological distress. Literature also demonstrated that parenting stress may impact consistency and appropriateness of parenting strategies. The emotional context in which parents deliver their strategies may also be influenced by parenting stress. Research suggest that high levels of stress were found to have a negative impact on the warmth and security provided by the parent (Williford et al., 2007). Similarly, studies suggest that lower levels of parenting stress tend to be associated with positive affect and positive parenting practices (Webster-Stratton, 1990). The current data support these patterns, suggesting that lower levels of maternal stress is associated with more disciplinary representations that might be indicative of appropriate and reasonable

parenting practices.

Correlations by gender revealed that the aforementioned significant positive correlation between negative representations and Home-School Conferencing existed for girls only. The significant negative correlation between Parent-Child Dysfunctional Interaction and children's Disciplinary representations existed for boys only. Research on the influence of gender in children's narrative stories suggest that boys tell more aggressive narratives with fewer affection themes (von Klitzing et al., 2000) and boys' narrative stories are less coherent than girls' stories (Stadelmann, Otto, Andreas, von Klitzing, & Klein, 2015; von Klitzing et al., 2000).

Assessing children's maternal representations at age 5 as potential mediator of the association between maternal stress at age 3 and parent involvement at age 7 yielded a nonsignificant trend. All three variables of interest in the current study may exhibit both intra-individual and interindividual change over time. Therefore, in future studies further interpretations may be provided through careful considerations of longitudinal nature of data.

The positive correlations between the three dimensions of parent involvement was surprising. Based on the hypotheses and other correlation results, it was expected that the correlation between School-Based Involvement and Home-Based Involvement would be positive but the correlation between School-Based Involvement and Home-School Conferencing and the correlation between Home-Based Involvement and Home-School Conferencing would be negative. Perhaps the items of the Home-School Conferencing do not inform parents about positive or negative aspects of the items. For instance, the item "I attend conferences with the teacher to talk about my child's learning or behavior" may indicate talking about child's general progress without a problem behavior but it may also indicate a problem behavior. A mother attending conferences because of a child's behavior problem and a mother attending conferences

just to support the communication with the teacher may both respond similarly to the same item. For the latter mother who wants to support communication without problem, the three dimensions of parent involvement would to be positively correlated. However, our results regarding the associations between parenting stress and Home-School Conferencing and between negative representations and Home-School Conferencing does not suggest the kind of trend that we would expect in the later mother's case. Until replicated, however, this interpretation must remain tentative.

Limitations

There are important limitations to the current study. First, this was a secondary data analysis as the data were not designed for the purposes of the current study. Second, generalizability of the current findings is limited. The findings of this study cannot be extended beyond low-income families receiving EHS or similar services without replication. Third, parenting stress and parent involvement measures relied on self-report questionnaire data only. Although questionnaire data provided a wide range of valid and credible information about parent involvement and maternal stress, additional data sources such as home or school observations and teacher reports would be useful to gain more holistic information. Moreover, each measure was only used at one stage of the study limiting the range of information and offering only limited scenes from the whole picture. More frequent assessments in future studies might be helpful to gather information about associations developing over time as well as the intra-individual changes in key study variables.

Implications

The findings of the current study showed that maternal stress and children's internal representations of mothers was associated with several aspects of maternal involvement at home

and at school. The study demonstrates the importance of conceptualizing parent involvement as a contextual construct and emphasizes the need for multifaceted intervention programs targeting the parent involvement behaviors. The current findings point to specific areas of maternal involvement that can be targeted by prevention intervention efforts to support children's development and learning. Results indicated lower School-Based Involvement than Home-Based Involvement and this trend appeared for all racial/ethnic groups. Programs emphasizing School-Based Involvement might improve mothers' involvement at school and this improvement might as well influence improvements in other dimensions of parent involvement.

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Table 1

Sample Descriptives

		Frequency	Percent
Child Gender	Female	98	58 %
	Male	71	42 %
Maternal Race	White	39	23.1 %
	Black	58	34.3 %
	Hispanic	60	35.5 %
	Other	12	7.1 %
Maternal Education	Less than High School	67	39.6 %
	High School or GED	40	23.7 %
	More than High School	62	36.7 %
Maternal Occupation	Employed	49	29 %
	School / Training	49	29 %
	Other	71	42 %
Living Arrangement Of Mothers	Lives with Husband	20	11.8 %
	Lives with other Adults	103	60.9 %
	Lives Alone	46	27.2 %
Number of Adults in Household	One	47	27.8 %
	Two	64	37.9 %
	Three or more	58	34.3 %
Focus Child is First Born		117	70.1 %
Teenage Mother		64	38.6 %

Table 2

Descriptive Statistics for Key Variables (Total N = 169)

	3 years			5 years			7 years		
	n	M (SD)	Min–	n	M (SD)	Min–	n	M (SD)	Min–
			Max			Max			Max
<i>Maternal Stress</i>									
Parental Distress	146	23.70 (9.00)	12-50						
Parent-Child Dysfunctional Interaction	140	16.48 (5.14)	12-51						
<i>Children's Representations</i>									
Positive				147	0.20 (0.13)	.00-.54			
Disciplinary				147	0.14 (0.10)	.00-.46			
Negative				147	0.04 (0.07)	.00-.48			
<i>Family Involvement</i>									
School-Based Involvement							144	13.02 (3.95)	8-30
Home-Based Involvement							144	27.79 (4.64)	15-36
Home-School Conferencing							143	25.09 (6.00)	9-36

Table 3
Descriptive Statistics for Key Variables by Racial/Ethnic Group

	White		Black		Hispanic		Other	
	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)
<i>Maternal Stress</i>								
Parental Distress	36	22.46 (9.76)	49	25.70 (9.35)	51	23.33 (8.24)	10	20.20 (7.11)
<i>Parent-Child Dysfunctional Interaction</i>								
<i>Children's Representations</i>								
Positive	30	.21 (.16)	52	.21 (.14)	55	.20 (.12)	10	.19 (.09)
Disciplinary	30	.13 (.10)	52	.17 (.11)	55	.12 (.09)	10	.18 (.12)
Negative	30	.04 (.05)	52	.05 (.07)	55	.04 (.08)	10	.02 (.03)
<i>Family Involvement</i>								
School-Based Involvement	36	13.13 (4.12)	49	12.38 (3.78)	49	13.75 (4.11)	10	12.20 (3.19)
Home-Based Involvement	36	27.91 (4.12)	49	28.32 (5.15)	49	27.44 (4.32)	10	26.40 (5.42)
Home-School Conferencing	36	24.22 (4.12)	48	25.52 (6.31)	49	25.75 (5.36)	10	23.00 (6.61)

Table 4

Bivariate Correlations for Scores on PSI-SF, Children's Representations and FIQ (Overall Sample)

Measures	Variables	1	2	3	4	5	6	7	8
Maternal Stress at Age 3 (PSI-SF)	1. Parental Distress	-							
	2. Parent- Child Dysfunctional Interaction	.529**	-						
	3. Positive Representatio ns	.011	-.071	-					
Children's Representations at Age 5	4. Disciplinary Representatio ns.	-.094	-.252**	.303**	-				
	5. Negative Representatio ns	.024	.115	.086	.159	-			
Family Involvement at Age 7 (FIQ)	6. School Based Involvement	-.044	-.060	.005	.034	.042	-		
	7. Home Based Involvement	.044	.026	.080	.031	.005	.280**	-	
	8. Home- School Conferencing	.181*	.140	-.015	-.029	.218*	.273**	.277**	-

*p < .05; **p < .01

Table 5
Bivariate Correlations for Scores on PSI-SF, Children's Representations and FIQ (Boys)

Measures	Variables	1	2	3	4	5	6	7	8
Maternal Stress at Age 3 (PSI-SF)	1. Parental Distress	-							
	2. Parent-Child Dysfunctional Interaction	.509**	-						
Children's Representations at Age 5	3. Positive Representations	-.126	-.173	-					
	4. Disciplinary Representations	-.160	-.333*	.212	-				
	5. Negative Representations	-.050	.146	.140	.160	-			
Family Involvement at Age 7 (FIQ)	6. School Based Involvement	.010	.009	-.138	-.145	.004	-		
	7. Home Based Involvement	.097	.187	-.070	-.123	-.053	.207	-	
	8. Home- School Conferencing	.256	.219	.267	.036	.084	.205	.407**	-

*p < .05; **p < .01

Table 6
Bivariate Correlations for Scores on PSI-SF, Children's Representations of Mothers and FIQ (Girls)

Measures	Variables	1	2	3	4	5	6	7	8
Maternal Stress at Age 3 (PSI-SF)	1. Parental Distress	-							
	2. Parent-Child Dysfunctional Interaction	.608**	-						
Children's Representations of Mothers at Age 5	3. Positive Representations	.112	.072	-					
	4. Disciplinary Representations.	-.029	-.137	.314**	-				
	5. Negative Representations	.070	-.011	.123	.264*	-			
Family Involvement at Age 7 (FIQ)	6. School Based Involvement	-.063	-.118	.018	.058	.172	-		
	7. Home Based Involvement	.019	-.147	.144	.099	.138	.316**	-	
	8. Home-School Conferencing	.122	.047	-.089	.029	.322**	.355**	.263*	-

*p < .05; **p < .01