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The Relation Between Parenting Daily Hassles And Child Behavior Problems Among Low-Income Families: Examining The Role Of Caregiver Positive Expressiveness

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THE RELATION BETWEEN PARENTING DAILY HASSLES AND CHILD BEHAVIOR PROBLEMS AMONG LOW-INCOME FAMILIES: EXAMINING THE ROLE OF CAREGIVER POSITIVE EXPRESSIVENESS

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CHAPTER 1

Introduction

The task of parenting is hypothesized to include many stressors that range from normative minor events to major life events (Crnic & Low, 2002). While stressful life events (e.g., divorce, dismissal from work, death of a loved one) can certainly increase parenting stress, so can the minor, everyday hassles associated with parenting a child (e.g., "Continually cleaning up messes of toys or food", "Being nagged, whined at, complained to", "Having to run extra errands to meet the kids' needs"). Although these hassles can vary in intensity and frequency according to the child's developmental age, parenting a child between the ages of two and five is thought to be particularly stressful (Crnic & Booth, 1991; Deater-Deckard & Scarr, 1996). During this developmental period, preschoolers are becoming increasingly autonomous of caregivers as their behavior is becoming more controlled by their own internal processes in addition to external forces (Campbell, 2002). These developmentally appropriate changes can lead to a more adversarial parent-child relationship characterized by more challenging child behavior and parenting stress (Galinsky, 1987).

Parenting stress is the overarching construct under which parenting daily hassles falls. In Deater-Deckard's seminal article (1998) on parenting stress, he defined parenting stress as "the aversive psychological reaction to the demands of being a parent" (p. 315) experienced as negative feelings about themselves and their child that are "directly attributable to the demands of parenthood" (p. 315). According to Deater-Deckard, parenting stress is comprised of four dynamic components related to parental perception: "(a) the task demands of parenting, (b) the parent's psychological well-being

and behavior, (c) the qualities of the parent-child relationship, and (d) the child's psychological adjustment" (p. 315). Drawing on previous theoretical work by the likes of Abidin (1994) and Belsky (1984), Deater-Deckard further hypothesized that parenting stress is a cause of poor parenting, which in turn, causes maladjustment in their children. In other words, "parenting behavior mediates the link between stress and child adjustment" (Deater-Deckard, 1998, p. 319). Using this framework, parents who are feeling stressed communicate their stress indirectly through their behavior when interacting with their children. Children of stressed parents may experience harsher or negative parenting behaviors as a result of higher levels of stress and those behaviors are then hypothesized to lead to worse child adjustment (e.g., more externalizing and/or internalizing behaviors). This is considered a mediating relationship because parenting stress is hypothesized to be more strongly linked to child adjustment through an indirect path via parenting behaviors.

Several measures have been developed to capture parenting stress. The Parenting Daily Hassles (PDH; Crnic & Greenberg, 1990) and the Parenting Stress Index (PSI; Abidin, 2012) are perhaps the most widely used for assessing parent stress with young children. The PDH was developed as a self-report instrument to capture the intensity and frequency of minor, everyday daily hassles specifically related to the role of parenting a child (Crnic & Greenberg, 1990). The PDH is comprised of two factors: parenting tasks and child challenging behavior. The parenting tasks factor contains statements related to typical or normal parenting tasks such as "kids are constantly underfoot or in the way" and "having to change my plans to meet kids' needs". The child

challenging behavior factor contains items like “kids demand to be entertained or played with” and “need to keep a constant eye on what kids are doing”.

The PSI, on the other hand, was developed to measure parenting stress as it relates to characteristics of the child, characteristics of the parent, quality of the parent-child relationship, and situation/life stress (Abidin, 2012). The child domain of the PSI includes characteristics like mood, demandingness, acceptability and adaptability. The parent domain of the PSI includes characteristics like competence, isolation, attachment, role restriction and depression. Overall, the PSI focuses on more global aspects of parenting stress, like dysfunctional aspects of the parent and child themselves and the child-parent relationship (e.g., “My child seems to cry or fuss more often than most children”, I often feel I cannot handle things well”, “My child rarely does things for me that make me feel good”). The PDH, in contrast, assesses normative stressors related to everyday parenting (Crnic & Low, 2002). While the global aspects of parenting stress that are measured by the PSI certainly play an important role in understanding parenting stress, the focus of the current study was specifically on the effects of parenting daily hassles.

The construct of parenting daily hassles, as presented by Crnic and Greenberg (1990) and measured by the PDH, has roots in Lazarus and colleagues’ seminal work on stress, appraisal, and coping that involved a daily hassles approach as opposed to major life events (Lazarus, 1984; Lazarus, Delongis, Folkman, & Gruen, 1985; Lazarus & Folkman, 1984). Daily hassles are defined as “experiences and conditions of daily living that have been appraised as salient and harmful or threatening to the endorser’s well-being” (Lazarus, 1984). In other words, daily hassles are normal, everyday events

that happen within an individual's environment and are perceived or experienced by that individual as distressing, annoying, irritating or frustrating but are not pathologically stressful (Crnic & Low, 2002; Smith, 2011). Major life events, on the other hand, are stressful events that cause a major change in an individual's life. This includes undesirable events such as the loss of a loved one, divorce, and foreclosure on a house, as well as desirable events such as marriage and the birth of child. DeLongis and colleagues (1982) found that both daily hassles and major life events predicted somatic health outcomes (e.g. headaches, stomach pain, back pain); however, daily hassles had a unique and stronger relationship with health outcomes than did major life events.

Parental reports of parenting daily hassles, as measured by the total score on the PDH, have been found to be significantly correlated with parental perceptions of child behavior problems (Creasey & Reese, 1996; Crnic & Greenberg, 1990; Gerstein & Poehlmann-Tynan, 2015; Shaw, Winslow, Owens, & Hood, 1998; Stone, Mares, Otten, Engles, & Janssens, 2016). Crnic and Greenberg (1990) found significant correlations between total child behavior problems in five-year-old children for both frequency (r = .38) and intensity (r = .47) of parenting daily hassles. Creasey and Reese (1996) also found significant correlations between total child behavior problems in fourth graders for both frequency (r = .59) and intensity (r = .41) of parenting daily hassles. Both sample populations were predominately Caucasian with parents having earned a minimum of a high school diploma.

Besides being associated significantly with concurrent child problem behaviors, parenting daily hassles have been found to predict future child problem behaviors as

much as four years later. In a prospective study, Shaw and colleagues (1998) explored the relations between internalizing and externalizing problem behaviors in young boys and their parents' perceptions of parenting daily hassles in a low-income, racially diverse sample. The authors used a total PDH score that included the sum of the intensity and frequency subscales. They found that maternal parenting daily hassles measured when the child was 18 months old predicted internalizing (r = 0.25) and externalizing (r = 0.32) problem behaviors at 42 months. The relation was slightly stronger when measuring parenting daily hassles at 24 months to again predict internalizing (r = 0.29) and externalizing (r = 0.40) problems behaviors at 42 months.

In a study involving children born preterm, Gerstein and Poehlmann-Tynan (2015) found that intensity of maternal parenting daily hassles when the child was 24 months old predicted externalizing problem behaviors at 6 years of age (r = 0.34), and at a relatively similar magnitude when parenting daily hassles were measured at 36 months of age (r = 0.30). In a study involving a community sample from the Netherlands, Stone and colleagues (2016) found that the frequency of maternal parenting daily hassles when the child was four years of age, predicted externalizing and internalizing problem behaviors for the next two subsequent years, with r ranging from 0.21 to 0.34. The authors also found that internalizing and externalizing problem behaviors at age 4 predicted the frequency of maternal parenting stress at ages 5 and 6 (Internalizing r = 0.17, Externalizing r = 0.31 and 0.32), suggesting a transactional relation between parenting stress and child problem behaviors.

Parental perceptions of daily parenting hassles have also been found to be significantly associated with greater parental psychological distress (Creasey & Reese,

1996; Crnic & Greenberg, 1990). Caregiver depression symptoms have also been related to an increased risk of internalizing and externalizing child problem behaviors in young children, especially those from low-income families (Qi & Kaiser, 2003). What remains unclear is whether the significant relations between parenting daily hassles and child problem behaviors may be explained by caregiver depression symptoms, or perhaps caregivers who report higher levels of hassles and psychological symptoms may also have a biased tendency to report more child problem behavior. This latter concern was addressed by Creasey and Reese (1996) who found that caregiver perceptions of child internalizing and externalizing problem behaviors, as measured by the Child Behavior Checklist (CBCL; Achenback & Edelbrock, 1983) were realistic (i.e., not distorted) views of their children's behavior as caregiver ratings of child behavior were in agreement with teacher ratings of child behavior. This lends support to the notion that caregivers can be accurate raters of their children's problem behavior regardless of their own level psychological distress; however, this was a nonclinical sample. It is important to note that in cases of severe caregiver depression there may be some distortion in caregiver ratings of child problem behaviors (Naiman et al., 2000) and this potential distortion could explain some or all of the variance in the association between daily hassles and child behavior problems.

Caregiver depressive symptoms have been significantly associated with an increased risk of internalizing and externalizing child problem behaviors (Cummings & Davies, 1994; Gelfand & Teti, 1990). This robust and consistent association has even been found in low-income populations (Qi & Kaiser, 2003). While many researchers studying parenting daily hassles have included a broad psychological distress variable

in their study designs, none have systematically focused on the potential association between caregiver depressive symptoms and parenting daily hassles when predicting child problem behaviors across different time points. A review of the parenting daily hassles literature revealed a significant correlation between PDH total score and caregiver depressive symptoms. Harwood and Eyberg (2006) measured depressive symptoms using the Beck Depression Inventory and found a significant correlation with PDH frequency total score of $r = 0.45$. Lutz and colleagues (2012) measured depressive symptoms using the Center for Epidemiological Studies – Depression Scale (CES-D) and found a significant correlation with PDH total score (intensity and frequency combined) of $r = 0.268$. Because of the long-standing link between caregiver depressive symptoms and child problem behaviors, and because of the significant association between caregiver depressive symptoms and parenting daily hassles, I included both caregiver depressive symptoms and parenting daily hassles in my analysis to better assess the unique contribution of parenting daily hassles in predicting child problem behaviors concurrently and two to three years later.

In research investigating the association between parenting daily hassles and child problem behaviors, researchers have given much less attention to the role of caregiver positive expressiveness as a parenting behavior in caregiver-child interactions than negative expressiveness. This omission contributes to an incomplete picture of which parenting behaviors are linked to child outcomes. When looking at emotion regulation in preschoolers, Feng and colleagues (2008) found that maternal positive expressiveness in parent-child interactions (e.g., warmth towards child, supportiveness, involvement with child) may serve as a protective factor, hindering the development of

emotion regulation difficulties. It is possible that caregiver positive expressiveness may play a similar protective role when predicting child problem behaviors from parenting daily hassles.

Crnic, Gaze and Hoffman (2005) conducted a three-year longitudinal study to explore the effect of cumulative parenting stress on child functioning (i.e., level of child problem behaviors) while also investigating the potential mediating role of maternal positivity. Their sample consisted of 141 parent-child dyads, where the mothers were predominately middle-class and reported having some college education. A majority of the children were Caucasian. Mother-child dyads were assessed biannually starting when the child was three years old with parenting daily hassles measured at each time point using the PDH intensity subscale. The mothers' PDH scores were split into $70^{th}/30^{th}$ percentile categories for each time point. These dichotomous PDH variables were then used to predict their children's total problem behaviors at age 5. Observed maternal positivity (e.g., spontaneous smiles, laughter directed towards child) and negativity (e.g., yelling directed toward child) were also measured at the last lab visit. Crnic and colleagues found that the intensity of parenting daily hassles remained relatively stable across the preschool years and PDH dichotomous scores predicted future problem behaviors at age 5. Furthermore, higher levels of parenting daily hassles were associated with less observed maternal positivity and enjoyment in mother-child interactions but were not associated with increased maternal hostility and conflict. However, their analyses revealed that maternal positivity did not mediate the relationship between intensity of parenting stress and child problem behaviors; they did not examine for moderation.

Crnic et al. (2005) measured maternal positivity (i.e., the expression of positive emotions) by coding for spontaneous laughter and smiling directed toward the child. While this does capture an element of maternal joy, the coding of maternal positive expressiveness was limited in its scope by only focusing on expressions of joy. Fredrickson (1998) proposed a model of discrete positive emotions that include joy, interest, contentment and love, all of which "share a pleasant subjective feel". Watson, Clark and Tellegen (1988), authors of the *Positive Affect Negative Affect Schedule* (PANAS), posit that positive affect is the "extent to which a person is enthusiastic, active and alert" (p. 1063). Individuals who score high for positive affect on the PANAS are thought to feel "pleasurable engagement" (Watson et al., 1988, p. 1063). For the current study, I expanded the definition of caregiver positive expressiveness from Crnic and colleagues' (2005) spontaneity of laughter and smiling to include behaviors that are related to caregiver pleasure, interest, and affection including positive touch in an effort to capture broader idea of positive expressiveness of a caregiver toward their child.

The current study's measure of observable caregiver positive expressiveness included coding for behaviors of laughter, vocal affect, orientation/proximity and positive touch. Caregiver laughter was included as it is an expression of joy. Caregiver smiling was also considered as a possible measure for this study; however, the caregivers were not consistently facing the camera so smiling could not be continuously measured throughout the dyad interaction, and therefore was not rated. Caregiver vocal affect was included in this study to capture a range of positive vocal expressions including joy, interest and affection. Caregiver orientation/proximity was also included to capture maternal interest and engagement. Some behavioral examples of caregiver

orientation/proximity include the caregiver's face being at child's level and the caregiver's body being turned toward child. Finally, caregiver positive touching of the child was used to measure caregiver affection and interest in the child. Some behavioral examples of affectionate touching include a caregiver hugging their child or ruffling the child's hair. Some behavioral examples of caregiver interest through touching include the caregiver physically guiding the child in the task of drawing or physically moving the child, in a way that is not intrusive, to be better able to participate in the task.

I looked at the potential moderating role of caregiver positive expressiveness in the association between parenting daily hassles and child problem behaviors. The framework provided by Deater-Deckard (1998) explicitly lays out the expectation that parenting behaviors, which could include observed positive expressiveness, will mediate the relation between parenting stress and child adjustment. Expressiveness is a pattern or style of verbal and nonverbal communication that is often related to emotions (Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995; Halberstadt, Crisp, & Eaton, 1999). Positive expressiveness is then the pattern of communication that is often related to positive emotions and there is a significant link between positive emotions and psychological resilience to stress (Tugade, Fredrickson, & Barret, 2004). When thinking of positive expressiveness as pattern of expressiveness related to positive emotions and indirectly related to psychological resilience to stress, the role of observed positive expressiveness changes from a mediating role where the parenting behavior is an indirect result of the level of stress to a moderating role where parenting behavior can strengthen or weaken the association between stress and child adjustment. Put another way, the moderating effects of parenting behavior may provide a protective

buffer such that parenting stress has a significantly reduced association with child maladjustment.

The prospective studies that I have reviewed used parenting daily hassles at a Time 1 to predict problem behaviors at Time 2. While this is certainly an acceptable methodology, it is more rigorous to examine the association between parenting daily hassles and child problem behavior by focusing on the change in problem behaviors between Time 1 and Time 2, rather than just predicting Time 2. By taking into account the initial or baseline level of child problem behaviors at the beginning of the study, I have more precision in assessing the true impact of parenting daily hassles on child problem behaviors. In other words, I can assess the relation of parenting daily hassles and the increases and decreases in child problem behaviors over time rather than future levels of child problem behaviors. This approach also helps to control for any potential parental biases in reporting more negative child behavior problems.

The current study had four aims. The first aim of the present study was to quantify levels of caregiver perceptions of parenting daily hassles within an urban, economically disadvantaged, and predominately African-American population. The second aim was to quantify the strength of the linear relation between caregiver perception of parenting daily hassles and their children's internalizing and externalizing problem behaviors concurrently during the preschool years, and two to three years subsequently, using a sample containing significant percentage (i.e., 78%) of African Americans, a minority population that is underrepresented in the literature. In line with previously discussed research on majority sample populations, I expected there to be a moderate linear relation between caregiver perception of parenting daily hassles and

both internalizing and externalizing problem behaviors at both time points. Furthermore, I explored this relation at the factor level of the PDH (i.e., parenting tasks and child challenging behavior; Crnic & Greenberg, 1990) which has not been done previously with a minority population.

The third aim of this study was to examine the potential overlapping and unique contributions of parenting daily hassles and caregiver depression in predicting child problem behaviors. The fourth aim of this study was to investigate the potential moderating effects of observed caregiver positive expressiveness on caregiver's perception of parenting daily hassles and its relation with child problem behavior outcomes two to three years later, as well as the change in child problem behavior outcomes between Time 1 and Time 2. I expected high levels of caregiver positive expressiveness to attenuate the relations between parenting daily hassles and child problem behaviors at Time 2. Furthermore, I expected high levels of caregiver positive expressiveness to attenuate the relationship between parenting daily hassles and changes in child problem behaviors.

CHAPTER 2

Method

The analyses in the current study were based on archival data collected in two related studies. The first study enrolled families in 1993 and 1994. A follow up took place in 1995 and 1996. The second study was modeled after the first study with one key difference; namely, an effort was made to include demographically matched Caucasian families. Data collection was conducted in 1998 and 1999; a follow up took

place in 2000 and 2001. The data from both studies were combined for analytic purposes in the present study, as described below. Analysis of potential cohort effects are presented in Appendix B.

Participants

Time 1. One hundred and fifty-two caregiver-child dyads from a large Midwestern city were recruited from local Head Start and educational program similar to Head Start-l preschool programs serving low-income families. Of those 152 dyads, four were not included in the analysis because of poor image or sound quality in the taped interactions and five were not included because the taped interactions were lost due to researcher error. Another eight were not included due to incomplete self-report measures. Two dyads that included fathers as the primary caregivers were also not included as this study focused on women caregivers in the caregiver-child dyads. The final sample included 133 caregiver-child dyads (see Table 2 on page 26) comprised of 122 biological mothers (91.7%), two adoptive mothers (1.5%), one foster mother (0.8%), four grandmothers (3.0%), and four aunts (3.0%); hereafter labeled as caregivers. At the time of the study, 79 caregivers (59.4%) had not completed high school, 38 were not employed (28.6%), 94 were currently receiving public assistance (70.7%) and 71 reported they were currently single or without a partner (53.4%). Poverty lines for each dyad were generated using the HHS Poverty Guidelines for the year of data collection and the number of family household members as reported by the caregiver. Each caregiver's self-reported yearly family income was compared to the poverty line for each dyad's family to calculate how many dyads had family income that fell below the poverty

line. Eighty-nine caregivers (66.9%) had a yearly family income that fell below the poverty line. Ninety-seven caregivers identified their children as African American (72.9%), 32 as Caucasian (24.1%), two as Native American and Caucasian (1.5%), one as Hispanic and African American (0.8%), and one as Hispanic (0.8%). Of the 133 caregiver-child dyads, 74 of the children were girls (55.6%) and 59 were boys (44.4%). The ages of the children at the time of the first lab visit ranged from 4.00 to 5.41 years (M = 4.48, SD = 0.42).

Time 2. Of the 133 caregiver-child dyads used in this study (see Table 4 on page 28), 98 (73.7%) agreed to participate in a follow-up study approximately two and a half years after the initial lab visit (M = 2.60 years, SD = 0.78, Range = 1.52 to 4.33). The follow-up visit included 89 biological mothers (90.8%), one adoptive mother (4.1%), one foster mother (1.0%), four grandmothers (4.1%), and three aunts (3.1%). Seventy-six mothers identified their children as African American (77.6%), 19 as Caucasian (19.4%), one as Native American and Caucasian (1.0%), one as Hispanic and African American (1.0%), and one as Hispanic (1.0%). Of the 98 caregiver-child dyads, 56 of the children were girls (57.1%) and 42 were boys (42.9%). The ages of the children at the time of the second lab visit ranged from 5.77 to 9.68 years (M = 7.27, SD = 0.92). See Table 3 (page 26) for a comparison of Time 1 demographic variables between the entire sample and those dyads who returned for Time 2.

Procedures

After obtaining informed consent from the caregiver, dyads participated in a two to three-hour laboratory session. The lab sessions were recorded through a one-way

mirror on VHS tapes using a camcorder and tripod. All self-report questionnaires were read to the caregivers and the research assistants recorded their responses. Caregivers were reimbursed for their time and children received a small prize and a snack.

Each dyad participated in a series of tasks, one of which was the family drawing task. The family drawing task was designed as a parenting task where parents were responsible for planning a picture with their children that included all the people that lived in their house. They were further tasked with discussing how the individuals in their picture were feeling. At the start of the task, experimenters gave each dyad verbal instructions and a card with four rules for the activity (see Appendix A). Dyads were supplied paper and either markers or painting supplies. The sixty-five dyads (48.9%) in the Study 1 cohort received markers and crayons, while the 68 dyads (51.1%) in the Study 2 cohort were given paintbrushes and tempera paint.

To facilitate computer-based scoring, VHS recordings of the family drawing task were converted into MPEG-4 Part 14 (MP4) digital media files using an Elgato Video converter. The digital recording of the task began as soon as the experimenter exited the room. The dyads were given approximately eight minutes to complete the drawing before the experimenter came back into the room. Active engagement in the family drawing task ranged from five and half minutes to the full eight minutes. To have equal segments of activity across the dyads, all the digital recordings ended at the five-minute mark. All but one dyad started the activity very soon after the experimenter left the room (approximately 0 to 20 seconds). The remaining dyad continued to eat their snack for two minutes without talking before beginning the family drawing task. All other dyads either cleaned up their snacks when they started the family drawing task or continued to

eat while simultaneously working on the task. For the dyad that delayed starting the task, digital recording did not start until the dyad actually started the family drawing task and continued recording for the allotted five minutes.

The MP4 digital files of the family drawing task along with NOLDUS Observer XT 8.0, the chosen coding software, were housed in a secured, local computer within the lab. Because Observer XT was not compatible with MP4 files, each file had to be transcoded to a MPEG-2 file before it could be imported into Observer XT. This conversion was done using MediaCoder x64 (Version 0.8.33.5685), a universal media transcoder software that was also housed on a secured local computer within the lab. Using Observer XT, the family drawing segment was broken down into 30 ten-second segments. Each ten-second segment was coded for caregiver positive expressiveness behaviors, including laughter, vocal affect, orientation/proximity to the child, and caregiver touching of the child.

Measures

Caregiver Positive Expressiveness. Using the family drawing task from the Time 1 laboratory visit, caregiver laughter, positive vocal affect, orientation/proximity and two types of positive touch (affectionate touch and gentle, directive touch) were all coded as part of the overarching construct of positive expressiveness (Fredrickson, 1998). Caregiver laughter was coded as the frequency of the point events of laughter over the entire five-minute segment. The total number of occurrences of laughter were summed to create a total score. Recordings of the dyads were coded for caregiver laughter by two undergraduate research assistants. To establish intercoder reliability, both coders

rated approximately 25% of the sample. There was 82.8% inter-scorer agreement on presence of laughter (κ = 0.40, $p < .001$, 95% CI [.19, .62]). This level of agreement is considered “fair” (Altman, 1991; Landis & Koch, 1977).

Caregiver vocal affect was coded using a modified version of Dyadic Parent-Child Interaction Coding System (DPICS) manual’s valence measure (Eyberg, Nelson, Duke & Boggs, 2004). Positive vocal affect was initially rated on three-point scale with 0 being no evidence of positive affect, 1 being evidence of positive affect, 2 being evidence of exuberant affect. Because of the complete absence of exuberant affect during coder training, the exuberant affect level was removed and the coders were trained to code using a dichotomous code (0 = absence of positive vocal affect, 1 = presence of positive vocal affect). Each ten-second segment was coded for the presence of the positive vocal affect. Two undergraduate research assistants coded the recordings of the dyads for vocal affect. To establish intercoder reliability, both coders rated approximately 25% of the sample. There was 80.0% inter-scorer agreement for presence and absence of positive vocal affect (κ = 0.52, $p < .001$, 95% CI [.44, .59]). This level of agreement is considered “moderate” (Altman, 1991; Landis & Koch, 1977). Disagreements were settled through discussion following the calculation of inter-scorer agreement.

The orientation/proximity of the caregiver to the child was coded using a three-point scale: 0 for separate space, 1 for close proximity/orientation, and 2 for very close proximity/orientation (see Appendix A for coding scheme). To code for close or very close, the dyad had to maintain that level of orientation/proximity for at least three consecutive seconds during the ten-second segment. Each interval was scored as the

highest level of orientation/proximity observed. Recordings of the dyads were coded for orientation/proximity by the author and one undergraduate research assistant. To establish intercoder reliability, the author and one undergraduate research assistant independently rated approximately 25% of the sample. There was 76.3% inter-scorer agreement for level of orientation/proximity (linear weighted $\kappa = 0.68$, $p < .001$, 95% CI [.64, .72]). This level of agreement is considered "substantial" (Landis & Koch, 1977) and "good" (Altman, 1991). Disagreements were settled through discussion following the calculation of inter-scorer agreement.

The occurrence of caregiver positive touch within a ten-second segment was coded separately for two types of touches: affectionate touch and gentle, directive touch (see Appendix A for coding scheme). Affectionate touch includes caregiver touches that were an expression of affection towards the child (e.g., hugging the child, ruffling the child's hair). Gentle, directive touch includes caregiver touches that supported the child with the drawing task (e.g., assisting child with drawing a figure, helping child move closer to the table). If no touching by the caregiver or touching that was not part of the coding scheme (e.g. hitting) occurred during the segment, then the segment was rated as zero. Incidental or accidental touching by the caregiver also was not coded affectionate or gentle, directive touch. Recordings of the dyads were coded for caregiver positive touch by the author and one undergraduate research assistant. To establish intercoder reliability, both coders rated approximately 25% of the sample. There was 99% inter-scorer agreement for presence and absence of affectionate touch ($\kappa = 0.62$, $p < .001$, 95% CI [0.34, 0.90]). This level of agreement is considered "substantial" (Landis and Koch, 1977) and "good" (Altman, 1991). It is important to note that affectionate

touch was a low frequency event with only eight occurrences across the subsample. There was 94% inter-scorer agreement for presence and absence of gentle, directive touch (κ = 0.80, $p < .001$, 95% CI [0.74, 0.85]). This level of agreement is considered "substantial" (Landis and Koch, 1977) and "excellent" (Altman, 1991). Disagreements were settled through discussion following the calculation of inter-scorer agreement.

Parenting Daily Hassles. Caregiver perception of parenting daily hassles at Time 1 was measured using the Parenting Daily Hassles (PDH; Crnic & Greenberg, 1990). The PDH consists of 20-items that are rated on frequency (α = .81, Crnic & Greenberg, 1990) and intensity (α = .90, Crnic & Greenberg, 1990). For frequency, caregivers rated how often the hassle occurs on a 4-point scale (rarely, sometimes, a lot, constantly). For intensity, caregivers rated how much of a hassle the event was to them on a 5-point scale ranging from low hassle (1) to high hassle (5). As previously discussed, the PDH is comprised of two factors: parenting tasks and child challenging behaviors. The parenting tasks factor includes eight items related to typical or normal parental duties (e.g., "Getting children ready to leave for an outing"). The child challenging behaviors factor (α = .86, Crnic & Greenberg, 1990) includes seven items related to normal or typical challenging behaviors often exhibited by children (e.g., interrupting, resisting bedtime). In the present sample, the internal consistency reliability for all 20 items was α = .91, for frequency across the 20 items was α = .84 and for intensity across the 20 items was α = .85. The internal consistency reliability for the parenting tasks factor was α = .85 and for the frequency and intensity of parenting tasks was α = .76 and α = .76, respectively. The internal consistency reliability for the child challenging behaviors factor

was α = .84 and for the frequency and intensity of child challenging behaviors was α = .72 and α = .74, respectively.

Caregiver Depressive Symptoms. Current caregiver depressive symptoms were measured using the Brief Symptoms Inventory (BSI; Derogatis & Melisaratos, 1983). The BSI was designed to assess symptoms related to nine domains of pathology, including symptoms of depression. The depression subscale variation according to Derogatis and Melisaratos (1983) was used in the current study and contains 15 items that caregivers were asked to rate based on how distressed they were within the last two months. Items were rated using a 5-point scale that ranged from not at all distressing (0) to extremely distressing (4) (e.g., “Feeling lonely”, “Feeling easily annoyed or irritated”, “Feeling hopeless about the future”). The internal consistency reliability for the 15-item depression subscale was α = .89. Since the raw scores were not converted into *t*-scores using the BSI norms at the time of the original study, clinical cutoffs could not be explored. The mean for the entire sample was 9.48 (*SD* = 9.43, Range = 0 to 49) and the mean for the caregivers that returned for Time 2 was 10.05 (*SD* = 9.62, Range = 0 to 45).

Socioeconomic resources. Based on a demographics interview with parents, a composite variable of socioeconomic resources was created by summing the following binary demographic variables for each resource present: caregiver employed, two parent family (i.e., married or nonmarried partners living together in the same household), not receiving public assistance, graduated high school, and yearly income above the poverty line. These measures were all collected at Time 1. Possible scores on this measure range from 0 to 5. The lowest possible rating would be for an

unemployed, single caregiver who receives public assistance, does not have a high school diploma, and has a yearly income below the poverty line. The highest possible rating would be for an employed caregiver who is lives with her partner, who does not receive public assistance, has at least a high school diploma, and has a yearly income above the poverty line. This variable was used to control for the effects of socioeconomic resources in the moderation regression analyses (described further under Statistical Analysis).

Child Problem Behaviors. At both Time 1 and 2, the primary caregiver reported on their child's problem behaviors using the Child Behavior Checklist for Ages 4-18 – Parent Report Form (CBCL-PRF; Achenbach, 1991). The CBCL is a widely-used instrument that has well-established psychometric properties for Caucasian children as well as African-American children. Caregivers completed 113 items that resulted in three broadband factors: internalizing behaviors, externalizing behaviors and total problem behavior. Internalizing behaviors include symptoms of anxiety and depression (e.g., "Unhappy, sad, or depressed", "Feels worthless or inferior", "Nervous, highstrung, or intense"), while externalizing behaviors include aggression and delinquency (e.g., "Argues a lot", "Cruelty, bullying, meanness to other". Total problem behavior includes both internalizing and externalizing behaviors, as well as problems with attention (e.g., "Can't concentrate, can't pay attention for long"), socialization (e.g., "Clings to adults or too dependent"), and thought difficulties (e.g., "Can't get his/her mind off certain thoughts"). Items were rated on a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). Parent scores were doubled entered into the computerized scoring system and *t*-scores based on national norms for

preschoolers at Time 1 and school-aged at Time 2 boys and girls. Raw scores were not available for analysis, therefore internal consistency reliability could not be calculated for the CBCL for the current sample. The age-standardized *t*-scores from factors of the (CBCL) can be classified as *normal* (less than 60), *borderline* (60 to 63) and *clinical* (above 63) (Achenbach, 1991). Frequencies of these classifications by lab visit are presented in Table 1.

Table 1
Frequency (percent) of Clinical Classification for Child Behavior Checklist

	Normal (<60t)	**Borderline (60t - 63t)**	**Clinically Significant (>63t)**
Time 1 (n = 131)			
Total	93 (71.0%)	16 (12.2%)	22 (16.8%)
Internalizing	91 (69.5%)	16 (12.2%)	24 (18.3%)
Externalizing	74 (56.5%)	22 (16.8%)	35 (26.7%)
Time 1 (n = 98)			
Total	69 (70.4%)	12 (12.2%)	17 (17.3%)
Internalizing	71 (72.4%)	12 (12.2%)	15 (15.3%)
Externalizing	56 (57.1%)	17 (17.3%)	25 (25.5%)
Time 2 (n = 98)			
Total	69 (70.4%)	10 (10.2%)	19 (19.4%)
Internalizing	81 (82.7%)	8 (8.2%)	9 (9.2%)
Externalizing	73 (74.5%)	8 (8.2%)	17 (17.3%)

Note. Total = Total score for child behavior checklist; Internalizing = internalizing factor for Child Behavior Checklist; Externalizing = externalizing factor for Child Behavior Checklist. Clinical cutoffs taken from *Manual for the child behavior checklist and 1991 profile* (Achenbach, 1991).

Statistical Analysis

Using SPSS 23 and SAS 9.4, the statistical analysis was done in 7 stages: (1) data screening, (2) descriptive analyses, (3) differential attrition analyses, (4) correlational analyses, (5) semipartial correlational analyses, (6) principal component analysis, and (7) moderated regression analyses. Moderated regression analyses were performed using the PROCESS macro (Hayes, 2013) in SPSS 23.

CHAPTER 3

Results

Data Screening. Before reporting descriptive statistics for all measures used in the study, all variables were checked for normality and outliers using a combination of z-scores, boxplots, stem-and-leaf plots and Q-Q plots. For z-scores, outliers were identified when they were less than -3.29 and greater than 3.29 (Tabachnik & Fidell, 2011). Standardized Fisher's Skewness Coefficients and Fisher's Kurtosis Coefficients were also used to assess that shape of the distribution.

A total of three outliers were found across all the measures. One outlier was identified for the Time 1 CBCL externalizing factor (z = -3.55), thus this dyad was not used in future analysis. One outlier for the PDH parenting tasks factor (z = 3.63) and one for the PDH total score (z = 3.97) were also identified. These two outliers were from the same dyad, which was also eliminated from further analysis. Overall, the removal of the dyads with outliers brought the Time 1 sample size down from 133 to 131 dyads. These two dyads did not return for Time 2; therefore, their removal does not affect the longitudinal analyses in stages 5, 6 and 7.

The caregiver depressive symptoms (BSI) measure was found to have a significant positive skewed distribution, as evidenced in visual graphs of the variable, with most parents reporting fewer symptoms of depression (Skew = 1.85, Kurtosis = 4.26), thus a log transformation was performed (Emerson & Stoto, 1983) and the resulting variable had a normal distribution (Skew = -0.40, Kurtosis = -0.45). All remaining measures for both Time 1 and Time 2 were found to have normal distributions without extreme outliers.

Descriptive Analyses. The descriptive statistics for the demographic Time 1 variables are presented in Table 2 (page 26) and are broken down by the original sample, those who remained in the analyzed sample, and those who were excluded. Frequencies were calculated on all categorical demographic variables and the mean and standard deviation were calculated for child's age. The mean and standard deviations for this study's measures are presented in Table 3 (page 27). Differences by race in the study's measures were explored and only two significant differences were found. First, caregivers of African American children reported significantly higher Time 1 CBCL total problem *t*-scores (M = 55.59, SD = 8.84), on average, as compared to caregivers of Caucasian children (M = 50.95, SD = 7.90), $t(93) = 2.09$, $p < .05$, 95% CI = [0.23, 9.06], d = 0.55. Second, caregivers of Caucasian children reported significant higher Time 1 CBCL internalizing *t*-scores (M = 58.58, SD = 6.44), on average, as compared to caregivers of African American children (M = 52.50, SD = 10.30), $t(93) = -0.45$, $p < .05$, 95% CI = [-11.00, -1.15], d = 0.71. Based on these significant findings, race will be controlled for in the linear regression models that include the Time 1 CBCL

total problem or Time 1 CBCL internalizing variables. No other significant differences were found for the remaining Time 1 variables and all of the Time 2 variables.

Differential Attrition Analyses. For this analysis, all variables at Time 1 were grouped by those dyads who returned for Time 2 and those who did not. Depending upon the demographic variable being analyzed, differences between these groups were analyzed using chi-square tests of independence, Fisher's exact tests, or independent-samples *t*-tests. As shown in Table 4 (page 28), no statistically significant differences were found across the demographic variables between those who returned for Time 2 and those who did not return.

For differential analyses of the measures used in the current study, independent-samples *t*-tests were run (see Table 3, page 27 for results). Statistically significant differences were found for child internalizing problem behaviors at Time 1 and in observed caregiver laughter. For child internalizing problem behaviors, caregivers who returned for Time 2 rated their children as significantly lower on internalizing problem behaviors at Time 1 (M = 53.60, SD = 9.91), on average, as compared to the caregivers who did not return for Time 2 (M = 58.42, SD = 9.47), $t(129) = -2.45$, $p < .05$, 95% CI = [-8.73, -0.92], d = 0.50. For observed caregiver laughter, caregivers who returned for Time 2 had significantly more laughter (M = 2.12, SD = 2.59), on average, as compared to the caregivers who did not return for Time 2 (M = 0.76, SD = 1.09), $t(129) = 2.939$, $p < .01$, 95% CI = [0.44, 2.28], d = 0.68.

Table 2
Time 1 demographics

	Sample (*n* = 152)	**Time 1** (*n* = 133)	**Excluded** (*n* = 19)
Caregiver Relationship to Child			
Biological Mother	133 (87.5%)	122 (91.7%)	11 (57.9%)
Foster Mother	1 (0.7%)	1 (0.8%)	0 (0.0%)
Adoptive Mother	2 (1.3%)	2 (1.5%)	0 (0.0%)
Grandmother	9 (5.9%)	4 (3.0%)	5 (26.3%)
Aunt	5 (3.3%)	4 (3.0%)	1 (5.3%)
Biological Father	2 (1.3%)	0 (0%)	2 (10.5%)
Caregiver			
Did not complete HS	89 (58.6%)	79 (59.4%)	10 (52.6%)
Not employed	47 (30.9%)	39 (29.3%)	8 (42.1%)
Receiving public assistance	106 (69.7%)	94 (70.7%)	12 (63.2%)
Yearly income at or below poverty line	100 (65.8%)	91 (68.4%)	9 (47.4%)
Single (no partner)	81 (53.3%)	72 (54.1%)	9 (47.4%)
Child			
Age (in years)[1]	4.46 (0.43)	4.48 (0.43)	4.38 (0.42)
Biological Sex			
Girls	82 (53.9%)	74 (55.6%)	8 (42.1%)
Boys	70 (46.1%)	59 (44.4%)	11 (57.9%)
Race			
African American	111 (73.0%)	97 (72.9%)	14 (73.7%)
Caucasian	37 (24.3%)	32 (24.1%)	5 (26.3%)
Other	4 (2.6%)	4 (3.0%)	0 (0.0%)

[1]Mean (standard deviation) provided.

Table 3
Differential attrition analyses for study measures

Variable	Time 1 (*n* = 131)	Returned (*n* = 98)	Did Not Return (*n* = 33)	95% CI
Parenting Tasks (PDH)	33.54 (9.96)	33.24 (9.73)	34.42 (10.73)	(-5.15, 2.80)
Child Challenging Behaviors (PDH)	34.47 (9.38)	34.63 (9.37)	33.97 (9.53)	(-3.09, 4.41)
Total Score (PDH)	87.30 (21.65)	86.58 (21.07)	89.45 (23.49)	(-11.51, 5.77)
Total Behaviors (CBCL - Time 1)	53.71 (9.78)	54.22 (9.04)	52.18 (11.73)	(-2.46, 6.55)
Internalizing Behaviors (CBCL - Time 1)	54.82 (9.99)	53.60 (9.91)	58.42 (9.47)	(-8.75, -0.92)*
Externalizing Behaviors (CBCL - Time 1)	57.54 (8.43)	57.46 (8.43)	57.79 (8.57)	(-3.70, 3.04)
Caregiver Depressive Symptoms (BSI) - transformed	0.85 (0.42)	0.83 (0.44)	0.89 (0.35)	(-0.22, 0.11)
Socioeconomic Resources	2.20 (1.41)	2.15 (1.40)	2.33 (1.47)	(-0.38, 0.74)
Laughter	1.78 (2.37)	2.12 (2.59)	0.76 (1.09)	(0.72, 2.00)**
Positive Vocal Affect	5.86 (4.88)	6.08 (4.99)	5.18 (4.52)	(-1.04, 2.84)
Orientation/proximity	23.45 (14.65)	22.91 (14.51)	25.06 (15.18)	(-8.00, 3.69)
Affectionate Touch	0.26 (0.69)	0.27 (0.70)	0.24 (0.66)	(-0.25, 0.30)
Directive Touch	5.82 (4.79)	6.04 (4.88)	5.18 (4.52)	(-1.05, 2.77)
Total Behaviors (CBCL - Time 2)	-	54.95 (9.45)	-	-
Internalizing Behaviors (CBCL - Time 2)	-	55.07 (9.05)	-	-
Externalizing Behaviors (CBCL - Time 2)	-	51.45 (9.62)	-	-

Note. 95% CI = 95% confidence interval from independent samples *t*-test; PDH = Parenting Daily Hassles; CBCL = Child Behavior Checklist; BSI = Brief Symptoms Inventory.
*$p \leq .05$, **$p \leq .01$

Table 4
Differential attrition analyses for demographic variables

	Returned (*n* = 98)	**Did Not Return** (*n* = 35)	χ^2	***p***
Caregiver Relationship to Child[a]			-	0.701
Biological Mother	89 (90.8%)	33 (94.3%)		
Foster Mother	1 (1.0%)	0 (0%)		
Adoptive Mother	1 (1.0%)	1 (2.9%)		
Grandmother	4 (4.1%)	0 (0%)		
Aunt	3 (3.1%)	1 (2.9%)		
Caregiver				
Did not complete HS	56 (57.1%)	23 (65.7%)	0.786	0.375
Not employed	28 (28.6%)	11 (31.4%)	0.102	0.750
Receiving public assistance	70 (71.4%)	24 (68.6%)	3.400	0.065
Yearly income at or below poverty line	69 (70.4%)	22 (62.9%)	0.681	0.409
Single (no partner)	56 (57.1%)	16 (45.7%)	1.357	0.244
Socioeconomic Resources				
Child				
Age at Time 1 (in years)[b]	4.48 (0.41)	4.45 (0.47)	-0.129	0.898
Biological Sex			0.748	0.387
Girls	56 (57.1%)	18 (51.4%)		
Boys	42 (42.9%)	17 (48.6%)		
Race[a]			-	0.106
African American	76 (77.6%)	21 (60.0%)		
Caucasian	19 (19.4%)	13 (37.1%)		
Other	3 (3.1%)	1 (2.9%)		

Note. All results are from chi-square tests of independence unless otherwise noted.
[a]Fisher's exact test presented as assumptions were not meet for chi-square test of independence.
[b]Independent-samples *t*-test with *t* test statistic presented.

Correlational analyses. Correlations for all measures, except the caregiver positive expressiveness variables, were obtained for both the Time 1 sample (see Table 5 below) and those who returned for Time 2 (see Table 6, page 30). Correlations among the caregiver positive expressiveness variables are presented in the principal component analysis. As expected, there were moderate correlations between the PDH, CBCL and caregiver depressive symptoms (BSI) variables and moderate to strong correlations within the PDH factors and within the CBCL factors. The socioeconomic resources variable was not significantly correlated with the other measures; however, it will still be used as a covariate based on a theoretical stance that socioeconomic resources can influence parent and child behaviors.

Table 5
Correlations for Time 1 variables (*N* = 131)

Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. Parenting Tasks (PDH)	1							
2. Child Challenging Behaviors (PDH)	.670**	1						
3. Total Score (PDH)	.902**	.870**	1					
4. Total Behaviors (CBCL - Time 1)	.361**	.370**	.403**	1				
5. Internalizing Behaviors (CBCL - Time 1)	.387**	.382**	.468**	.451**	1			
6. Externalizing Behaviors (CBCL - Time 1)	.409**	.458**	.480**	.803**	.664**	1		
7. Caregiver Depressive Symptoms (BSI)	.457**	.476**	.507**	.420**	.460**	.469**	1	
8. Socioeconomic Resources	-.012	-.013	-.009	-.097	.161	.018	-.074	1

Note. Pearson product-moment correlation coefficients are presented. PDH = Parenting Daily Hassles; CBCL = Child Behavior Checklist; BSI = Brief Symptoms Inventory.
* $p \leq .05$, ** $p \leq .01$

Table 6
Correlations for those who returned for Time 2 (*N* = 98)

Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1. Parenting Tasks (PDH)	1										
2. Child Challenging Behaviors (PDH)	.685**	1									
3. Total Score (PDH)	.895**	.886**	1								
4. Total Behaviors (CBCL - Time 1)	.422**	.392**	.461**	1							
5. Internalizing Behaviors (CBCL - Time 1)	.415**	.438**	.509**	.494**	1						
6. Externalizing Behaviors (CBCL - Time 1)	.407**	.484**	.495**	.815**	.642**	1					
7. Caregiver Depressive Symptoms (BSI)	.441**	.492**	.494**	.436**	.435**	.442**	1				
8. Socioeconomic Resources	-.056	-.026	-.041	-.026	.170	.049	-.086	1			
9. Total Behaviors (CBCL - Time 2)	.347**	.448**	.431**	.483**	.450**	.589**	.380**	.047	1		
10. Internalizing Behaviors (CBCL - Time 2)	.352**	.410**	.425**	.451**	.336**	.443**	.335**	-.025	.818**	1	
11. Externalizing Behaviors (CBCL - Time 2)	.268**	.401**	.345**	.384**	.410**	.565**	.301**	.052	.868**	.594**	1

Note. Pearson product-moment correlation coefficients are presented. PDH = Parenting Daily Hassles; CBCL = Child Behavior Checklist; BSI = Brief Symptoms Inventory.
* $p \leq .05$, ** $p \leq .01$

Correlations between the demographic variables and the future explanatory variables (i.e., CBCL measures) were weak and not significant; thus, there are no potential demographic covariates that will need to be controlled for in the moderated regression analysis. Due to the wide variation of children's ages at Time 2, it was included as a covariate in the regression models.

Semipartial Correlational Analysis. To satisfy the third aim of the current study, multiple linear regression analysis was used to quantify each of the unique contributions of the PDH factors and caregiver depressive symptoms when explaining the variance accounted for in each of CBCL factors (total, externalizing, and internalizing). Results for each CBLC measure are broken down by CBCL at Time 1, CBCL at Time 2, and the

change in CBCL from Time 1 to Time 2 (i.e., regressed change scores; Cohen, Cohen, West, & Aiken, 2003).

Table 7
Semipartial correlations from regression equations predicting CBCL total problem behaviors (*N* = 98)

	Time 1		Time 2		Change	
Total Problem Behaviors	***sr***	**%**	***sr***	**%**	***sr***	**%**
Model 1	R^2 = *.279*		R^2 = *.223*		R^2 = *.297*	
Depressive Symptoms	0.239**	5.71	0.193*	3.72	0.098	0.96
PDH Total Score	0.283**	8.01	0.279**	7.78	0.193*	3.72
CBCL Total (Time 1)	-	-	-	-	0.290***	8.41
Model 2	R^2 = *.231*		R^2 = *.235*		R^2 = *.318*	
Depressive Symptoms	0.279**	7.78	0.183*	3.35	0.078	0.61
PDH Challenging Behavior	0.204*	4.16	0.300***	9.00	0.241**	5.81
CBCL Total (Time 1)	-	-	-	-	0.303***	9.18
Model 3	R^2 = *.256*		R^2 = *.185*		R^2 = *.274*	
Depressive Symptoms	0.278**	7.73	0.253**	6.40	0.125	1.56
PDH Parenting Tasks	0.257**	6.60	0.200*	4.00	0.116	1.35
CBCL Total (Time 1)	-	-	-	-	0.327***	10.69

For all three models at all time points, p ≤ .001; CBCL = Child Behavior Checklist; CBCL Total (Time 1) = Child Behavior Checklist Total Problem Behaviors at Time 1; Change = Change in CBCL *t*-score from Time 1 to Time2; sr = semipartial correlation; % = percent of unique variance
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

For total child problem behaviors (see Table 7 above), PDH total scores accounted for 1.4 to 3.9 times more unique variance as compared to caregiver depressive symptoms. The PDH child challenging behavior factor accounted for 1.9 to 9.5 times more unique variance for Time 2 and change between Time 1 and Time 2, respectively. For Time 1 total child problem behaviors, the PDH child challenging

behavior factor accounted for 0.7 times more unique variance. PDH parenting tasks factor accounted for .6 to .9 times more unique variance as compared to caregiver depressive symptoms. Put another way, caregiver depression accounts for 1.2 to 1.6 times more unique variance as compared to PDH parenting tasks. Overall, the PDH child challenging behavior factor seems to perform the best for Time 2 and change between Time 1 and Time 2, while the PDH parenting tasks factor had the poorest performance.

Table 8
Semipartial correlations from regression equations predicting CBCL externalizing problem behaviors (*N* = 98)

	Time 1		**Time 2**		**Change**	
Externalizing Problem Behaviors	***sr***	**%**	***sr***	**%**	***sr***	**%**
Model 1	R^2 = *.297*		R^2 = *.141*		R^2 = *.325*	
Depressive Symptoms	0.227**	5.15	0.151	2.28	-0.013	0.02
PDH Total Score	0.318***	10.11	0.225*	5.06	0.075	0.56
CBCL Ext (Time 1)	-	-	-	-	0.444***	19.71
Model 2	R^2 = *.289*		R^2 = *.175*		R^2 = *.342*	
Depressive Symptoms	0.234**	5.48	0.119	1.42	-0.034	0.12
PDH Challenging Behavior	0.306***	9.36	0.291**	8.47	0.150	2.25
CBCL Ext (Time 1)	-	-	-	-	0.420***	17.64
Model 3	R^2 = *.251*		R^2 = *.113*		R^2 = *.231*	
Depressive Symptoms	0.293***	8.58	0.204*	4.16	-0.002	0.00
PDH Parenting Tasks	0.236**	5.57	0.151	2.28	0.041	0.17
CBCL Ext (Time 1)	-	-	-	-	0.479***	22.94

For all three models at all time points, p ≤ .001; CBCL = Child Behavior Checklist; CBCL Ext (Time 1) = Child Behavior Checklist Externalizing Problem Behaviors at Time 1; Change = Change in CBCL *t*-score from Time 1 to Time2; sr = semipartial correlation; % = percent of unique variance
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

For externalizing child problem behaviors (see Table 8 above), PDH total scores accounted for 1.9 to 28 times more unique variance as compared to caregiver depressive symptoms. The PDH child challenging behavior factor accounted for 1.7 to 18.8 times more unique variance and PDH parenting tasks factor accounted for .5 to .6 times more unique variance as compared to caregiver depressive symptoms. Put another way, caregiver depressive symptoms accounted for 1.5 to 1.8 times more unique variance as compared to PDH parenting tasks. Again, the PDH child challenging behavior factor seems to perform the best for Time 2 and change between Time 1 and Time 2, while the PDH parenting tasks factor had the poorest performance.

Table 9
Semipartial correlations from regression equations predicting CBCL internalizing problem behaviors (*N* = 98)

	Time 1		**Time 2**		**Change**	
Internalizing Problem Behaviors	***sr***	**%**	***sr***	**%**	***sr***	**%**
Model 1	R^2 = *.304*		R^2 = *.201*		R^2 = *.223*	
Depressive Symptoms	0.211*	4.45	0.144	2.07	0.151	2.28
PDH Total Score	0.339***	11.49	0.299**	8.94	0.239**	5.71
CBCL Int (Time 1)	-	-	-	-	0.101	1.02
Model 2	R^2 = *.255*		R^2 = *.192*		R^2 = *.220*	
Depressive Symptoms	0.252**	6.35	0.153	2.34	0.147	2.16
PDH Challenging Behavior	0.258**	6.66	0.282**	7.95	0.234**	5.48
CBCL Int (Time 1)	-	-	-	-	0.130	1.69
Model 3	R^2 = *.251*		R^2 = *.162*		R^2 = *.196*	
Depressive Symptoms	0.280**	7.84	0.200*	4.00	0.171	2.92
PDH Parenting Tasks	0.249**	6.20	0.227*	5.15	0.193	3.72
CBCL Int (Time 1)	-	-	-	-	0.153	2.34

For all three models at all time points, p ≤ .001; CBCL = Child Behavior Checklist; CBCL Ext (Time 1) = Child Behavior Checklist Internalizing Problem Behaviors at Time 1; Change = Change in CBCL *t*-score from Time 1 to Time2; sr = semipartial correlation; % = percent of unique variance
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

For internalizing child problem behaviors (see Table 9 above), PDH total scores accounted for 2.5 to 4.3 times more unique variance as compared to caregiver depressive symptoms. The PDH child challenging behavior factor accounted for 1.04 to 3.4 times more unique variance and PDH parenting tasks factor accounted for 0.8 to 1.3 times more unique variance as compared to caregiver depressive symptoms. This time the PDH total scores seems to perform the best for Time 2 and has equal performance with the PDH child challenging behavior factor for change between Time 1 and Time 2. Again, the PDH parenting tasks factor had the poorest performance.

Overall, PDH scores accounted for unique variance above and beyond that of caregiver depressive symptoms. In fact, caregiver depressive symptoms failed to account for much unique variance when combined with PDH total scores or the PDH child challenging behaviors factor to predict change in total child problem behaviors and externalizing child problem behaviors. On the other hand, caregiver depressive symptoms accounted for more unique variance than the PDH parenting tasks factor on many occasions. For the moderation analyses in later steps of analysis, caregiver depression will be included as a covariate. In an effort to reduce familywise error in the moderation analyses, the lowest performing PDH factor, parenting tasks, was not included in the moderation analysis.

Principal Component Analysis. This analysis was conducted to reduce the five caregiver positive expressiveness variables (e.g., caregiver laughter, vocal affect, orientation/proximity, affectionate touch, and gentle, directive touch) into one to two underlying dimensions for future use in the moderated regression equations. Correlations between the positive expressiveness variables were weak with several not

clearing 0.10 (See Table 10 on page 36). A Kaiser-Meyer-Olkiri (KMO) measure of sampling adequacy test was performed to assess the proportion of common variance among the positive expressiveness variables and the result (KMO value = 0.536) indicated that the sampling was not adequate (Kaiser, 1974). Due to the low correlations and subsequent failure to meet the assumption of sampling adequacy, the positive expressiveness variables were each standardized into *z*-scores and summed to make a standardized composite positive expressiveness variable to be used in the next stage of analysis. This composite variable will be referred to henceforth as *caregiver positive expressiveness*, where higher scores represent caregivers who presented with more positive expressiveness during the laboratory task. The composite variable was screened for normality and outliers. One extremely high outlier was found and this outlier was removed from analysis resulting in a final sample size of 97 dyads for the moderated regression analyses. See Table 11, on page 37, for correlations between the caregiver positive expressiveness variables and the other measures used in the current study.

Table 10
Correlations between the caregiver positive expressiveness variables (*N* = 98)

	Positive Vocal Affect	Orientation/ Proximity	Laughter	Affectionate Touch	Directive Touch
Positive Vocal Affect	1				
Orientation/Proximity	.198*	1			
Laughter	.181	.038	1		
Affectionate Touch	.094	.064	.165	1	
Directive Touch	.071	.102	-.173	-.094	1

Note. Pearson product-moment correlation coefficients are presented.
* $p \leq .05$, ** $p \leq .01$

Table 11
Correlations for caregiver positive expressiveness variables

	Positive Expressiveness Variables for PCA (*n* = 98)					**Sum** (*n* = 97)
	Positive Vocal Affect	Orientation/ Proximity	Laughter	Affectionate Touch	Directive Touch	Total Positive Expressiveness
Parenting Tasks (PDH)	.034	-.019	-.012	.127	.039	.055
Child Challenging Behaviors (PDH)	-.044	-.037	.021	.097	-.045	.033
Total Score (PDH)	.025	-.078	.026	.087	.028	.033
Total Behaviors (CBCL - Time 1)	.188	-.040	.220	.092	.198	.160
Internalizing Behaviors (CBCL - Time 1)	.085	-.167	.016	-.070	.088	.028
Externalizing Behaviors (CBCL - Time 1)	.117	-.061	.035	.063	.125	.078
Depressive Symptoms (BSI)	-.027	-.185	.161	-.017	-.022	-.011
Socioeconomic Resources	.117	.104	-.048	-.032	.060	.124
Total Behaviors (CBCL - Time 2)	-.011	-.109	-.012	.002	-.013	-.012
Internalizing Behaviors (CBCL - Time 2)	-.067	-.077	.021	-.010	-.072	-.033
Externalizing Behaviors (CBCL - Time 2)	.013	-.095	.026	-.078	.011	.030

Note. Pearson product-moment correlation coefficients are presented. 95% CI = 95% confidence interval from independent samples *t*-test; PDH = Parenting Daily Hassles; CBCL = Child Behavior Checklist; BSI = Brief Symptoms Inventory.
*$p \leq .05$, **$p \leq .01$

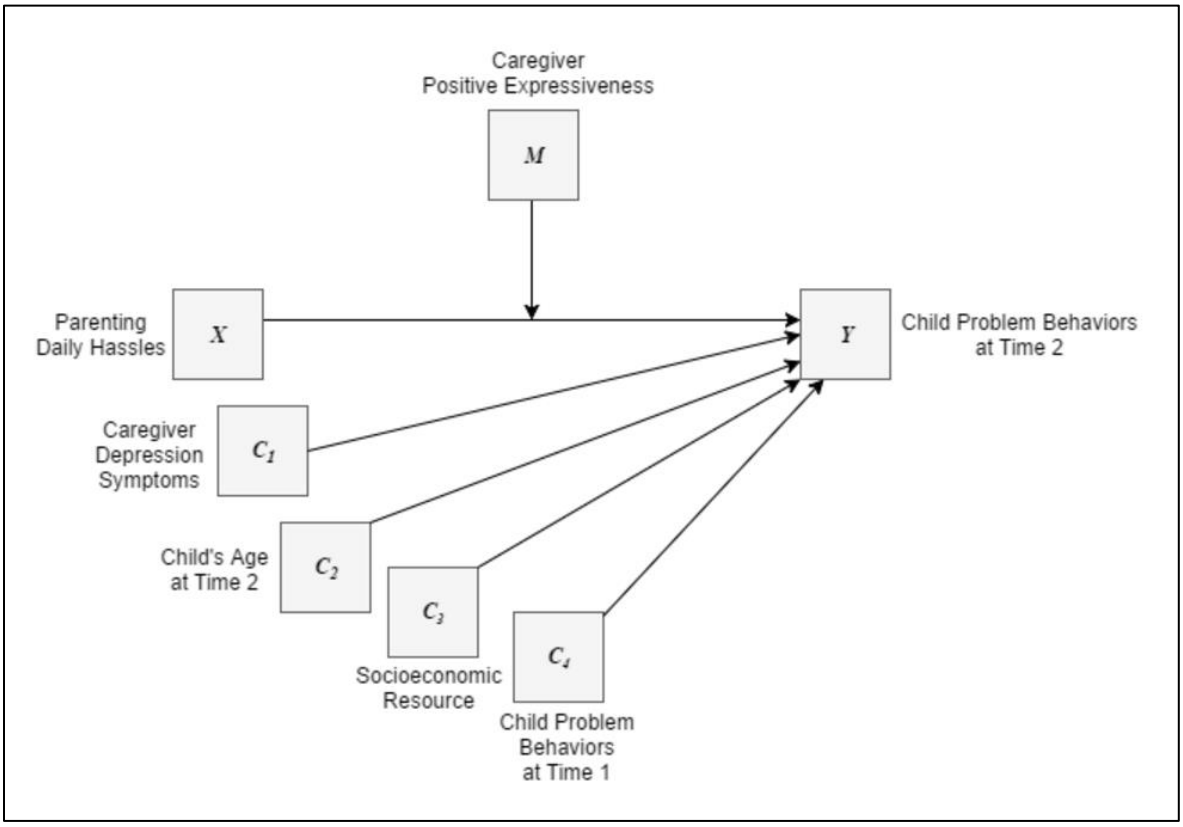

Figure 1. The moderation of parenting daily hassles at Time 1 on child problem behaviors at Time 2 by caregiver positive expressiveness at Time 1 with covariates (including Time 1 child problem behaviors).

Moderated Regression Analyses. Using the PROCESS macro (Hayes, 2013) in SPSS 23, moderated multiple regression analyses were performed in two separate stages. The first stage focused on predicting child problem behaviors at Time 2, without controlling for child problem behavior at Time 1, which is the common approach to analyzing this relationship. The second stage focused on predicting the change in child problem behaviors from Time 1 to Time 2 by adding the Time 1 child problem behaviors as covariate in the model (i.e., using regressed change scores; Cohen, Cohen, West, & Aiken, 2003). For each stage, six different models (see Figure 1 above) covered all

possible combinations of the Time 2 criterion variables of child total problem behaviors, child externalizing problem behaviors, and child internalizing problem behaviors with the Time 1 predictor variables of PDH total scores and the child challenging behaviors factor. All models included the covariates of caregiver depressive symptoms at Time 1, child's age at Time 2, socioeconomic resources at Time 1. In Stage 2 analyses, the models predicting Time 2 total child problem behaviors and internalizing child problem behaviors also include race as covariate as there were significant differences by race found in Time 1 total child problem behaviors and internalizing child problem behaviors. The predictor, covariates and interaction were all entered in the first step and the covariates were applied to both the criterion and the moderator. Any significant interactions between the predictor PDH variable and the caregiver positive expressiveness variable were explored and graphed using the pick-a-point procedure (percentiles), as well as the Johnson-Neyman procedure (Hayes, 2013).

Multiple linear regression assumptions were checked for each of the six models for each stage using procedures in SPSS 23. Independence of residuals, normality of distributed residuals and homoscedasticity were checked by visually inspecting residual plots and histograms. Based on these methods, all three assumptions were met for each of the six models for each stage. Multicollinearity was assessed using the Variance Inflation Factor (VIF) using the rule of thumb of VIF > 5 to warrant further investigation. Multicollinearity was not found across the six models. The Holm's Sequential Bonferroni Procedure (Holm, 1979) was used to control for familywise error rates across both stages, where findings remained statistically significant when they were at or below $p = .003$.

Table 12
Summary of Model 1 predicting CBCL total problem behaviors (Stage 1)

	β	SE	95% CI		*p*
Constant*	54.00	7.58	38.94	9.07	< .001
SER	0.66	0.65	0.00	0.01	0.314
Dep Symptoms	4.61	2.47	-0.31	9.52	0.650
Child Age at T2	-0.58	1.05	-2.67	1.50	0.579
PDH Total	0.14	0.05	0.04	0.24	0.006
PE	-0.03	0.05	-0.14	0.08	0.540
PDH Total x PE	0.003	0.002	-0.001	0.01	0.164

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH Total = Parenting Daily Hassles total score; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 1 was found to be statistically significant $F(6,90) = 5.26$, $p = .0001$, with PDH Total Scores as the only significant predictor of child total problem behaviors at Time 2 ($p < .01$) (see Table 12). Together, all predictors included in this model accounted for 24.4% of the variability in future child total problem behaviors. The interaction between PDH total scores and caregiver positive expressiveness was not significant ($p = .17$) indicating that positive expressiveness was not a significant moderator in the relation between PDH total scores and future problem behaviors at the age of transition to school.

Table 13
Summary of Model 2 predicting CBCL total problem behaviors (Stage 1)

	β	SE	95% CI		*p*
Constant*	54.75	7.38	40.09	9.40	< .001
SER	0.64	0.67	-0.69	1.96	0.341
Dep Symptoms	4.45	2.39	-0.30	9.19	0.066
Child Age at T2	-0.66	1.03	-2.70	1.38	0.522
PDH CB*	0.35	0.11	0.13	0.57	0.002
PE	-0.39	0.05	-0.15	0.07	0.474
PDH CB x PE	0.01	0.005	-0.001	0.02	0.071

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH CB = Parenting Daily Hassles child challenging behaviors factor; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 2 was found to be statistically significant $F(6,90) = 5.51$, $p < .0001$, with PDH child challenging behaviors ($p < .01$) as the only significant predictor of child total problem behaviors at Time 2 (see Table 13). Together, all predictors included in this model accounted for 26.5% of the variability in future child total problem behaviors. The interaction between PDH child challenging behaviors and caregiver positive expressiveness was not significant ($p = .07$) indicating that positive expressiveness is not a significant moderator in the relation between PDH child challenging behaviors and future problem behaviors at the age of transition to school.

Table 14
Summary of Model 3 predicting CBCL externalizing problem behaviors (Stage 1)

	β	SE	95% CI		*p*
Constant*	57.34	8.21	41.01	3.64	< .001
SER	0.66	0.59	-0.51	1.82	0.266
Dep Symptoms	3.23	2.27	-1.29	7.74	0.159
Child Age at T2	-0.86	1.11	-3.05	1.34	0.440
PDH Total	0.11	0.05	0.01	0.20	0.033
PE	-0.02	0.05	-0.12	0.08	0.705
PDH Total x PE	0.01	0.05	0.008	0.011	0.007

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH Total = Parenting Daily Hassles total score; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 3 was found to be statistically significant $F(6,90) = 4.39$, $p < .001$, with PDH total scores ($p < .05$) and the interaction between PDH total scores and caregiver positive expressiveness ($p < .01$) as significant predictors of child externalizing problem behaviors at Time 2 (see Table 14). Together, all predictors included in this model accounted for 21.2% of the variability of in future child externalizing problem behaviors. The interaction between PDH total scores and caregiver positive expressiveness was significant ($p < .01$) indicating that positive expressiveness is a significant moderator in the relation between PDH total scores and child externalizing problem behaviors.

Table 15
Conditional effects of caregiver positive expressiveness in Model 3

Percentile	Effect	SE	*p*	95% CI	
10th	-0.05	0.08	0.55	-0.20	0.11
25th	0.02	0.06	0.72	-0.10	0.14
50th	0.09	0.05	0.08	-0.01	0.19
75th	0.18	0.05	0.001	0.07	0.28
90th	0.25	0.07	< .001	0.12	0.39

Note. SE = standard error; CI = confidence interval.

As shown in Table 15 on the previous page and displayed below in Figure 2, PDH total scores was significantly related to child externalizing problem behaviors when caregiver positive expressiveness was at or above the 75th percentile (p < .01) but not when caregiver positive expressiveness was at the 50th percentile or below. Results from the Johnson-Neyman technique showed that the relationship between PDH total scores and child externalizing problem behaviors was significant when positive expressiveness was greater than 51st percentile but not significant with lower values of positive expressiveness.

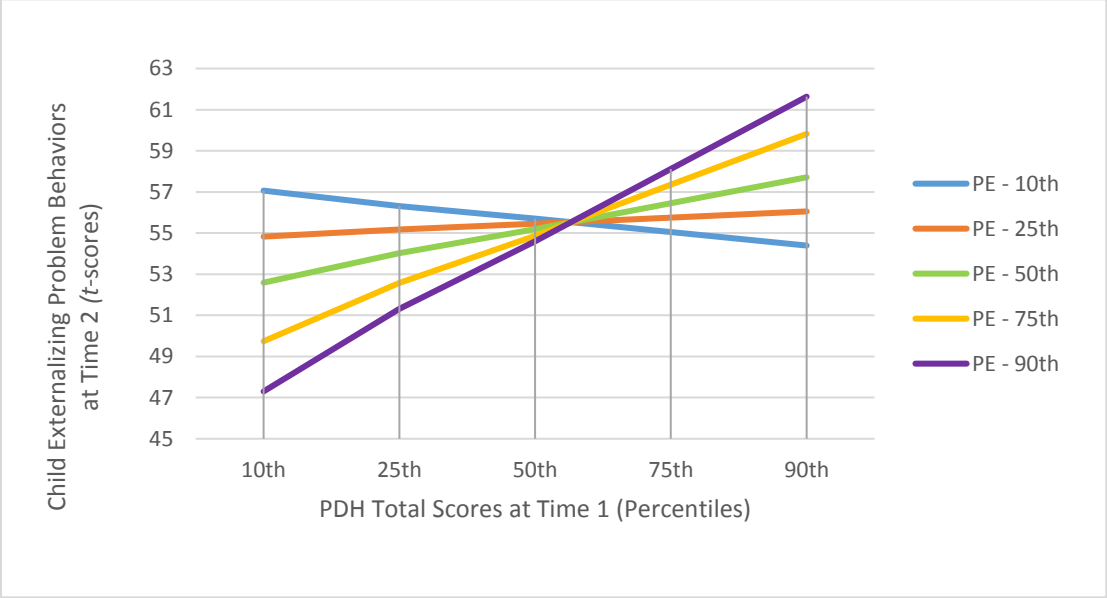

Figure 2. Model 3: Moderation of Parenting Daily Hassles (PDH) total score at Time 1 on future externalizing behavior problems at the time of transition to school by caregiver positive expressiveness (PE).

Table 16
Summary of Model 4 predicting CBCL externalizing problem behaviors (Stage 1)

	β	SE	95% CI		*p*
Constant*	58.44	7.85	42.85	4.03	< .001
SER	0.63	0.60	-0.57	1.83	0.300
Dep Symptoms	2.74	2.20	-1.63	7.10	0.216
Child Age at T2	-0.95	1.06	-3.06	1.16	0.374
PDH CB	0.32	0.11	0.10	0.54	0.005
PE	-0.03	0.05	-0.12	0.07	0.591
PDH CB x PE	0.013	0.005	0.004	0.023	0.008

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH CB = Parenting Daily Hassles child challenging behaviors factor; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 4 was found to be statistically significant $F(6,90) = 4.86$, $p < .001$, with PDH child challenging behavior and the interaction between PDH child challenging behavior and caregiver positive expressiveness as significant predictors ($p < .01$) of child externalizing problem behaviors at Time 2 (see Table 16). Together, all predictors included in this model accounted for 24.4% of the variability of in future child externalizing problem behaviors. The interaction between PDH child challenging behavior and caregiver positive expressiveness was significant ($p < .01$) indicating that positive expressiveness is a significant moderator in the relation between PDH child challenging behavior and future child externalizing problem behaviors.

Table 17
Conditional effects of caregiver positive expressiveness in Model 4

Percentile	Effect	SE	*p*	95% CI	
10th	-0.01	0.18	0.95	-0.37	0.35
25th	0.14	0.07	0.33	-0.14	0.42
50th	0.29	0.05	0.01	0.06	0.51
75th	0.47	0.05	< .001	0.24	0.71
90th	0.64	0.06	< .001	0.34	0.93

Note. SE = standard error; CI = confidence interval.

As shown in Table 17 above and Figure 3 on the next page, PDH child challenging behavior was significantly related to future child externalizing problem behaviors when caregiver positive expressiveness at or above the 50th percentile ($p < .01$), but not when caregiver positive expressiveness was at the 25th percentile or below. Results from the Johnson-Neyman technique showed that the relationship between PDH child challenging behavior and future child externalizing problem behaviors was significant when positive expressiveness was greater than 38th percentile but not significant with lower values of positive expressiveness.

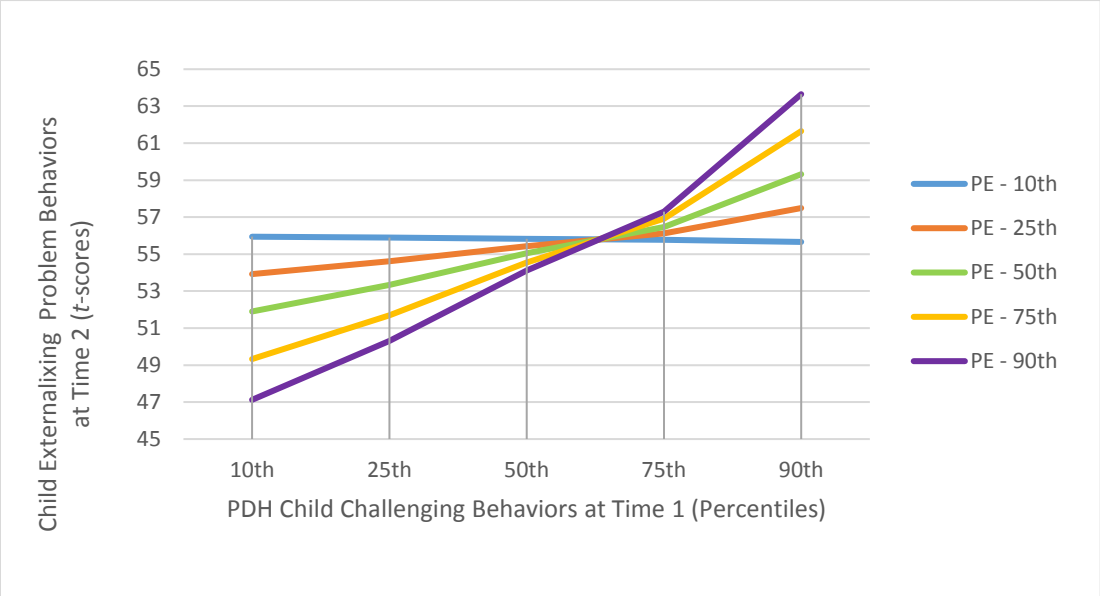

Figure 3. Model 4: Moderation of Parenting Daily Hassles (PDH) child challenging behaviors factor at Time 1 on future externalizing behavior problems at the time of transition to school by caregiver positive expressiveness (PE).

Table 18
Summary of Model 5 predicting CBCL internalizing problem behaviors (Stage 1)

	β	SE	95% CI		*p*
Constant*	44.68	7.66	29.46	9.89	< .001
SER	0.00	0.67	-1.33	1.33	1.000
Dep Symptoms	3.40	2.61	-1.79	8.59	0.196
Child Age at T2	0.54	1.11	-1.66	2.75	0.624
PDH Total	0.16	0.06	0.04	0.27	0.008
PE	-0.15	0.06	-0.14	0.11	0.806
PDH Total x PE	0.001	0.003	-0.004	0.006	0.758

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH Total = Parenting Daily Hassles total score; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 5 was found to be statistically significant $F(6,90) = 3.32$, $p < .01$, with PDH total scores as the only significant predictor ($p < .01$) of child internalizing problem behaviors at Time 2 (see Table 18 on the previous page). Together, all predictors included in this model accounted for 20.6% of the variability in future child internalizing problem behaviors. The interaction between PDH total scores and caregiver positive expressiveness was not significant ($p = .76$) indicating that positive expressiveness is a not a significant moderator in the relation between PDH total scores and child internalizing problem behaviors.

Table 19
Summary of Model 6 predicting CBCL internalizing problem behaviors (Stage 1)

	β	SE	95% CI		*p*
Constant*	45.13	7.74	29.75	0.05	< .001
SER	-0.01	0.70	-1.40	1.38	0.986
Dep Symptoms	3.53	2.71	-1.85	8.91	0.195
Child Age at T2	0.47	1.12	-1.76	2.71	0.674
PDH CB	0.33	0.12	0.09	0.58	0.008
PE	-0.02	0.06	-0.14	0.10	0.722
PDH CB x PE	0.005	0.006	-0.007	0.017	0.427

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH CB = Parenting Daily Hassles child challenging behaviors factor; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 6 was found to be statistically significant $F(6,90) = 3.36$, $p < .01$, with PDH child challenging behavior as the only significant predictor ($p < .01$) of child internalizing problem behaviors at Time 2 (see Table 19). Together, all predictors included in this model accounted for 20.4% of the variability of future child internalizing problem behaviors. The interaction between PDH child challenging behaviors and caregiver

positive expressiveness was not significant (p = .43) indicating that positive expressiveness is not a significant moderator in the relation between PDH child challenging behavior and future child internalizing problem behaviors.

For Stage 1 analyses, PDH was a significant predictor of future child problem behaviors across all six models, where increases in level of caregiver daily hassles results in increases in future child problem behaviors. Caregiver positive expressiveness was a significant moderator on the association of parenting daily hassles (i.e., PDH total scores or PDH child challenging behaviors) and future child externalizing problem behaviors. Contrary to my hypothesis, lower levels of caregiver positive expressiveness attenuated this relationship to the point where parenting daily hassle was not predictive of future problem behaviors when positive expressiveness was at its lowest level. When caregiver positive expressiveness was at higher levels, the linear relationship between parenting daily hassles and future externalizing behaviors was at its strongest. It is important to note that after controlling for familywise error, the moderating effects were no longer significant.

Table 20
Summary of Model 1 predicting change in CBCL total problem behaviors (Stage 2)

	β	SE	95% CI		*p*
Constant	21.68	11.01	-0.21	43.56	0.052
CBCL-Total T1*	0.45	0.13	0.19	0.72	0.001
SER	0.31	0.65	-0.99	1.60	0.641
Dep Symptoms	1.27	2.62	-3.94	6.47	0.630
Child Age at T2	0.61	1.19	-1.75	2.98	0.514
Race	2.15	2.12	-2.07	6.37	0.314
PDH Total	0.08	0.05	-0.02	0.18	0.134
PE	-0.05	0.05	-0.16	0.06	0.350
PDH Total x PE	0.003	0.002	-0.001	0.007	0.195

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; CBCL – Total T1 = total scores for Child Behavior Checklist at Time 1; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH Total = Parenting Daily Hassles total score; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

For Stage 2 analyses, Model 1 was found to be statistically significant $F(8,88) = 6.84$, $p < .0001$, with child total problem behaviors at Time 1 as the only significant predictor of child total problem behaviors at Time 2 ($p < .01$) (see Table 20). Together, all predictors included in this model accounted for 33.7% of the variability in change in child total problem behaviors. The interaction between PDH total scores and caregiver positive expressiveness was not significant ($p = .20$) indicating that positive expressiveness is not a significant moderator in the relation between PDH total scores and change in child total problem behaviors during the transition to school.

Table 21
Summary of Model 2 predicting change in CBCL total problem behaviors (Stage 2)

	β	SE	95% CI		*p*
Constant	23.07	10.51	2.19	43.96	0.031
CBCL - Total T1*	0.45	0.13	0.19	0.71	< .001
SER	0.31	0.66	-0.99	1.62	0.632
Dep Symptoms	0.75	2.37	-4.35	5.86	0.769
Child Age at T2	0.51	1.15	-1.78	2.80	0.660
Race	2.00	2.14	-2.25	6.25	0.352
PDH CB	0.24	0.11	0.02	0.46	0.036
PE	-0.06	0.06	-0.18	0.05	0.301
PDH CB x PE	0.008	0.005	-0.002	0.02	0.098

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; CBCL – Total T1 = total scores for Child Behavior Checklist at Time 1; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH CB = Parenting Daily Hassles child challenging behaviors factor; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 2 was found to be statistically significant $F(8,88) = 7.16$, $p < .0001$, with child total problem behaviors at Time 1 ($p < .001$) and PDH child challenging behaviors ($p < .05$) as significant predictors of child total problem behaviors at Time 2 (see Table 21). Together, all predictors included in this model accounted for 36.4% of the variability in change in child total problem behaviors. The interaction between PDH child challenging behaviors and caregiver positive expressiveness was not significant ($p = .10$) indicating that positive expressiveness is not a significant moderator in the relation between PDH child challenging behaviors and change in child total problem behaviors at the age of transition to school.

Table 22
Summary of Model 3 predicting change in CBCL externalizing problem behaviors (Stage 2)

	β	SE	95% CI		*p*
Constant	17.65	10.13	-2.48	37.79	0.085
CBCL - Ext T1*	0.59	0.11	0.36	0.81	< .001
SER	0.23	0.54	-0.84	1.30	0.673
Dep Symptoms	-0.08	2.16	-4.37	4.20	0.970
Child Age at T2	0.48	1.00	-1.50	2.45	0.635
PDH Total	0.02	0.05	-0.09	0.12	0.746
PE	-0.02	0.05	-0.11	0.07	0.651
PDH Total x PE	0.01	0.002	0.002	0.01	0.008

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; CBCL – Ext T1 = externalizing factor scores for Child Behavior Checklist at Time 1; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH Total = Parenting Daily Hassles total score; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 3 was found to be statistically significant $F(7,89) = 9.45$, $p < .0001$, with child externalizing problem behaviors at Time 1 ($p < .001$) and the interaction between PDH total scores and caregiver positive expressiveness ($p < .01$) as significant predictors of child externalizing problem behaviors at Time 2 (see Table 22). Together, all predictors included in this model accounted for 41% of the variability in change in child externalizing problem behaviors. The interaction between PDH total scores and caregiver positive expressiveness was significant ($p < .01$) indicating that positive expressiveness is a significant moderator in the relation between PDH total scores and change in child externalizing problem behaviors by transition to school.

Table 23
Conditional effects of caregiver positive expressiveness in Model 3

Percentile	Effect	SE	*p*	95% CI	
10th	-0.14	0.09	0.12	-0.31	0.04
25th	-0.07	0.07	0.32	-0.20	0.07
50th	0.01	0.05	0.99	-0.11	0.11
75th	0.09	0.05	0.09	-0.01	0.19
90th	0.16	0.06	0.01	0.04	0.29

Note. SE = standard error; CI = confidence interval.

As shown in Table 23 above and displayed in Figure 4 on the next page, PDH total scores was significantly related to change in child externalizing problem behaviors when caregiver positive expressiveness was at the 90th percentile (p < .01) and marginally significant at the 75th percentile (p <.10) but not when caregiver positive expressiveness was at the 50th percentile or below. The Johnson-Neyman technique showed that the relationship between PDH total scores and change child externalizing problem behaviors was significant when positive expressiveness was greater than 79th percentile but not significant with lower values of positive expressiveness.

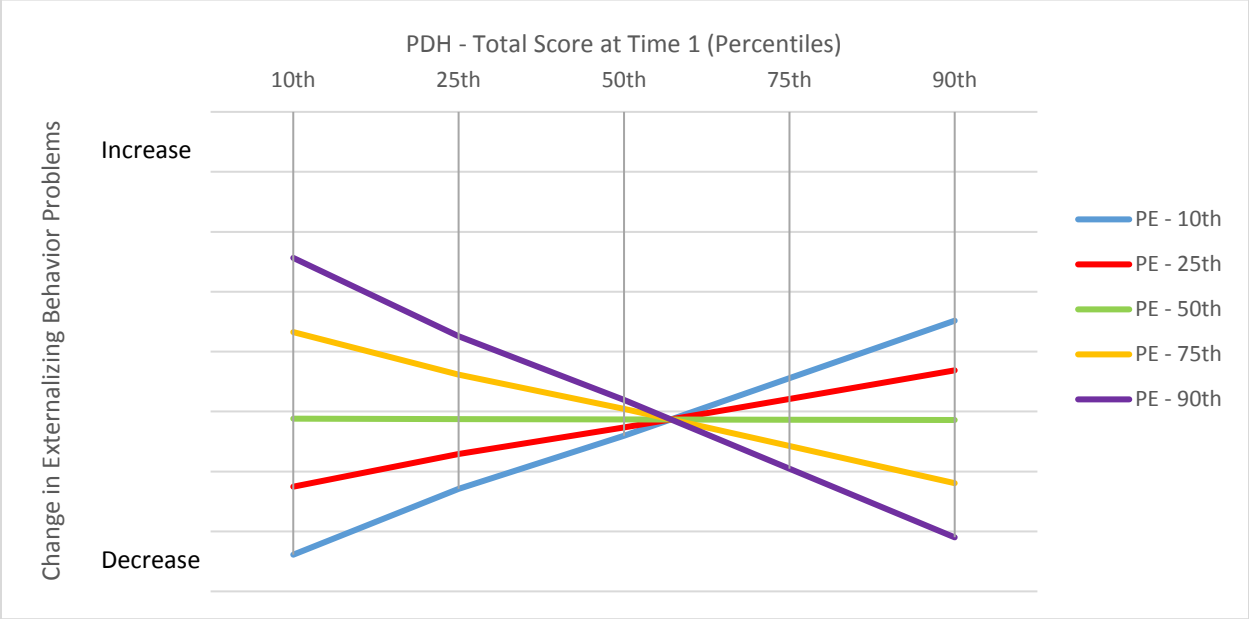

Figure 4. Model 3: Moderation of Parenting Daily Hassles (PDH) total score at Time 1 on change in externalizing behavior problems during transition to school by caregiver positive expressiveness (PE).

Table 24
Summary of Model 4 predicting change in CBCL externalizing problem behaviors (Stage 2).

	β	SE	95% CI		*p*
Constant	21.96	9.33	3.42	40.50	0.021
CBCL - Ext T1*	0.54	0.11	0.32	0.76	< .001
SER	0.25	0.54	-0.82	1.32	0.644
Dep Symptoms	-0.43	2.17	-4.74	3.89	0.844
Child Age at T2	0.25	0.96	-1.66	2.17	0.794
PDH CB	0.15	0.11	-0.07	0.37	0.181
PE	-0.03	0.05	-0.12	0.07	0.572
PDH CB x PE	0.01	0.005	0.004	0.02	0.007

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; CBCL – Ext T1 = externalizing factor scores for Child Behavior Checklist at Time 1; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH CB = Parenting Daily Hassles child challenging behaviors factor; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 4 was found to be statistically significant $F(7,89) = 9.45$, $p < .0001$, with child externalizing problem behaviors at Time 1 ($p < .001$) and the interaction between PDH child challenging behavior and caregiver positive expressiveness ($p < .01$) as significant predictors of child externalizing problem behaviors at Time 2 (see Table 24 on the previous page). Together, all predictors included in this model accounted for 41% of the variability in change in child externalizing problem behaviors. The interaction between PDH child challenging behavior and caregiver positive expressiveness was significant ($p < .01$) indicating that positive expressiveness is a significant moderator in the relation between PDH child challenging behavior and change in child externalizing problem behaviors by transition to school.

Table 25
Conditional effects of caregiver positive expressiveness in Model 4

Percentile	Effect	SE	*p*	95% CI	
10th	-0.18	0.18	0.34	-0.53	0.18
25th	-0.03	0.14	0.83	-0.31	0.25
50th	0.11	0.11	0.32	-0.11	0.34
75th	0.30	0.11	0.008	0.08	0.51
90th	0.45	0.13	0.001	0.19	0.72

Note. SE = standard error; CI = confidence interval.

As shown in Table 25 above and displayed in Figure 5 on the next page, PDH child challenging behavior was significantly related to change in child externalizing problem behaviors when caregiver positive expressiveness at the 75th percentile ($p < .01$) and at the 90th percentile ($p = .001$), but not when caregiver positive expressiveness was at the 50th percentile or below. The Johnson-Neyman technique showed that the relationship between PDH child challenging behavior and change in child externalizing problem

behaviors was significant when positive expressiveness was greater than 63rd percentile but not significant with lower values of positive expressiveness.

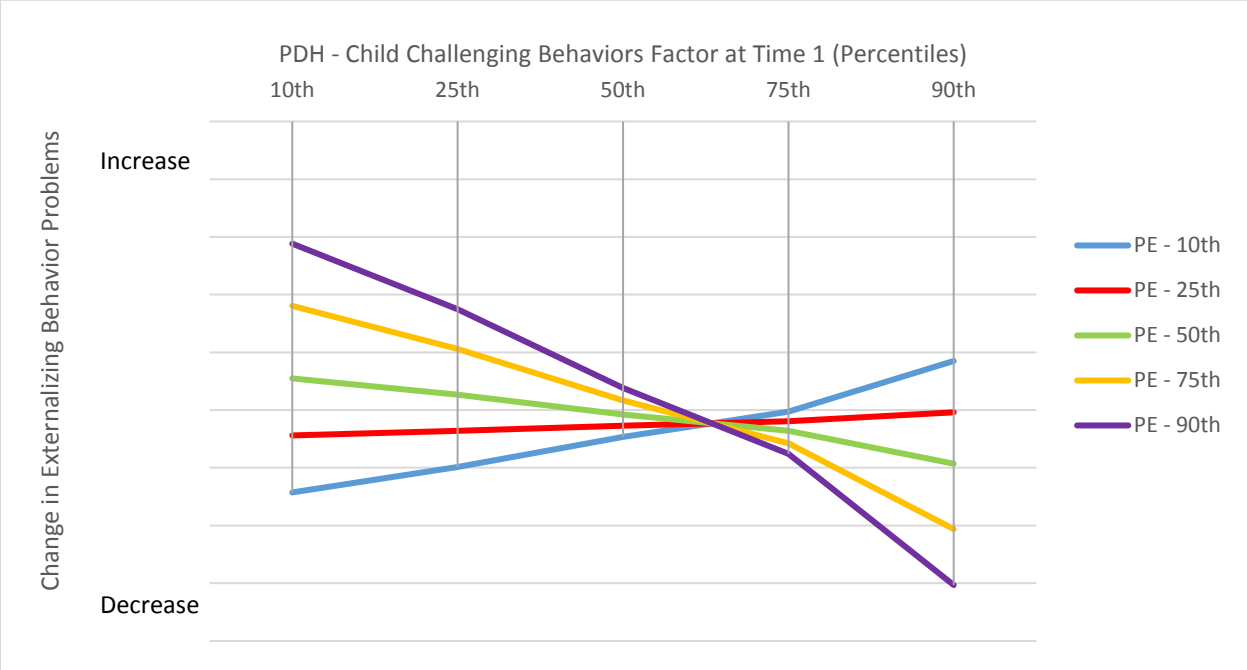

Figure 5. Model 4: Moderation of Parenting Daily Hassles (PDH) child challenging behaviors factor at Time 1 on change in externalizing behavior problems during transition to school by caregiver positive expressiveness (PE).

Table 26
Summary of Model 5 predicting change in CBCL internalizing problem behaviors (Stage 2)

	β	SE	95% CI		*p*
Constant*	40.24	8.74	22.86	57.62	< .001
CBCL - Int T1	-0.01	0.11	-0.10	0.35	0.281
SER	-0.17	0.65	-1.47	1.13	0.985
Dep Symptoms	2.69	2.69	-2.65	8.03	0.268
Child Age at T2	0.35	1.18	-1.99	2.69	0.584
Race	-1.94	2.11	-6.13	2.25	0.361
PDH Total	0.13	0.06	0.02	0.25	0.024
PE	-0.01	0.06	-0.13	0.11	0.902
PDH Total x PE	0.001	0.002	-0.004	0.01	0.765

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; CBCL – Int T1 = internalizing factor scores for Child Behavior Checklist at Time 1; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH Total = Parenting Daily Hassles total score; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 5 was found to be statistically significant $F(8,88) = 2.60$, $p < .05$, with PDH total scores as the only significant predictor ($p < .05$) of child internalizing problem behaviors at Time 2 (see Table 26). Together, all predictors included in this model accounted for 22.4% of the variability in change in child internalizing problem behaviors. The interaction between PDH total scores and caregiver positive expressiveness was not significant ($p = .77$) indicating that positive expressiveness is a not a significant moderator in the relation between PDH total scores and child internalizing problem behaviors.

Table 27
Summary of Model 6 predicting change in CBCL internalizing problem behaviors (Stage 2)

	β	SE	95% CI		*p*
Constant*	39.76	8.97	21.92	57.59	< .001
CBCL - Int T1	0.16	0.11	-0.07	0.39	0.184
SER	-0.22	0.66	-1.54	1.10	0.991
Dep Symptoms	2.49	2.84	-3.16	8.14	0.328
Child Age at T2	0.21	1.19	-2.15	2.57	0.620
Race	-2.23	2.16	-6.52	2.07	0.306
PDH CB	0.29	0.12	0.05	0.52	0.016
PE	-0.02	0.06	-0.14	0.10	0.840
PDH CB x PE	0.01	0.01	-0.010	-0.02	0.472

Note. *N* = 97; CBCL = Child Behavior Checklist; SE = standard error; CI = confidence interval; CBCL – Int T1 = internalizing factor scores for Child Behavior Checklist at Time 1; SER = socioeconomic resources; Dep Symptoms = caregiver depressive symptoms; PDH CB = Parenting Daily Hassles child challenging behaviors factor; PE = caregiver positive expressiveness.
* Statistically significant after Holm-Bonferroni correction

Model 6 was found to be statistically significant $F(8,88) = 2.71$, $p < .05$, with PDH child challenging behavior as the only significant predictor ($p < .05$) of child internalizing problem behaviors at Time 2 ($p < .05$) (see Table 27). Together, all predictors included in this model accounted for 23.1% of the variability in change in child internalizing problem behaviors. The interaction between PDH child challenging behaviors and caregiver positive expressiveness was not significant ($p = .47$) indicating that positive expressiveness is not a significant moderator in the relation between PDH child challenging behavior and change in child internalizing problem behaviors.

For Stage 2 of analyses, parenting daily hassles remained a significant predictor of child problem behaviors when PDH child challenging behaviors was predicting total child problem behaviors and when PDH (both total scores and child challenging behaviors) was predicting child internalizing problem behaviors. As in Stage 1 analyses,

caregiver positive expressiveness was a significant moderator on the association of parenting daily hassles (PDH total scores or PDH child challenging behaviors) and change in child externalizing problem behaviors. The nature of the moderating effects were also similar with lower levels of caregiver positive expressiveness attenuating the association between parenting daily hassles and change in externalizing child problem behaviors which was contrary to my hypothesis. I instead found that the association was strongest at higher levels of caregiver positive expressiveness where higher levels of parenting daily hassles resulted in decreases in child externalizing problem behaviors in early elementary school. Again, it is important to note that after controlling for familywise error, the moderating effects were no longer significant.

CHAPTER 4

Discussion

The present study examined caregivers' perceptions of parenting daily hassles within an urban, economically disadvantaged, and predominately African-American sample. As hypothesized, this underrepresented minority sample had a moderate linear relation between caregiver perception of parenting daily hassles and increase in child problem behaviors. These results extend and were similar to the moderate associations found in predominately Caucasian and/or middle-to-upper class samples (Creasey & Reese, 1996; Crnic & Greenberg, 1990; Gerstein & Poehlmann-Tynan, 2015; Shaw, Winslow, Owens, & Hood, 1998; Stone, Mares, Otten, Engles, & Janssens, 2016). In the current sample, caregiver depressive symptoms also had a similar moderate association with parenting daily hassles as found in other predominately Caucasian and

middle-class samples (Harwood & Eyberg, 2006; Lutz, Burnson, Hane, Samuelson, Maleck, & Poehlman, 2012). Overall, this low SES sample appeared to have similar patterns of associations as the privileged samples that are typically represented in the literature. By examining behavior problems during the preschool and early elementary school years, the study was able to demonstrate that parents' perceptions of daily hassles predict increases in child behavior problems over time.

This study also was novel in that it systematically examined the potential overlap and unique contributions of caregiver perceptions of parenting daily hassles and caregiver depressive symptoms in predicting child problem behaviors concurrently (i.e., Time 1), in early elementary school (i.e., Time 2), and the change in problem behaviors between preschool and early elementary school. Results showed that both parenting daily hassles and caregiver depressive symptoms made significant overlapping and unique contributions, especially when predicting problem behaviors concurrently and in early elementary school. The unique contribution of caregiver depressive symptoms was not as powerful when predicting change in total child problem behaviors and externalizing problem behaviors between preschool and early elementary school; however, caregiver depressive symptoms made similar unique contributions as parenting daily hassles when predicting change in internalizing problem behaviors. Future research involving child adjustment would benefit from including both parenting daily hassles and caregiver depressive symptoms in their statistical models.

Results also show that the PDH child challenging behaviors factor accounted for the most unique variance when predicting externalizing problem behaviors in early elementary school and the change in externalizing problem behaviors between

preschool and early elementary school. PDH total scores, on the other hand, accounted for more unique variance than PDH child challenging behavior scores when predicting total problem behaviors and internalizing problem behaviors concurrently, in early elementary school, and the change between preschool and early elementary school. The PDH parenting tasks factor in comparison to the other PDH scores accounted for much less variance across all three CBCL factors. Future studies may benefit from including the PDH child challenging behaviors factor when predicting externalizing problem behaviors rather than relying solely on the PDH total score.

As also hypothesized, observed caregiver positive expressiveness played a moderating role in the association between caregiver's perception of parenting daily hassles and the caregiver's report of child problem behaviors in early elementary school as well as the change in child problem behaviors between preschool and early elementary school; however, these moderating effects were only statistically significant for externalizing problem behaviors and the effects of attenuation were the opposite of the hypothesized direction (i.e., low positive expressiveness attenuated the relation).

When predicting child externalizing behaviors in early elementary school, lower levels of positive expressiveness weakened the relation between parenting daily hassles and child externalizing behaviors which was contradictory to my hypothesis. The moderating effect of positive expressiveness was strongest for caregivers with the highest levels of positive expressiveness. That is, for caregivers with higher positive expressivity there was a relation between their level of parenting daily hassles and their children's level of externalizing problems in early elementary school. These caregivers who had high levels of positive affect and with lower parenting daily hassles also had

children with lower levels of externalizing behaviors while caregivers with higher levels of parenting daily hassles had children with higher levels of externalizing behaviors. On the other hand, caregivers with the lowest levels of positive expressiveness had children who did not differ in level of externalizing problems as a function of caregiver parenting daily hassles. The weakening of the relation between parenting daily hassles and child externalizing behaviors at low levels of positive expressiveness is a puzzling finding. Further investigation into other parenting behaviors and personality characteristics of caregivers with low positive expressiveness verses high positive expressiveness may be helpful in trying to understand why the well-established relation between parenting daily hassles and child externalizing behaviors disappears at low levels of positive caregiver expressiveness. Perhaps an unassessed variable such as trauma both accounted for the parents' low positivity and disrupted the relation between their perceived parenting hassles and their child's behavior problems.

When predicting change in child externalizing behaviors from preschool to early elementary, lower levels of positive expressiveness attenuated the relation between parenting daily hassles and child externalizing behaviors compared to caregivers with higher levels of positive expressiveness. In other words, the expected positive relation between parenting daily hassles and increasing child externalizing behaviors was not found when caregivers had lower levels of positive expressiveness. This finding was also contrary to my hypothesis that high levels of caregiver positive expressiveness would provide a protective buffer for children from the impact of their caregiver's parenting stress as it relates to child adjustment. Instead, caregivers with high levels of positive expressiveness had the strongest positive linear relation between parenting

daily hassles and children's change in externalizing behaviors over time while caregivers with low levels of positive expressiveness did not have a significant linear relation between parenting daily hassles and children's change in externalizing behaviors. Within the high positive expressiveness caregivers, children with caregivers who were higher in parenting daily hassles decreased the most in externalizing behaviors, while children of caregivers with lower parenting daily hassles increased the most in externalizing behaviors.

When predicting levels of externalizing behaviors in the early elementary sample, the caregivers who experienced the higher levels of parenting stress and had higher levels of observed positive expressiveness tended to have children with higher levels of externalizing behavior problems when the parents had high positive expressiveness. However, when looking at the change in problem behaviors from preschool to early elementary school, this group of children showed a decrease in problem behaviors. Although this finding is contrary to my hypothesis that caregiver positive expressiveness would buffer the effects of parenting stress on child adjustment by weakening the said overall relation, this finding does provide preliminary evidence that caregiver positive expressiveness may play a role in reducing externalizing behaviors for those who are most at risk.

It is important to note that the moderating effects of positive expressiveness were no longer significant after correcting for familywise error. Therefore, these results are tentative at best and need to be replicated to better establish the validity as well as the reliability of said results.

Although positive expressiveness was found to be a tentatively significant moderator, the overall attenuating effects of low positive expressiveness were puzzling as they appears to buffer children from the established effects of parenting stress. Positive expressiveness is just one facet of a caregiver's overall style or pattern of communicating. Therefore, it is plausible that this analysis is providing an incomplete view of the general effects of caregiver's overall expressiveness. Furthermore, this limited view may be masking other aspects of caregiver's expressiveness that could be protective against parenting stress or disrupting the relation between parenting hassles and child behavior problems.

Hooper and colleagues (2015) found that maternal profiles of expressiveness, emotionality, depression, and parenting stress were associated with different levels of internalizing and externalizing problem behaviors. This finding highlights the complexity of caregiver effects when predicting child adjustment. It is possible that the use of profiles that include many of the aspects of caregiver expressiveness (e.g., observed positive expressiveness, observed negative expressiveness, self-reported expressiveness) and related parenting behaviors (e.g., level of restrictiveness, see Bhandari and Barnett, 2007) as a moderator might shed more light on the exact mechanisms underlying the attenuating effects of low positive expressiveness on the relation between parenting stress and child adjustment. Consequently, future research may benefit from including more complex profiles of caregiver characteristics and behaviors when assessing child adjustment.

Children's levels of positive expressiveness may also play a role in limiting and/or reducing externalizing and internalizing problem behaviors. Davis and colleagues

(2015) found that high child positive affect, as measured by the Child Behavior Questionnaire's Smiling and Laughter subscale (Rothbart, Ahadi, Hersey, & Fisher, 2001), moderated the association between maternal emotion regulation and child adjustment. More specifically, high positive affect children with mothers who were low on emotion dysregulation had low levels of problem behaviors; however, this finding did not hold for children with mothers who were high on emotion dysregulation. It is possible that a child's level of positive expressiveness may serve a moderating function, enhancing positive child adjustment outcomes when caregivers are low in parenting daily hassles and high positive expressiveness.

Reciprocal caregiver-child positive expressiveness may also be an important factor in understanding the moderating effects of positive expressiveness on parenting stress and child adjustment. Although a caregiver may exhibit high levels of positive expressiveness within a caregiver-child interaction, this level of expressiveness may not contribute to children's well-being if it is not coordinated or in sync with the child's own level of expressiveness. For example, Thomassin and Suveg (2014) found fathers have overall lower levels of reciprocal positive expressiveness when interacting with their children as compared to mothers; however, father's reciprocal positive expressiveness was significantly associated with lower child problem behaviors while mother's reciprocal positive expressiveness was not. The authors concluded that even though fathers have overall lower levels of being reciprocal, their reciprocity may still be "marked and meaningful" and "more salient" to the child (Thomassin & Suveg, 2014, p.42).

It is possible that caregivers with low expressiveness could have similar rates of mutual or reciprocal positive expressiveness with their children as compared to caregivers with higher levels of positive expressiveness. It is also possible that children of caregivers with lower expressiveness and/or lower reciprocal expressiveness may find their caregivers' expressiveness to be more salient because their caregivers' expressiveness occurs less frequently. Because dyadic experiences with reciprocity influence both child outcomes and parenting strategies, it is recommended that future research include observations or other measures of reciprocal parent-child effects when examining the established relation between parenting stress and child adjustment. Moreover, examining children's multiple caregivers may be necessary for understanding parenting influences.

One limitation of the present study was the lack of coding for observed child behavior during the parent observations of expressiveness. Thus, child effects on caregiver's positive expressiveness or reciprocity could not be assessed directly. Several studies (Crockenberg & McClusky, 1986; van den Boom & Hoeksma, 1994) have shown that children with difficult behaviors and temperaments are essentially more difficult and less rewarding on average for caregivers to parent. Child effects within a caregiver-child interaction have the potential to affect a caregiver's level of positive expressiveness (i.e., bi-directionality). Future research would benefit from including child effects variables, such as observed child positive and negative expressiveness and temperament during interactions with caregivers.

A second possible limitation of the present study was the low level of self-reported caregiver depressive symptoms as evidenced by the positive skew of the BSI

variable. Consequently, it is not clear whether the obtained findings would generalize to a sample higher in caregivers' symptoms of depression. Future research may benefit from including a larger distribution of caregiver depressive symptoms, including clinical levels of symptomology, as the associations between the variables used in the current study may change as a function of higher depressive symptomology. The same also can be said concerning child behavior problems in the current study.

A third limitation of the present study was the sole reliance on observed positive expressiveness in the laboratory setting. This brief observation may not be entirely representative of the potential range of caregiver's positive expressiveness within naturalistic settings. Analyses of the positive expressiveness variable indicated lower internal consistency and psychometric limitations of the index. Future research would benefit from including naturalistic observations and other measures of caregiver positive expressiveness as well as distinguishing between state and trait positive expressiveness.

In summary, high levels of caregiver positive expressiveness may serve as a protective buffer against an increase in low-income young children's externalizing problem behaviors when caregivers are experiencing stress related to parenting their children. However, this buffering effect would not have been found if I had only looked at predicting future externalizing problem behaviors in early elementary. These findings highlight the importance of looking at the change in child adjustment over time in addition to simply predicting child adjustment.

APPENDIX A

Coding Vocal Affect in Noldus

Below is a modified version of the VALENCE measure from the MANUAL FOR THE DYADIC PARENTCHILD ITNERACTION CODING SYSTEM (3RD ED.)

2 = Exuberant Affect
1 = Positive Affect
0 = No positive affect present

2 - EXUBERANT AFFECT:

This rating represents pronounced expressions of intense happiness, warmth, affection, pleasure or supportiveness. The difference between (2) and (1) is that (1) indicates more intense expressions of positive affect that are unmistakably pleasurable and are less controlled. Intensity may be expressed by loudness or the intensity of voice intonation.

Descriptive adjectives for exuberant affect:

overjoyed, exhilarated, rejoicing, loving, excited, enthusiastic

1 - POSITIVE AFFECT:

This rating is used when there is notable warmth, interest, pleasure, supportiveness or affection expressed in the tone of voice.

Descriptive adjectives for positive affect:

warmth, responsive, concerned, affectionate, enthused, interested, lively, pleasurable, happy, approving, encouraging, solicitous, playful, cooperative.

0 – NO POSITIVE AFFECT PRESENT:

This rating represents all vocal expressions that do not fit under the two ratings above. This rating also includes the absence of vocal expressions.

Coding for Orientation/Proximity in Noldus

- If close orientation/proximity is observed for at least 3 consecutive seconds, code c.
- If very close orientation/proximity is observed for at least 3 consecutive seconds, code v. If both close orientation/proximity and very close orientation/proximity are observed (each accounting for at least 3 consecutive seconds – 6 total, then code v for very close orientation/proximity.
- If both close orientation/proximity and very close orientation/proximity are observed with close orientation/proximity accounting for at least 3 consecutive seconds and very close orientation/proximity accounting for less than 3 consecutive seconds, code c for close orientation/proximity.
- If close orientation/proximity and/or very close orientation/proximity is observed for less than 3 consecutive seconds, then code s for separate

v (1) – Very Close Orientation/Proximity:

Caregiver and child are sitting very close together while working on drawing/painting. They are sharing personal space. Their sides or arms may be touching. You will not be able to see the background between their bodies. Needs to account for at least 3 consecutive seconds of the 10-second segment. For borderline 1 to 2 segments, code 1 if the caregiver is facing child for at least 3 seconds (split second glance to work okay).

- Caregiver has face/head down to child's level and is in child's personal space
- Caregiver's arm is resting on the back of the child's chair

c (2) –Close Orientation/Proximity:

Caregiver and child are sitting close together while working on drawing/painting. They are not sharing personal space but they are close to sharing personal space. Caregiver may be turned towards child. Elbows/arms can be touching. Needs to account for at least 3 consecutive seconds of the 10-second segment.

- Caregiver turned towards child with interest
- Caregiver leans towards child but not in child's personal space
- Caregiver facing forward with elbow/arm touching child (personal space intersecting)
- Leaned over in chair with arm resting on the arm of child's chair and facing more towards child than towards front

s (3) – Separate Space

Caregiver and child are sitting separately. There is a clear separation of personal space. They are not touching and you can see the background between them. Their bodies are touching less than 3 consecutive seconds of the 10 second segment. Also, their personal space intersects for less 3 seconds of the 10 second segment.

- Caregiver's body and head are facing forward, elbows/arms not resting against each other
- Caregiver is looking at child but does not lead head down to child or lean in towards child (personal space is not intersecting)

Coding for caregiver touch in Noldus

1 – Affectionate Touch
2 – Gentle and Directive Touch
3 – No Intentional Positive Touch

Physical touch categories provide information regarding some non-verbal communication that takes place within the caregiver-child dyad. Any physical positive touch between the members of the dyad is coded, with the exception of accidental touch. Accidental touch is defined as the incidental touching of the child by the caregiver. Touch codes 1 and 2 include positive touching of the child with any part of the caregiver's body or with an object.

1 – Affectionate Touch (Positive)

Caregiver intentionally touches child in an affectionate manner at least once during segment.

Examples of affectionate positive touch

- Puts arm around child
- Hugs child
- Pets child's arm
- Puts hand on child's leg or arm (no directing behavior)
- Pats child's head affectionately or ruffles child's hair
- Fixing or adjusting clothes in affectionate manner

2 – Gentle and Directive Touch (Positive)

Caregiver intentionally touches child (or object child has) in a positive and directive manner at least once during segment. The caregiver guides the child gently and with positive affect. If the caregiver takes the marker from the child in a calm, gentle and directive manner regardless of whether the child is done using the marker or other object, then code positive touch. If the caregiver should use any force or strength to take the marker or object, then code no intentional positive touch (0).

Examples of positive touch

- Gently shows child how to draw a shape
- Gently hands the child a marker/paint brush
- Gently takes marker/paint brush from child (no force)
- Holds basket for child and child takes marker or crayon
- Gently pats child on the back, arm or hand to get child's attention
- Moves chair so child is closer to table or in better position to draw/paint
    - If followed by hug or arm resting on child, then code 9 for mixed and note 1 and 2 in comments

3 – No Intentional Positive Touch

Caregiver does not intentionally touch child (unless accidently) throughout the 10 second segment. This includes the touching of resting elbows/arms on table. Child may intentionally touch caregiver but caregiver does not reciprocate with an additional touch. For unintentional touch, touching with the top of the hand is included. If the caregiver uses the palm of the hand, fingertips and/or grasps the child, this is intentional touch and should be coded using the other categories should they meet criteria for positive touch.

Examples of no intentional positive touch:

- Child rests their hand on caregiver's arm and caregiver does not touch child's hand
- Child cuddles up to caregiver but caregiver does not put arm around or respond with any touch
- Caregiver bumps the underneath of the child's arm with the top of her hand
- Caregiver restrains child while saying "stop that"
- Caregiver holds child's arm or hand to prevent them from performing an action
- Caregiver forcefully shows child how to draw a shape
- Forcefully takes marker/paint brush from child
- Quick slap on the hand or arm to stop child
- Forcefully grabbing child by the shoulders or arms
- Pulling (not leading) child by the hand or arm
- Poking child forcefully
- Spanking child

Parenting Daily Hassles

The statements below describe lots of events that routinely occur in families with young children. These events sometimes make life difficult. Please read each item, and indicate how often it happens to you (rarely, sometimes, a lot, or constantly), and then indicate how much a "hassle" you feel that it is for you. If you have more than one child, these events can include any or all of your children.

How Often it Happens:
Rarely = 1
Sometimes = 2
A lot = 3
Constantly = 4

		No Hassle				Big Hassle
1.___	Continually cleaning up messes of toys or food.	1	2	3	4	5
2.___	Being nagged, whined at, complained to.	1	2	3	4	5
3.___	Mealtime difficulties (picky eaters, complaining, etc.)	1	2	3	4	5
4.___	The kids don't listen—won't do what they are asked without being nagged.	1	2	3	4	5
5.___	Babysitters are difficult to find.	1	2	3	4	5
6.___	The kids' schedules (e.g. preschool, school naps, other activities) interfere with meeting your own or household needs.	1	2	3	4	5
7.___	Sibling arguments or fights which require a "referee".	1	2	3	4	5
8.___	The kids demand that you entertain or play with them.	1	2	3	4	5
9.___	The kids resist or struggle over bedtime with you.	1	2	3	4	5
10.___	The kids are constantly under foot, interfering with other chores.	1	2	3	4	5
11.___	The need to keep constant eye on where the kids are and what they're doing.	1	2	3	4	5
12.___	The kids interrupt adult conversations or interactions.	1	2	3	4	5
13.___	Having to change your plans because of an unpredicted child need.	1	2	3	4	5
14.___	The kids get dirty several times a day requiring changes of clothes.	1	2	3	4	5

Parenting Daily Hassles

How Often it Happens:
Rarely = 1
Sometimes = 2
A lot = 3
Constantly = 4

		No Hassle				Big Hassle
15.___	Difficulties getting privacy (e.g. like in the bathroom).	1	2	3	4	5
16.___	The kids are hard to manage in public (grocery store, shopping center, restaurant).	1	2	3	4	5
17.___	Difficulties in getting kids ready for outings and leaving on time.	1	2	3	4	5
18.___	Difficulties in leaving kids for a night out or at school or daycare.	1	2	3	4	5
19.___	The kids have difficulties with friends (e.g. fighting, trouble getting along, or no friends available).	1	2	3	4	5
20.___	Having to run extra errands to meet the kids' needs.	1	2	3	4	5

Instructions for Draw-A-Family Task

REMEMBER: ***mother sits next to the child***

Next, we would like to see how the two of you work together so we are asking the two of you to draw a picture of the people in your family doing something. You should include all the people that live in your house and any other important people that visit. You can draw the picture any way that you like as long as you follow a few rules:

1. You must plan the picture together.
2. In your drawing, everyone must be doing something.
3. The two of you must discuss how everyone in the picture is feeling.
4. You must both work on the picture together.

This card will help you remember these four rules.

Any questions?

Great, I'll be back in about ten minutes. Good Luck.

Instruction Card for Draw-A-Family Task

1. You must plan the picture together.
2. In your drawing, everyone must be doing something.
3. The two of you must discuss how everyone in the picture is feeling.
4. You must both work on the picture together.

APPENDIX B

The data analyzed in the current study was a combination of dyads from two related studies. The first cohort was comprised of dyads with African American children. Data collection began in 1993 with a follow up beginning in 1995. The second cohort included dyads with African American children as well as demographically matched dyads with Caucasian children. Data collection began in 1998 with a follow up beginning in 2001. Potential differences due to cohort are examined here in Appendix B.

The descriptive statistics for the demographic Time 1 variables for the sample (*n* = 98) broken down by cohort are presented in Table B-1 (page 75). Depending upon the demographic variable being analyzed, differences between cohorts were analyzed using chi-square tests of independence or independent-samples *t*-tests. If conditions were not met for the chi-square test of independence, then the Fisher's exact test was used. Note that differences in race were not tested as different racial groups were recruited as a function of the design for each corresponding study. Statistically significant differences in demographic variables between cohorts were found for caregiver level of education, level of socioeconomic resources, and child's age at follow up (Time 2). For caregiver's level of education, caregivers from Cohort 1 were less likely to have a high school diploma as compared to caregivers Cohort 2, X^2 = 8.593, *p* = .003. For socioeconomic resources, dyads in Cohort 1 had significantly less resources (*M* = 1.85, *SD* = 1.42), on average, as compared to dyads in Cohort 2 (*M* = 2.52, *SD* = 1.29), *t*(97) = -2.243, *p* < .05, 95% CI = [-1.22, -0.12], *d* = 0.49. Finally, for age at follow up (Time 2), children from Cohort 1 were significantly younger (*M* = 6.58, *SD* = 0.38), on

average, than the children from Cohort 2 (*M* = 8.13, *SD* = 0.61), *t*(97) = -15.331, *p* < .001, 95% CI = [-1.75, -1.35], *d* = 3.05.

For measures used in the current study, differences between study groups were assessed using independent-samples *t*-tests (see Table B-2, page 76 for results). Statistically significant differences were found for several variables which include total PDH scores, total problem behaviors at Time 1, internalizing problem behaviors at Time 1 and caregiver depressive symptoms. Caregivers in the Cohort 1 also gave significantly lower ratings for the PDH total score (*M* = 82.80, *SD* = 19.71), on average, as compared to the caregivers in the Cohort 2 (*M* = 91.22, *SD* = 21.97), *t*(96) = -1.998, *p* < .05, 95% CI = [-16.79, -0.06], *d* = 0.40.

For child internalizing problem behaviors at Time 1, caregivers in Cohort 1 rated their children as significantly lower on internalizing problem behaviors (*M* = 50.26, *SD* = 9.38), on average, as compared to the caregivers in Cohort 2 (*M* = 57.71, *SD* = 9.04), *t*(96) = -3.972, *p* < .0001, 95% CI = [-11.17, -3.72], *d* = 0.81. However, caregivers in Cohort 1 rated their children as significantly higher on overall total problem behaviors at Time 1 (*M* = 56.30, *SD* = 8.79), on average, as compared to the caregivers in Cohort 2 (*M* = 51.68, *SD* = 8.78), *t*(96) = 2.587, *p* < .05, 95% CI = [1.07, 8.15], *d* = 0.53. For socioeconomic resources, dyads that were part of Cohort 1 had significantly less socioeconomic resources (*M* = 1.85, *SD* = 1.42), on average, as compared to the caregivers Cohort 2 (*M* = 2.52, *SD* = 1.29), *t*(96) = -2.427, *p* < .05 95% CI = [-1.22, -0.12], *d* = 0.51.

For the caregiver positive expressiveness variables, there were significant differences between the cohorts in the observed occurrences positive vocal affect and

affectionate touch. Caregivers in Cohort 1 had significantly more positive vocal affect (*M* = 6.98, *SD* = 5.16), on average, as compared to the caregivers in Cohort 2 (*M* = 4.70, *SD* = 4.41), $t(96) = 2.007$, $p < .05$, 95% CI = [0.22, 3.98], $d = 0.48$. Caregivers in Caregivers in Cohort 1 also had significantly more affectionate touches (*M* = 0.41, *SD* = 0.88), on average, as compared to the caregivers in Cohort 2 (*M* = 0.09, *SD* = 0.29), $t(96) = 2.285$, $p < .05$, 95% CI = [0.04, 0.59], $d = 0.49$.

Table B-1
Cohort effects analyses for demographic variables

	Cohort 1 (n = 54)	**Cohort 2** (n = 44)	χ^2	*p*
Caregiver Relationship to Child[a]			-	0.138
Biological Mother	47 (87%)	42 (95.5%)		
Foster Mother	1 (1.9%)	0 (0%)		
Adoptive Mother	1 (1.9%)	0 (0%)		
Grandmother	4 (7.4%)	0 (0%)		
Aunt	1 (1.9%)	2 (4.5%)		
Caregiver				
Did not complete HS	38 (70.4%)	18 (40.9%)	8.593	0.003
Not employed	17 (31.5%)	11 (25%)	0.499	0.480
Receiving public assistance	40 (74.1%)	30 (68.2%)	0.412	0.521
Yearly income at or below poverty line	41 (75.9%)	28 (63.6%)	1.758	0.185
Single (no partner)	34 (63%)	22 (50%)	1.664	0.197
Socioeconomic Resources[b]	1.85 (1.42)	2.52 (1.29)	-2.243	0.017
Child				
Age at Time 1 (in years)[b]	4.22 (0.42)	4.27 (0.45)	-0.573	0.568
Age at Time 2 (in years)[b]	6.58 (0.38)	8.13 (0.61)	15.331	<0.001
Biological Sex			0.124	0.725
Girls	30 (55.6%)	26 (59.1%)		
Boys	24 (44.4%)	18 (40.9%)		
Race			-	-
African American	54 (100%)	22 (50.0%)		
Caucasian	0 (0%)	19 (43.2%)		
Other	0 (0%)	3 (6.8%)		

Note. All results are from chi-square tests of independence unless otherwise noted. Mean (SD) provided for Socioeconomic Resources and Age.
[a]Fisher's exact test presented as assumptions were not meet for chi-square test of independence.
[b]Independent-samples *t*-test with *t* test statistic presented.

Table B-2
Cohort analyses with study measures

Variable	Cohort 1 *n* = 54	Cohort 2 *n* = 44	95% CI
Total Score (PDH)	82.80 (19.71)	91.22 (21.97)	(-16.79, -0.06)*
Child Challenging Behaviors (PDH)	33.20 (8.12)	36.39 (10.55)	(-6.93, 0.56)
Parenting Tasks (PDH)	31.67 (9.47)	35.17 (9.80)	(-7.38, 0.37)
Total Behaviors (CBCL - Time 1)	56.30 (8.79)	51.68 (8.78)	(1.07, 8.15)*
Externalizing Behaviors (CBCL - Time 1)	57.82 (8.50)	57.02 (8.42)	(-2.62, 4.20)
Internalizing Behaviors (CBCL - Time 1)	50.26 (9.38)	57.71 (9.04)	(-11.17, -3.72)**
Depressive Symptoms (BSI) - transformed	0.77 (0.45)	0.91 (0.42)	(-0.32, 0.03)*
Socioeconomic Resources	1.85 (1.42)	2.52 (1.29)	(-1.22, -0.12)*
Laughter	2.39 (2.82)	1.80 (2.26)	(-0.45, 1.63)
Positive Vocal Affect	6.98 (5.16)	4.98 (4.60)	(0.02, 3.99)*
Orientation/proximity	23.70 (14.07)	21.93 (15.13)	(-4.10, 7.64)
Affectionate Touch	0.41 (0.88)	0.09 (0.29)	(0.04, 0.59)*
Positive Touch	3.93 (4.09)	3.25 (3.01)	(-0.79, 2.15)
Total Behaviors (CBCL - Time 2)	54.41 (9.18)	55.61 (9.85)	(-5.03, 2.62)
Externalizing Behaviors (CBCL - Time 2)	54.70 (8.91)	55.52 (9.31)	(-4.48, 2.85)
Internalizing Behaviors (CBCL - Time 2)	50.91 (8.37)	52.11 (11.23)	(-5.14, 2.73)

Note. 95% CI = 95% confidence interval from independent samples *t*-test; PDH = Parenting Daily Hassles; CBCL = Child Behavior Checklist; BSI = Brief Symptoms Inventory.
*$p \leq .05$, **$p \leq .01$

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ABSTRACT

THE RELATION BETWEEN PARENTING DAILY HASSLES AND CHILD BEHAVIOR PROBLEMS AMONG LOW-INCOME FAMILIES: EXAMINING THE ROLE OF CAREGIVER POSITIVE EXPRESSIVENESS

by

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Examined was the role of caregiver positive expressiveness (PE) in the relation between parenting stress and change in child adjustment from preschool to early elementary in a low-income sample. Participants included 133 caregiver-child dyads who participated in a laboratory task and completed measures on parenting daily hassles (PDH), depressive symptoms and child problem behaviors when children were in preschool; and 98 who returned when the children were in elementary. Observed caregiver PE was coded from a videotaped family drawing task. The moderated regression analysis did not support the hypothesis that caregiver PE was a protective factor, attenuating the relation between PDH and child externalizing problems. However, results suggest that high levels of caregiver PE may buffer against increases in children's externalizing behaviors when caregivers are experiencing high levels of parenting stress. Additional analysis examining PDH and caregiver depressive symptoms in prediction of child problem behaviors were also conducted and discussed.