

The Impact of Cumulative Risk on Parenting Behaviors as Mediated by Parental Distress

Courtney Estelle Green

A Senior Thesis submitted in partial fulfillment
of the requirements for graduation
in the Honors Program
Liberty University
Spring 2013

Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial fulfillment of the requirements for graduation from the Honors Program of Liberty University.

Brianne Friberg, Ph.D.
Thesis Chair

Fred Volk, Ph.D.
Committee Member

Marybeth Baggett, Ph.D.
Committee Member

Marilyn Gadowski, Ph.D.
Honors Director

Date

Abstract

Cumulative risk is a salient construct addressed in family dynamics research. There have been multiple relationships established among cumulative risk, parenting, and child outcomes through previous research. The current study furthered this body of research by addressing the role of parenting distress within models predicting parenting behaviors within a context of risk. Cumulative risk, parenting, child behavior, and transactional relationships highlighted the relationships between an environment of risk and resulting parenting outcomes. It was predicted that parental distress will act as a mediator variable between the baseline cumulative risk and later parenting behaviors. This hypothesis was tested using data from the national evaluation of Early Head Start federal program. Multiple regression analyses testing this mediation model were analyzed for three different parenting outcomes: supportiveness, intrusiveness, and parent-child interaction. For supportiveness and parent-child interaction the hypothesized mediation relationship of parental distress was supported. The resulting findings have implications for future research and family interventions, especially in the environmental context of risk.

The Impact of Cumulative Risk on Parenting Behaviors as Mediated by Parental Distress

Much research in developmental psychology centers on preventing children's psychosocial and psychological disorders, and fostering positive child adjustment (Sameroff & Fiese, 2000; Yates, Obradovic, & Egeland, 2010). Child adjustment is in part a result of individual child characteristics; however, referencing Bronfenbrenner's ecological model of development, the context of development can be just as important as child characteristics. Developmental context includes parenting behaviors and external environment. Both of these contextual factors can greatly affect child adjustment. The increasing prevalence of single-parent families, declines in family resources, and increase in mothers in the work-force has contributed to greater ecological risk and compromised parenting, both of which are salient negative factors contributing to development. These societal shifts necessitate further research into parenting behaviors in the context of risk, as it will have direct implications for interventions targeting positive child growth (Sameroff & Fiese, 2000).

Factors Influencing Parenting

Cumulative Risk

Some previous research primarily focused on one risk factor that influences parenting decisions, such as neighborhood context or psychological distress (Bank, Forgatch, Patterson, & Fetrow, 1993). However, Sameroff and Fiese (2000) discovered that one single factor cannot determine positive or negative outcome; the power of risk is through the accumulation of a large number of negative influences. According to Arditti, Burton, and Neeves-Botelho (2010), cumulative risk is a dynamic phenomenon, involving the interplay between previous disadvantages and current difficulties, and the

reciprocal relationship of the two intertwined. While each factor separately does not inherently predict negative outcomes, the combination of multiple factors yields evidence that cumulative risk predicts compromised parenting behaviors (Ceballo & Hurd, 2008). The salient literature encompassed risks including neighborhood location, parental unemployment, low family income, single-parent households, multiple children, racial or ethnic disadvantaged, or homes where a parent is incarcerated (Bank et al., 1993; Ceballo & Hurd, 2008; Sameroff & Fiese, 2000). Whatever the combination of these and other risk factors, it is evident that cumulative risk has strong ties to adverse child development, maladjustment, and maladaptive parenting practices (Bank et al., 1993). Indeed, different combinations of risk factors yielded the same outcomes; the number of risk factors is more pervasive than any specific type of risk (Sameroff & Fiese, 2000).

Not only is cumulative risk associated with negative child outcomes, but it also affects parenting behaviors. Many of the measured accumulated risk factors are directly related to parents, such as parent employment, education, marital status, or mental status (Bank et al., 1993; Sameroff & Fiese, 2000). These parents have multiple competing roles that increase stress as they juggle being single parents and working multiple jobs, or having less support and low socioeconomic status, all of which has been linked to compromised parenting (Belsky, 1984; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000; Rodgers, 1998). Thus, risk factors have been linked directly and indirectly to negative family outcomes (Sameroff & Fiese, 2000; Weinraub & Wolfe, 1983).

General Stress

Previously, most of the connections between parenting behaviors and stress were drawn in reference to major life stress events, such as a divorce or sudden move (Crnic & Greenburg, 1990). Thus, evidence of distress in a target individual or family's environment was customarily attributed to major life events that are stressful (Ceballo & Hurd, 2008). However, credence should be given to the daily transactional demands that are everyday stressors. Daily frustrations and annoyances compound and create more parent responsibilities, as parents try to navigate increasing their child's socialization in addition to their own (Crnic & Greenburg, 1990). Additionally, over time, parenting daily hassles contribute not only to compromised parenting, but also to dysfunction in the transactional dyadic relationship between parent and child (Crnic & Booth, 1991).

Thus stress can have both a direct and an indirect effect on overall family health, as stressors themselves wreak havoc, and can indirectly affect maternal cognitions and appraisals of ability, lowering a woman's perceived competence and making her job as a parent seem more daunting (Rodgers, 1998). Furthermore, in a context of cumulative risk, stress factors have been discovered to be relatively stable throughout the preschool period, which contributes to a higher possibility of compromised parenting, in turn compromising family health (Crnic, Gaze, & Hoffman, 2005).

Many of the negative influences of general stress or daily hassles are buffered through a strong social network, as the mother is able to step out of her competing roles for a time, or can find someone else who identifies and shares the same conflict making parenting seem less overwhelming (Weinraub & Wolf, 1983).

Parental Distress

According to Anthony, et al. (2005), parental distress is specifically the “difficulty that arises from being a parent” (p.134). This difficulty arises from a myriad of factors involving the multifaceted ecological systems and relationships that are characteristic of parenting demands in current cultural contexts. Deater-Deckard and Scarr (1996) discovered that low income and low maternal education were associated with high parenting stress. Additionally, in families with younger children, parents found the responsibilities of parenting more overwhelming. Some of the factors that have been purportedly linked to parenting distress were child and parent temperament, the level of and cumulative responsibility that the parent feels, in addition to psychological well-being of the parent and child (Anthony et al., 2005). According to Ceballo and Hurd (2008), parenting stress is derived from the parent being overwhelmed by their daily demands, especially when the home is located in a risky neighborhood.

Crnic and Greenburg (1990) found evidence for a both an indirect and a direct relationship between parenting stresses and parent behavior. In addition, Weinraub and Wolfe (1983) discovered that in single parent families, greater stresses and lesser support (risk factors) were linked to parenting choices and responses. Of the daily stress factors identified, household responsibility was found to be most stressful, as the increased work load required and less time for social interaction makes it more difficult to navigate through the demands of childrearing (Weinraub & Wolfe, 1983). Moreover, daily difficulties in living situation combined with daily struggles over competing roles and alternating responsibilities predicted compromised parent confidence, which can compound the effects of the distress (Ceballo & Hurd, 2008). Taking these results into

consideration, early interventions should include parent management training, in order to assist parents in combating the distress that can lead to deleterious family outcomes (Rodgers, 1998).

Parent Behaviors

Parenting behaviors influence child outcomes. Positive parenting, a prevalent protective factor influencing child adaptation, is rooted in a pattern of prompt, appropriate, and warm caregiver response. On the other hand, inconsistent, incompetent, or malicious parenting can contribute poor child outcomes. These parenting practices reflect a harsh, inflexible approach that does not foster child growth and development, and can engender risk of child maladjustment (Mash, Wolfe, Parritz, & Troy, 2011). Positive relationships with young children are critical as they assist in fostering child neurological, cognitive, emotional, and personality development. These relationships are promoted through supportive and sensitive parenting practices.

Supportiveness

Parenting that is high in sensitivity or supportiveness to the child's capabilities lead to positive child outcomes (Belsky, 1984). Sensitive, responsive parenting promotes emotional security, positive behavioral avenues, and even intellectual development. Correcting compromised parenting practices can reduce risk for the child, increasing the likelihood of the child achieving optimal adaptation (Mash, et al. 2012).

Sokolowski, Hans, Bernstein, & Cox (2007) found that in the context of cumulative risk, maternal stress from conflict with other sources of support decreased likelihood of sensitive-responsive, or supportive interactions with a child. Additionally, decreased maternal social support combined with increased stress predicted more

hostility in relational interaction with peers, children, and their own parents (Sokolowski, Hans, Bernstein, & Cox, 2007). Also, mothers' personal stress and distress was negatively correlated with supportiveness and fostering child autonomy, but positively correlated with hostility and poor instruction of the child (Pianta & Egeland, 1990).

Further, socioeconomic status, ecological context, and family and social supports are each individually related to discipline responses related to negligent child behavior (Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000). Collectively these factors provide some of the framework for cumulative risk, and support the idea that cumulative risk impacts parenting supportiveness and intrusiveness.

Intrusiveness

Distress is linked to authoritarian, or rigid, parenting practices (Deater-Deckard & Scarr, 1996). In turn, these harsh parenting techniques are associated with poor child behavior outcomes. Anthony et al. (2005), using a Head Start sample, found that distress predicted parenting behaviors that were typically less nurturing and unsupportive. Some of the negative parenting behaviors that have previously been studied include harsh discipline, inconsistent parenting, mood-based or fatalistic approach to responsibility, or the parent being preoccupied or having no energy/time to nurture the child (Bank, et al., 1993). In addition, much has been studied as to the intrusiveness or supportiveness of parenting practices. Intrusive and harsh parenting practices have been especially evident in studies of high-risk populations (Pinderhughes et al, 2000).

Parent-child Dyadic Relationship: Functional or Dysfunctional

The relationship between the parent and child is a transactional process, meaning that the actions of one party lead to a response in the other, which in turn reinforces

continued response from the first party (Mash et al, 2012; Sameroff & Fiese, 2000). For example, if a parent pays attention to a child during a learning play activity, and praises the child's achievements, the child is likely to perform these positive behaviors again, eliciting more positive parental response. However, the reverse is true as well, in that negative parenting choices reinforce poor child behavior, which subsequently cause the parent to perceive the child more negatively, promoting harsher parenting behaviors.

Parenting stress contributes to dysfunctional and negative choices in parenting (Pinderhughes et al. 2000). This distress could be rooted in a child's temperament, a long-term illness or disability, or merely rooted in the constant responsibility associated with child-rearing (Deater-Deckard & Scarr, 1996). Distress over parenting can cause a parent's perceptions to be altered, viewing the child as more incompetent and difficult in temperament than the child actually is (Anthony, et al., 2005). In turn, a parent perceiving a child to be difficult, causing behavior problems, is more likely to have heightened parenting distress, creating a negative response cycle within the transactional dyadic relationship (Creasey & Jarvis, 1994). Also, children whose parents struggle with parenting stress are more likely to internalize their difficulties and problems, a habit that can elicit future poor behavior (Anthony et al, 2005). Crnic, Gaze, & Hoffman (2005) discovered that daily hassles and stressors of everyday life increase hostility between parent and child, contributing to less dyadic pleasure. Parent distress can alter parent appraisals of their child, which in turn compromises child attachment security (Creasey & Jarvis, 1994).

From an ecological standpoint, it is important to address the parent-child interaction when addressing parent actions (Belsky, 1984). Positive parent response to the

child can serve as a buffer or protective factor in a risk context, as the child gains pleasure from their role in the dyadic relationship. Moreover, as seen in the Mother-Child interaction project, family and personal relationships account for the most significant portion of a child's optimal adaption (Pianta & Egeland, 1990).

In addition, a dysfunctional parent-child interaction can be a side effect of parent psychological distress (Reitman, Currier, & Stickle, 2002). A primary target of early intervention programs should be parenting interventions, so that parents can establish good parenting habits that will reinforce good child behavior, and thus will promote secure attachment relationships.

Salient Predictor of Child Outcomes

Perhaps the most convincing reason to research parenting behaviors is the implications for child development. The theoretical foundations of psychology point to early childhood experiences and the power they have to influence and shape child personality, adjustment, and behavior. A vast body of research cements the undeniable fact that parenting choices and behaviors have direct, relevant implications for resulting child behavior. In a study of a different high risk population, harsh parenting practices and poor parenting decisions were directly linked to reoccurring problems in child behavior. Additionally, contextual factors that are responsible for affecting and impacting parent behaviors result in conduct problems and severe behavioral disturbances in children (Bank et al., 1993). Family stress theory indicates that the parent psychological distress, or the cognitive and emotional aspects of distress, can contribute to compromised parenting practices. In turn, compromised parenting choices and

behaviors are directly linked to child social, emotional, and behavioral maladjustment (Kotchick, Dorsey, & Heller, 2005).

Crnic, Gaze, and Hoffman (2005) substantiated that parenting reactions to daily hassles and stressors of life mediates the relationship between an environment at risk for stress and child outcomes. Thus, a pervading atmosphere of stress led to greater risk of difficulties with child behavior problems. Additionally, according to the diathesis-stress model, inherent genetic or biological risks can be exacerbated in a context of environmental risk and stress (Mash et al., 2012). Thus, in some cases, cumulative risk and stress within the home increased the likelihood of the child developing a disorder or psychopathology.

While there is evidence that socioeconomic disadvantage did lead to poor child outcomes and negative adaptation, this pathway was mediated by maternal ability to handle parenting stress and parenting competently. It is imperative, then, to utilize any means possible to strengthen positive parenting patterns, and weaken and break cycles of poor parenting.

Early Head Start

One program that offers an opportunity to study parenting behaviors within the context of risk is Early Head Start (EHS). EHS is a federal program that targets vulnerable families with early interventions. EHS programs focus on pregnant women, infants, and toddlers that come from low-income backgrounds. The goal of the program is to promote and support physical, socio-emotional, and cognitive growth among children, to promote healthy prenatal outcomes for pregnant women, and healthy family functioning overall (Early Head Start National Resource Center, 2013). Many of the

families in the EHS program exhibit the factors mentioned previously that contribute to cumulative risk. Within these family groups, many of the mothers have low levels of education, are young, have multiple children, which places them at risk for compromised parenting behaviors. Additionally, this population includes a notable risk for maternal depression and parenting distress. As such, it is an optimal sample for further exploring the relationship between cumulative risk, parenting distress, and parenting outcomes (Administration on Children, 2002).

Proposed Theoretical Model

The current study specifically explored the associations among cumulative risk and maternal supportiveness, maternal intrusiveness, and parent-child dysfunction (see Figure 1). Given the previous research, it was hypothesized that within the EHS sample, high cumulative risk at intake would be associated with negative parenting behaviors at 36 months.

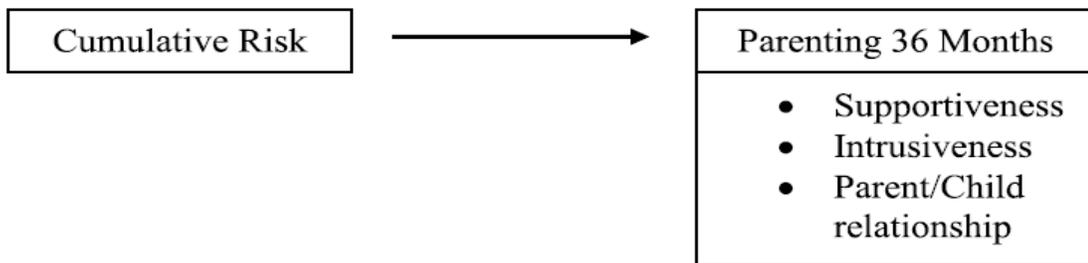


Figure 1: Proposed model for Hypothesis 1.

Additionally, it was hypothesized that the association between cumulative sociodemographic risk and parenting behaviors at 36 months would be mediated by parental distress, measured at 24 months (See Figure 2). The three parenting factors

assessed in both of these models are supportiveness, intrusiveness, and parent-child dysfunctional interaction. Thus Hypothesis 2 suggested that the relationships between cumulative risk and parent supportiveness, between cumulative risk and parent intrusiveness, and between cumulative risk and the parent-child dysfunctional interaction are each mediated by parental distress. Within this model, gender of the focus child, and maternal depression were included as control variables.

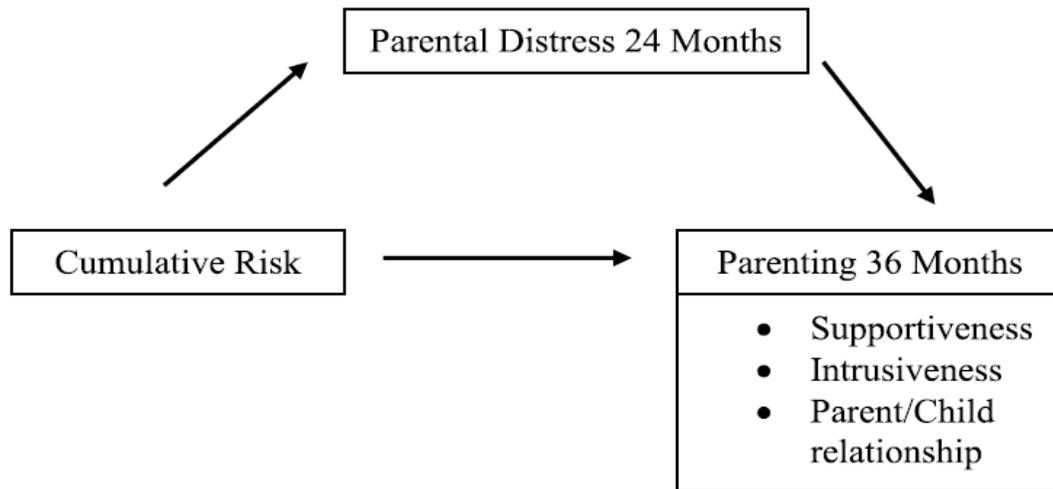


Figure 2. Proposed model for Hypothesis 2.

Method

Participants

The participants for this study were families with children enrolled in the federally funded EHS program designed to implement early intervention in at-risk families across the country (Early Head Start National Resource Center, 2013). The original researchers collected the data longitudinally through the National Evaluation of

EHS from 1995-2005. Data collection for the first wave involved 17 different sites following 3001 children from enrollment in EHS to age 3. Of the focus children in the study, approximately 51% were male and 49% female. The participants were randomly assigned to either a participant or control group and were given different interventions accordingly.

Procedure

The specific procedure of this study involved secondary data analysis of the EHS public data set. The proposed models delineated the statistical relationships that were explored. The mediation model was tested in two steps using hierarchical regression, following Baron and Kenny's (1986) method. The variables used in this analysis included the baseline cumulative risk factor, parenting distress at 24 months, and the resulting parenting behaviors at 36 months, in order to explore the transactions between these factors over time. Gender and maternal depression were controlled for each model.

After the data were cleaned and screened for missing data, hierarchical, step-wise regression was conducted with SPSS software to compare the longitudinal impact of cumulative risk and parenting distress on parenting behaviors. Step one of this process involved addressing the relationship between cumulative risk at baseline and the parenting outcome at 36 months. Step two using Baron and Kenny's (1986) method established a connection between the baseline cumulative risk, and the proposed mediator, parenting distress, measured at 24 months. Finally, the model was run as a whole, to determine whether or not parental distress acts as a mediator in the relationship between cumulative risk and parenting. These steps were repeated to test the mediation

model for each of the three parenting behaviors (supportiveness, intrusiveness, and parent/child dysfunctional relationship).

Measures

Cumulative Risk. The cumulative risk variable utilized in this analysis was compiled using five individual demographic factors of the target child that are each considered a risk to the well-being of the child and family unit (Administration on Children, 2002). These included having a teenage mother, the mother being unemployed or a non-student (having no current vocation), the mother being single and not cohabitating, whether the family received funds from welfare, and whether the mother was a dropout of high school having no equivalent GED. Each of these factors has been researched previously and found to contribute to negative family outcomes, but the effects are compounded when a family experiences them simultaneously, thus giving a good measurement of the cumulative risk associated with the tested EHS families. The mean for cumulative risk was 2.64 with scores ranging from 0 to 5, and a standard deviation of 1.189

Parenting Distress. The distress scale utilized in the study is the Parenting Stress Index-Short form. Reitman, Currier, & Stickle's (2002) evaluation of the PSI-SF determined that it was a measure that has good internal consistency, and is a good fit for the EHS population. Additionally, the construct validity indicated that the measure does indeed measure parental stress, making it suitable to screen head start families to determine if they need services and interventions associated with parenting stress. Also, this study confirmed that while risk context does affect maternal perceptions and

parenting outlook, there are additional factors that influence parenting. According to Abidin (1990), the PSI-SF addresses the stress in the parent-child relationship that is sourced in child temperament, parental responsibilities, and negative reinforcement within the dyadic relationship. While for the EHS study the wording on some of the questions was slightly modified, the measure was still scored as a five point Likert scale, and all 24 items were summed into scales (Administration on Children, 2002). Each subscale included 12 items rated from 1 (strongly disagree) to 5 (strongly agree) (Reitman, Currier, & Stickle, 2002). The subscale for parental distress was used in this analysis, which specifically addressed parental perception of competence, stress from restrictions of role, depression, and perceived social support (Reitman et al. 2002). The questions for this subscale include the following: “You often have a feeling you cannot handle things well” or “You often feel trapped by your responsibilities as a parent.” Scores ranged from 12 to 60, with a mean of 25.42 and standard deviation of 9.299.

Parenting Behaviors.

Supportiveness. Parent supportiveness was originally measured in a monitored play activity with the child, where the parent’s sensitivity, positive regard, and cognitive stimulation were observed. This task was the Three bag play task, where parents are given a bag with three toys in it and were instructed to play with the children (Administration on Children, 2002). Common behaviors high in supportiveness would include facilitating child play or using the play to stimulate learning. Supportiveness is essential for healthy attachment formation, and thus can also play a role in the dyadic and reciprocal relationship between mother and child.

Intrusiveness. On the other hand, parent intrusiveness was marked by parent control over the play and harshness of the interaction between parent and child utilizing the same three bag monitored play task (Administration on Children, 2002). As discussed previously, intrusiveness typically co-occurs with authoritarian parenting practices, which are less likely to foster optimal child adaptation.

Parent-child dysfunction. Additionally, scores from the parent outcome of parent-child dysfunctional interaction were used in the linear regression pathways. This variable is one of the three subscales of the PSI-SF discussed previously for the parental distress measure. The twelve items that make up this subscale primarily encompass the parent's perception of whether or not the child is living up to the parent's standards and if there is a reciprocal reinforcement within the dyadic relationship. Scored the same way as the distress subscale, the range was 12 to 56, with a mean of 17.755 and standard deviation of 6.284

Depression. Rodgers (1993) stressed the point that it is common in at-risk families to find symptoms of maternal depression, and thus it is important to control for such symptomology when assessing the parent-child relationship. Maternal depression was included as a control variable in all analyses. This variable was calculated using the Center for Epidemiologic Studies Depression Scale (CES-D) short form. This scale is an 11-item depression scale that is completed using a four point Likert rating from rarely to most or all days. Items included: "That everything you did was an effort" or "That you could not shake off the blues, even with help from family and friends".

Gender. All analyses were additionally run with gender as a control variable.

A summary of descriptive statistics for each of these discussed variables is shown in Table 1 below. Due to the initial starting number of participants, even after missing data were removed, the sample populations analyzed in each of the regression models were large enough for accurate statistical analysis.

Table 1: Descriptive statistics of variables used.

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Cumulative Risk	2954	0	5	2.64	1.189
Parental Distress (24 Months)	2129	12	60	25.418	9.299
Supportiveness (36 Months)	1658	1.00	6.33	3.923	.929
Intrusiveness (36 Months)	1659	1	6	1.59	.781
Parent-Child Interaction (36 Months)	2022	12	56	17.755	6.284
Maternal Depression (36 Months)	1270	0	58	10.434	.76

Results

The results of the analyses have been organized by outcome for clarity. Thus, initially Hypothesis 1 and 2 are addressed for parental supportiveness. Following supportiveness, the statistical outcomes for parental intrusiveness, and then parent-child interaction are separately given.

Supportiveness

Following the work of Baron and Kenny (1986), the first analysis tested Hypothesis 1, addressing the relationship between cumulative risk and parent

supportiveness. In the first analysis, parent supportiveness at 36 months was regressed on the controls gender and maternal depression in the first step and the cumulative risk variable in the second step. The model was not significant in the first step ($F(2, 721) = 0.916, p = .400, R^2 = .003$). However, when adding cumulative risk in the second step, parental supportiveness at 36 months was significant ($\Delta R^2 = .056, F(1, 720) = 42.946, p < .001$). Parents whose families were calculated to have low cumulative risk at the baseline scored high on supportiveness at 36 months ($\beta = .76, p = .021$).

Following this initial model, Hypothesis 2 was tested for parent supportiveness, to determine if parental distress is a mediator in the relationship between cumulative risk and parent supportiveness at 36 months. This process involved two parts, assuring that cumulative risk was correlated with parental distress at 24 months, and then showing that parental distress at 24 months did affect parent supportiveness at 36 months. Cumulative risk at baseline was correlated with parental distress at 24 months ($F(1, 2113) = 19.315, p < .001, R^2 = .009; \beta = .095, p < .001$). For Part 2 of analysis for Hypothesis 2, parental supportiveness was regressed on the controls in the first step, and in the second step on cumulative risk at baseline and parental distress at 24 months. The first step of this model was not significant ($F(2, 617) = .406, p = .667, R^2 = .001$). But, the second step, regressing cumulative risk and parental distress at 24 months was significant ($\Delta R^2 = .67, F(2, 615) = 21.983, p < .001; \beta = -.088, p = .032$). Thus, when all of the steps of the model were run together, it was determined that distress did play a mediation role in the relationship between cumulative risk and parenting behaviors, however, this link did not fully mediate the association between cumulative risk and maternal supportiveness (see Figure 3).

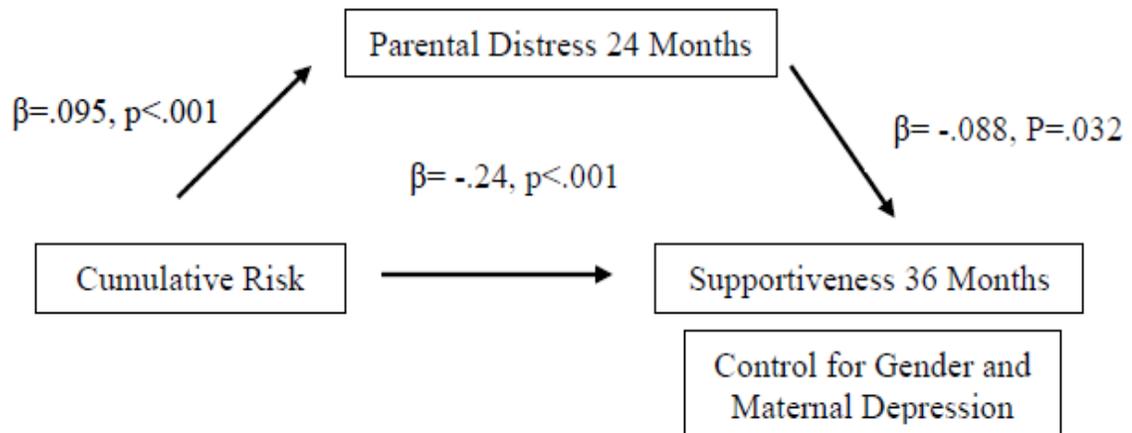


Figure 3. Beta values for Parent Supportiveness.

Intrusiveness

The same path analysis was run for the intrusiveness parenting factor. The first analysis tested Hypothesis 1, addressing the relationship between cumulative risk and parent intrusiveness. In the first analysis, parent intrusiveness at 36 months was regressed on the controls gender and maternal depression in the first step and the cumulative risk variable in the second step. The model was significant in the first step ($F(2, 721) = 3.125$, $p = .045$, $R^2 = .009$). Additionally, when adding cumulative risk in the second step, parental intrusiveness at 36 months was significant ($\Delta R^2 = .022$, $F(1, 720) = 16.701$, $p < .001$). Parents whose families were calculated to have higher cumulative risk at the baseline were rated higher in intrusiveness ($\beta = .152$, $p < .001$), however gender also played a role in this relationship ($\beta = .073$, $p = .046$).

Following this initial model, Hypothesis 2 was also tested for parent intrusiveness, to determine if parental distress is a mediator in the relationship between cumulative risk and parent intrusiveness at 36 months. This process involved two parts,

assuring that cumulative risk was correlated with parental distress at 24 months, and then showing that parental distress at 24 months did affect parent supportiveness at 36 months. Cumulative risk at baseline was correlated with parental distress at 24 months ($F(1, 2113) = 19.315, p < .001, R^2 = .009; \beta = .095, p < .001$).

For Part 2 of analysis for Hypothesis 2, parental intrusiveness was regressed on the controls in the first step, and in the second step on cumulative risk at baseline and parental distress at 24 months. The first step of this model was not significant ($F(2, 617) = 2.224, p = .109, R^2 = .007$). However, the second step, regressing cumulative risk and parental distress at 24 months was significant ($\Delta R^2 = .029, F(2, 615) = 9.163, p < .001$). However, the standardized Beta coefficients yielded show that the significance in the relationship was due to cumulative risk, and not parental distress at 24 months ($\beta = .072, p = .082$). Thus, when all of the steps of the model were run together, it was determined that parental distress did not play a mediating role in the relationship between cumulative risk and parenting intrusiveness at 36 months (See Figure 4).

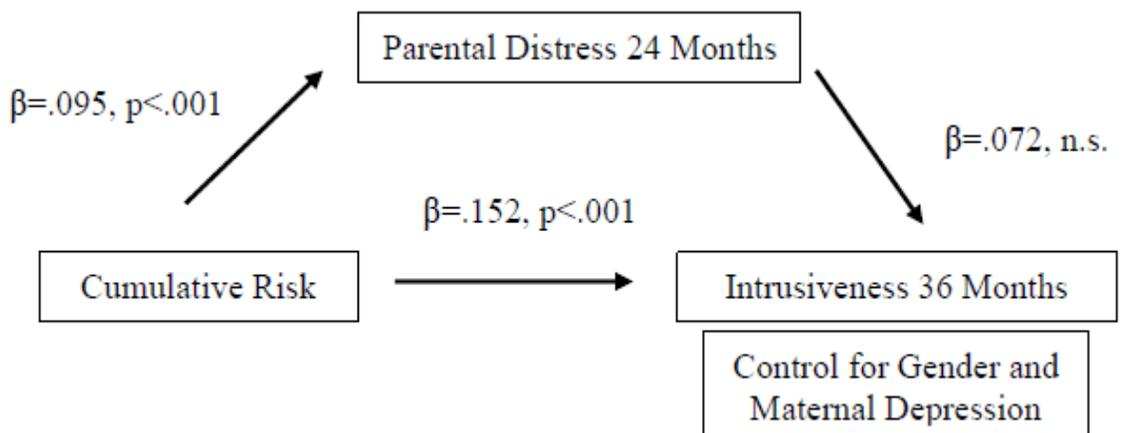


Figure 4. Beta values for Parent Intrusiveness

Parent /Child Dysfunctional Interaction

For the third model, the regression analysis proceeded similarly to the previous two; parent-child dysfunctional interaction at 36 months was regressed on the controls gender and maternal depression in the first step and the cumulative risk variable in the second step. The model was significant in the first step ($F(2, 895) = 0.21.423, p < .001, R^2 = .046; \beta(\text{maternal depression}) = .107, p < .001$). Additionally, when adding cumulative risk in the second step, parent-child dysfunctional interaction at 36 months was significant ($\Delta R^2 = .006, F(1, 894) = 16.125, p < .001; \beta = .076, p = .021$).

Following this initial model, Hypothesis 2 was tested for parent-child interaction, to determine if parental distress is a mediator in the relationship between cumulative risk and parent-child dysfunctional interaction. This process involved two parts, assuring that cumulative risk was correlated with parental distress at 24 months, and then showing that parental distress at 24 months did affect parent supportiveness at 36 months. Cumulative risk at baseline was correlated with parental distress at 24 months ($F(1, 2113) = 19.315, p < .001, R^2 = .009; \beta = .095, p < .001$). For Part 2 of analysis for Hypothesis 2, parent-child dysfunction interaction was regressed on the controls in the first step, and in the second step on cumulative risk at baseline and parental distress at 24 months. The first step of this model was significant ($F(2, 749) = 19.589, p < .001, R^2 = .05$). Additionally, the second step, regressing cumulative risk and parental distress at 24 months was significant ($\Delta R^2 = .075, F(2, 747) = 26.605, p < .001; \beta = .280, p < .000$). Thus, when all of the steps of the model were run together, it was determined that distress did mediate the relationship between cumulative risk and parent-child dysfunctional interaction (see Figure 5).

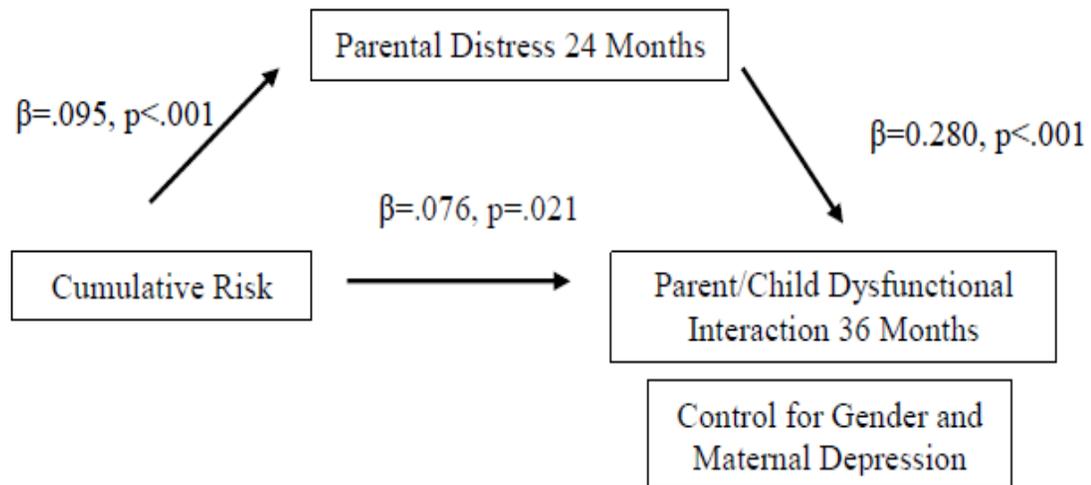


Figure 5. Beta values for Parent-child Dysfunctional Interaction.

Discussion

While not all hypotheses were supported, several important findings emerged. For all three models, there was a significant association between cumulative risk and the parenting outcome. Thus, cumulative risk at baseline predicted parent supportiveness at 36 months, parent intrusiveness at 36 months, and parent-child dysfunction interaction at 36 months.

In addition, parenting distress partially mediated the link between risk and parenting supportiveness. Thus, for this outcome, both Hypothesis 1 and Hypothesis 2 were supported. For the model including intrusiveness as an outcome, Hypothesis 2 was not supported. While there was a significant relationship between cumulative risk and intrusiveness, there was not a significant relationship between parental distress and parental intrusiveness. Finally, for the third observed parenting outcome, the dysfunctional parent-child interactions, Hypothesis 2 was supported. Parental distress

partially mediated the association between cumulative risk and the parent-child relationship.

The results of these analyses were consistent with the transactional literature, as distress did play a mediating role between cumulative risk and supportiveness and the parent-child dysfunctional relationship (Sameroff & Fiese, 2000). These findings suggest that distress exacerbates the poor communication and lack of sensitive-responsive parenting that can be found in family environments of cumulative risk. Thus, parenting interventions should not only strive to ameliorate the negative effects of risk at the core, but, optimally, also target the situations that cause parents to be distressed.

As stated above, parental distress was not a significant mediator for cumulative risk and parent intrusiveness. Additionally, in the two models where parenting distress at 24 months was supported as a mediator, this relationship was only partial mediation; it did not account for all the variance. Thus, cumulative risk was still a pervasive factor in each relationship. Early interventions still need to target the context that the child is being raised in, as this cumulative environment is such a persistent negative influence (Arditti et al, 2010; Sameroff & Fiese, 2000).

Limitations and Future Research

One of the strongest aspects of this study is that the data used came from the national evaluation of EHS. The large-scale and longitudinal nature of the study allows for a large sample size. However, all study of the data was limited to secondary data analysis. The current researcher's hypotheses were bound by what the original researchers found interesting or measurable, and the variable measurements are only available for the data waves of collection. For the current study, there were additional

parenting factors and behaviors that would have been informative to the study, and potentially fit with the theoretical model that cumulative risk predicts parenting behaviors mediated by parental distress (e.g. parenting classes). However, these other factors were excluded from the study since the data were collected in a different wave schedule, on the 15th and 26th month.

In the future, it would be beneficial to research the effectiveness of parenting interventions that are specifically geared toward reducing parenting distress. Possible interventions could include teaching parent sensitivity and responsiveness and general practices, in order to eliminate distress based in concern over, and feelings of inadequacy due to the responsibilities of parenting. Also, feasible support programs for parents could be developed to ensure parent socialization, a protective factor against parental and psychological distress.

Furthermore, as evidenced by the supportiveness and intrusiveness models of the current study, the effect of cumulative risk appears to be all-encompassing and accounts for a large percentage of the poor parenting behaviors observed. Future research should explore opportunities and ideas to help eliminate risks, and protect against the strength of cumulative risk. Interventions made at the child level alone are not sufficient to make positive change and protect against later risk for pathology, but must also incorporate the proximal and distal environmental influences (Sameroff & Fiese, 2000).

Conclusion

The findings in this study corroborate with previous research that distress can mediate the relationship between cumulative risk and some parenting behaviors. While the link was not supported for intrusiveness, parent supportiveness and the parent-child

interaction were affected by parenting distress. Thus, in order to promote positive parenting practices, and a healthy transactional relationship, parent interventions need to target helping parents deal with the responsibility inherent in parenting, but still be able to maintain positive responses to their child. Not only will better parenting outcomes engender a more positive dyadic relationship between the parent and child, but they can also contribute to positive child outcomes, acting as a protective factor, rather than additional risk.

Additionally, the findings for parent intrusiveness highlight the need for more research and interventions in cases of cumulative risk. The compounding of risk factors creates a negative impact that is extremely pervasive, and even if interventions are targeted at other levels, including parent behaviors, and reducing parenting distress, the family will still be at risk for negative outcomes. Whether it be improving maternal education, reducing divorce rate, or improving socioeconomic level, any interventions that can be made and reduce even one risk factor could create multiple positive outcomes for the family, as it is the cumulative impact of the risk that is so persistent.

In summary, positive child development should be facilitated not only through child interventions, but also interventions for the parents. Parents need to be instructed in proper sensitive-responsive practices, and interventions also need to be focused on reducing parental distress, by teaching parents how to better cope with the responsibilities of parenting, in addition to helping parents find a social outlet. If interventions can be made at the parent level, even in a setting where risk cannot be entirely eradicated, parents will be better prepared to deal with their role and the hassles and stresses it involves, and thereby will be able to make better parenting choices.

References

- Abidin, R.R. (1990). Introduction to the special issue: The stresses of parenting. *Journal of Clinical Child Psychology, 19*(4), 298-301.
- Administration on Children, Youth, and Families (ACYF) (2002). *Making a difference in the lives of infants, toddlers, and their families*. (Vol. I) U.S. Department of Health and Human Services: Washington, D.C.
- Anthony, L., Anthony, B. J., Glanville, D. N., Naiman, D. Q., Waanders, C., & Shaffer, S. (2005). The relationships between parenting stress, parenting behavior and preschoolers' social competence and behaviour problems in the classroom. *Infant and Child Development, 14*(2), 133-154. doi:10.1002/icd.385
- Arditti, J., Burton, L., & Neeves-Botelho, S. (2010). Maternal distress and parenting in the context of cumulative disadvantage. *Family Process, 49*(2), 142-164.
- Bank, L., Forgatch, M. S., Patterson, G. R., & Fetrow, R. A. (1993). Parenting practices of single mothers: Mediators of negative contextual factors. *Journal of Marriage and the Family, 55*(2), 371-371.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*(1), 83-96.
- Ceballo, R., & Hurd, N. (2008). Neighborhood context, SES, and parenting: Including a focus on acculturation among Latina mothers. *Applied Developmental Science, 12*(4), 176-180.
- Creasey, G. L., & Jarvis, P.A. (1994). Relationships between parenting stress and developmental functioning among 2-year-olds. *Infant Behavior and Development, 17*, 423-429.

- Crnic, K. A., Gaze, C., & Hoffman, C. (2005). Cumulative parenting stress across the preschool period: Relations to maternal parenting and child behavior at age 5. *Infant & Child Development, 14*(2), 117-132. doi:10.1002/icd.38
- Crnic, K. A., & Greenberg, M. T., (1990). Minor parenting stresses with your children. *Child Development, 61*(5). 1628-1637
- Deater-Deckard, K., & Scarr, S. (1996). Parenting stress among dual-earner mothers and fathers: Are there gender differences? *Journal of Family Psychology, 10*(1), 45-59.
- Kotchick, B. A., Dorsey, S. & Heller, L. (2005). Predictors of parenting among African American single mothers: Personal and contextual factors. *Journal of Marriage and Family, 67*: 448–460. doi: 10.1111/j.0022-2445.2005.00127.x
- Mash, E.J., Wolfe, D.A., Parritz, R.H., & Troy, M.F. (2011). *Exceptional Child Psychology*. Mason, Ohio: Cengage.
- Pianta, R. C., & Egeland, B. (1990). Life stress and parenting outcomes in a disadvantaged sample: Results of the mother-child interaction project. *Journal of Clinical Child Psychology, 19*(4), 329-336.
- Pinderhughes, E. E., Dodge, K.A., Bates, J. E., Pettit, G. S., & Zelli, A. (2000). Discipline responses: Influences of parents' socioeconomic status, ethnicity, beliefs about parenting, stress, and cognitive-emotional processes. *Journal of Family Psychology, 14*(3), 380-400. doi: 10.1037/0893-3200.14.3.380
- Reitman, D., Currier, R., & Stickle, T. (2002). A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a head start population. *Journal of Clinical Child and Adolescent Psychology, 31*(3), 384-392.

- Rodgers, A. Y. (1998). The assessment of variables related to the parenting behavior of mothers with young children. *Children and Youth Services Review* 15, 385-402.
- Sameroff, A.J., & Fiese, B.H. (2000). Transactional regulation The developmental ecology of early intervention. In J. P. Shonkoff, S.J. Meisels (Eds) *Handbook of early childhood intervention* (pp.135-159). New York, NY: Cambridge University Press
- Sokolowski, M., Hans, S. L., Bernstein, V. J., & Cox, S. M. (2007). Mothers' representations of their infants and parenting behavior: Associations with personal and social-contextual variables in a high-risk sample. *Infant Mental Health Journal*, 28(3), 344-365. doi:10.1002/imhj.20140
- Weinraub, M., & Wolf, B.M., (1983). Effects of stress and social supports on mother-child interactions in single- and two-parent families. *Child Development*, 54(5), 1297-1311.
- Yates, T.M., Obradovic, J., and Egeland, B. (2010). Transactional relations across contextual strain, parenting quality, and early childhood regulation and adaptation in a high-risk sample. *Development and Psychopathology*, 22, 539-555. doi:10.1017/S095457941000026X