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The Dissertation Committee for Cynthia Aimée Karras Certifies that this is the approved version of the following dissertation:

**Material hardship and children's behavior across early childhood:
Examining the differential associations of maternal versus paternal
parenting behaviors as mediators of material hardship on children's
social and behavioral outcomes.**

Committee:

Elizabeth T. Gershoff, Supervisor

Aprile Benner

Nancy Hazen-Swann

Edward Anderson

Cynthia Osborne

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social and behavioral outcomes.**

by

Cynthia Aimée Karras, B.A., M.A.

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Dedication

This dissertation is dedicated to all the families who participated in the Fragile Families and Wellbeing Study. Without your participation in such a large-scale research project, much less would be known regarding how to help families overcome adversity and achieve success. Also, to all of the families I have worked with throughout my academic career while at New York University that have helped me learn first-hand how adversity, challenges, neighborhood disadvantage, childcare settings, school policies, and poverty impacts families both directly and indirectly, and who have also taught me that no challenge is insurmountable. Thank you for helping me to learn more about myself, my research interests and, ultimately, how I can apply my academic training to the “real world.”

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Material hardship and children's behavior across early childhood: Examining the differential associations of maternal versus paternal parenting behaviors as mediators of material hardship on children's social and behavioral outcomes.

Cynthia Aimée Karras, Ph.D.

The University of Texas at Austin, 2005

Supervisor: Elizabeth T. Gershoff

Abstract: Previous research has established the adverse associations between material and economic hardship on mothers' parenting behavior and, in turn, on children's behavior, yet relatively few studies have examined the differential associations of material hardship with mothers' and fathers' parenting simultaneously. Using a sample from the Fragile Families and Well-Being Study (FFCW), the present study examined the differential associations of material hardship with maternal versus paternal stress and parenting behaviors and, ultimately, with children's social and behavioral outcomes. The sample was limited to families who remained living together across the first five years of their child's lives ($N = 1326$) to get a better understanding of the differential associations of material hardship between mothers and fathers among resident families. Using structural equation modeling (SEM), material hardship was found to be linked with mothers' and fathers' stress and parenting behavior in distinct ways. Direct and significant paths were also found between material hardship and child outcomes for both mothers and fathers.

However, there was no evidence that parenting behaviors (i.e., engagement, spanking) partially mediated the associations between material hardship and child outcomes. These findings have implications for future studies examining the indirect associations between material hardship and children's social, academic, and behavioral outcomes via maternal and paternal parenting stress and behaviors.

Keywords: material hardship, psychological stress, parenting stress, parenting behaviors, child social and behavioral outcomes.

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Introduction

A large number of families in the United States either live at or below the poverty threshold or have low incomes that can make it difficult for them to make ends meet. In 2013, nearly 16 percent (15.5%) of the U.S. population had an income below the poverty level and nearly one quarter of the population (23.5%) of children under the age of 18 was reported to be living in poverty (Bishaw & Fontenot, 2014; DeNavas-Walt & Proctor, 2014). While poverty alone has been shown to increase the risk for parents to experience more stress and less positive relationships with their children (Elder, Eccles, Ardel, & Lord, 1995), it may not accurately reflect the ability for parents to make-ends-meet or to provide adequate resources for their children (e.g., pay bills). Therefore, using the Family Stress Model (Conger & Conger, 2000), researchers can gain a better understanding of how a family's inability to meet basic needs can negatively influence not only parents' psychological stress, but also their ability to engage in functional and positive relationships with their children. When parents experience a high degree of stress due to inadequate financial resources (i.e., inability to pay bills or provide food for the family), they are at an increased risk for exhibiting both psychological stress (Conger & Conger, 2002) and ineffective parenting strategies (Gershoff, Aber, Raver, & Lennon, 2007). In turn, material hardship indirectly influences children's social and behavioral outcomes through the way it influences parents' parenting (Elder et al., 1995). Indeed, studies have shown that that children who grow up in economically disadvantaged households are more likely to exhibit behavioral problems (Evans, 2002), poor social skills (Bolger, Patterson, Thompson, & Kupersmidt, 1995), and have more difficulty

succeeding academically than children who grow up in households with more financial resources to meet basic needs, mainly through the influence that it has on parents' psychological stress and parenting behaviors (Gershoff et al., 2007).

The aim of this study is to examine how material hardship indirectly influences children's social and behavioral outcomes via mothers' and fathers' parenting behaviors. That is, because one of the main goals of this study is to understand if mothers and fathers are differentially influenced by material hardship, multiple models will be conducted for both mothers and fathers separately to: 1) understand if different pathways exist between material hardship and parents' psychological and parenting stress; 2) between parents' stress and parenting behaviors (e.g., engagement and spanking); and, 3) between material hardship, parenting stress, and parenting behavior and children's outcomes. A conceptual model of the hypothesized relations among these key constructs is presented in Figure 1.

Family Stress Model

Conger and Conger (2000) developed the Family Stress Model to more clearly explain the mechanisms through which economic hardship can directly influence parents and parent-child relationships, and indirectly influence children's mental health and behavioral outcomes. They argued that when parents experience the inability to meet basic needs, such as paying for their electricity bill or their mortgage, they are more likely to experience symptoms of stress (Linver, Brooks-Gunn, & Kohen, 2006) which can negatively impede them from using positive parenting strategies with their children (Conger & Conger, 2002). In turn, harsh or inconsistent parenting can result in children's

increased risk for displaying cognitive, social-emotional, or behavioral problems (Evans, 2002; Gershoff et al., 2007). In a study examining the association between family income and children's outcomes, Linver, Brooks-Gunn, and Kohen (2006) found that family income was indeed associated with child outcomes, but there was an indirect relationship between family income and child outcomes via mothers' emotional and parenting stress, such that mothers who were more stressed were less likely to provide educationally rich and stimulating environments for their children. Similarly, Mistry, Biesanz, Chien, Howes, and Benner (2008) examined the relationship between socioeconomic status and children's cognitive and behavioral outcomes and found that the quality of children's home environment was also associated with children's outcomes. They suggest that perhaps it is through parents' provision of educationally stimulating environments and reduced parenting stress that children in higher income families are less likely to exhibit behavioral problems. In another study conducted by Mistry et al. (2010), there was a significant association between family social risk and children's outcomes, such that parental warmth and responsiveness partially mediated the association between children's early risk exposure (i.e., during infancy) and future behavioral problems. Their findings indicate that parents who experienced increased stress were less likely to engage in cognitively stimulating and warm interactions with their children and, in turn, children were less likely to be considered ready for school.

Material Hardship

However, while poverty or family income may seem to be interchangeable with hardship, material hardship is not synonymous with poverty nor is it akin to measuring a

family's income. Previous scholars have established a link between poverty during early childhood and children's propensities to have an increased risk for problematic developmental outcomes (Yoshikawa, Aber, & Beardslee, 2012). For a family to be considered living in poverty, however, their annual income must fall below an income threshold that corresponds to family size. For example, the 2015 poverty guidelines established by the United States Census Bureau indicate that a family of four would need to have a pre-tax income at or below \$24,250 to be considered living in poverty (U.S. Department of Health and Human Services, 2015). Yet, in terms of material hardship, it is conceivable that parents with a family of four can earn an income just slightly above the poverty threshold but still face difficulties in providing resources to their family. That is, while material hardship is not analogous to measuring how poverty influences families and children, it can help researchers understand the numerous ways poverty is associated with unfavorable outcomes for both families and children, as families who live just above the poverty threshold may also experience material hardship that can impede their capacity to provide for their families (Heflin & Iceland, 2009).

Moreover, material hardship reflects families' inadequate amount of resources and materials that are needed to function relative to others who are more affluent (e.g., proper medical treatment, adequate food and nutrition) (Beverly, 2001), and hardship can have a detrimental influence on families and children perhaps in different ways than poverty alone. For example, Slack and Yoo (2005) examined the association between food hardship, defined as "unstable or insufficient levels of food intake or an insufficient variety of food consumed" (p. 518), and child behavior problems (i.e., internalizing and

externalizing) and found that children who were not consistently provided with sufficient nutrition displayed more internalizing and behavior problems than children who had access to adequate nutritional options, even after controlling for income, parental stress, warmth and depression. Their results are pertinent to the contention that examining the various ways in which aspects of material hardship, such as food hardship, is critical to understanding the multiple ways that living in poverty, or just above the poverty threshold, can negatively influence children's behavioral outcomes.

Broadly speaking, material hardship (also referred to as economic hardship) can be defined as the inability to acquire or pay for resources that are, on a basic level necessary, such as paying for the electricity bill or buying adequate clothing and healthy food for the family. While research on material hardship has been conducted over the past several decades (Beverly, 2001), there is still not yet a standard definition for what material hardship constitutes. As such, many researchers have tried to establish a better way to examine the association between scarce economic and material resources and family and child outcomes above and beyond the influence of living at or below the poverty level (Gershoff et al., 2007; Heflin & Iceland, 2009). For example, Heflin & Iceland (2009) used the Fragile Families and Child Wellbeing Study to examine the relationship between income poverty, material hardship, and mothers' depressive symptoms across two waves of data. They found that while there was a direct association between income poverty and mothers' symptoms of depression, five measures of material hardship were associated with an elevated risk for depression among mothers in the study over and above the influence of income alone, with the

inability to pay bills and having telephone service turned off being the strongest indicators of this association. Perhaps most importantly, they found that material hardship partially mediated the association between income poverty and depression, which supports the argument that income alone cannot be used to understand the link between poverty and family and child outcomes (Gershoff et al., 2007).

These previous studies support the claim that material hardship (e.g., food insecurity, lack of proper medical care) is associated with a range of problematic outcomes for parents and children, over and above low income itself (Conger and Conger, 2002; Gershoff, 2003; Gershoff et al., 2007; Newland, Currie, Cox, & Mills-Koonce, 2013). The next section will focus on the multiple ways in which material hardship is associated with multiple aspects of parenting and child outcomes.

Material Hardship and Parents' Psychological and Parenting Stress

According to the family stress model, family economic hardship may increase parents' propensity to experience psychological and parenting distress, and this distress leads to maladaptive parenting behavior that, in turn, can negatively influence child outcomes (Linver et al., 2006; McLeod, Kruttschnitt, & Dornfeld, 1994; McLoyd, 1990).

Psychological Distress. In 2011, more than five percent of children in the United States were reported by their parents to have serious behavioral, emotional, and social difficulties (Federal Interagency Forum on Child and Family Statistics, 2013). Children's predisposition to behavioral problems and psychopathology has been shown to increase with the presence of psychopathology in one or both parents (Connell &

Goodman, 2002). In turn, parents who experience intermittent or chronic material hardship may display harsh parenting and disciplinary responses toward their children because they experience greater psychological and environmental distress. Thus, given that we know that material hardship increases parents' risk for problematic mental health symptoms and for poor parenting practices that negatively influence children (Connell & Goodman, 2002), it is important to further understand how material hardship is associated with mothers and fathers and in what ways.

Conger and colleagues (2002) found that parents who reported experiencing economic hardship, defined as the inability to pay bills and meet other basic financial needs of the family, were more likely to report higher depressive symptoms than parents who did not report experiencing economic hardship. Specifically, they found that economic hardship was positively associated with increased economic pressure (defined as unmet material needs such as suitable food and clothing), which was in turn associated with an increase in emotional stress among parents. Subsequently, parents' emotional stress was associated with acrimonious parent-child relationships, which, in turn, were predictive of children's internalizing and externalizing problems. Findings from this study provide further support that economic hardship indirectly influences child behavior mainly through parents' emotional stress and its' influence on parenting behaviors. Many studies on the association between economic hardship and child outcomes have focused on low-income families in urban settings; however, material hardship can also negatively influence families with low-incomes who do not live in cities. Indeed, in their study of rural Iowa families going through an economically

depressed period, Conger and Colleagues (1992) found that felt economic pressure mediated the association between families' report of economic hardship and depressed feelings. Their findings support the belief that economic hardship can lead families to feel an increase in the pressure to meet basic financial needs, which can adversely influence parents' emotional and mental health. While their study was conducted using a sample of rural families, their findings could be potentially generalized to low-income families in urban areas who also have a difficult time accessing financial resources that could help reduce the economic pressure to meet their basic needs.

Taken together, these studies show that material hardship can indirectly, and negatively, influence child outcomes through its unfavorable influence it may have on parents' psychological and emotional health. It is possible that when parents feel immense stress due to a lack of being able to meet basic needs, their stress attributable to being able to be a responsible caregiver and provider is heightened, which can lead to maladaptive parenting and subsequently poor child outcomes.

Parenting Stress. As described in a paper by Cooper, McLanahan, Meadows, and Brooks-Gunn (2009), parenting stress occurs when the demands of being a parent outweigh the resources available to meet those demands. Previous research has linked parenting stress with a host of negative outcomes, such as poor parenting practices, poor social competence in children, and dysfunctional family relationships (Bronte-Tinkew, Horowitz, & Carrano, 2010; Harmon & Perry, 2011). Parenting stress can be thought of as a mechanism through which material hardship is associated with parents behavior; parents who report more material hardship are likely to report feeling more stressed in

their roles as a caregiver and subsequently less likely to be actively engaged with their children and more likely to use more harsh parenting than parents who do not experience material hardship. With regard to parents' level of parenting stress, it can be exacerbated by material hardship, especially if it is combined with other income- or socioeconomically-related disadvantages they may encounter (e.g., impoverished neighborhood, unemployment).

Farmer & Lee (2011) argued that mothers' report of parenting stress would influence their perceived mastery at being an effective parent, which would then influence maternal depression and, ultimately, parent-child interactions. In their study using a sample from The Fragile Families and Wellbeing Study, they found partial support for a few of their hypotheses, such that parenting stress was indirectly associated with mothers' self-reported symptoms of depression through mothers' perceived inability to take care of their children. That is, mothers who reported feeling more stressed as a function of their parenting role were less likely to feel competent as a caregiver, and this reduced perception of mothers' felt competency was associated with increased reports of maternal depression. They also found direct relationships between maternal reports of parenting stress and maternal depression and parent-child interactions, which suggests that when mothers feel stressed in their role as a caregiver (often as the primary caregiver), they are more likely to feel that they are incapable of providing adequate care to their children as well as feel more depressed. More importantly, because they used a sample that included mothers who lived in primarily low-income households, these results suggest that mothers who experience some form of economic, material, or social

disadvantage (e.g., being a single mother) may be more likely to have intensified symptoms of not only parenting stress, but also depression and anxiety that can negatively impede mothers' positive parenting and, subsequently, increase the risk for problematic child behavior.

Similarly, Gershoff and her colleagues (2007) examined multiple mediated pathways to further understand how family income and material hardship, in addition to parent-mediated variables (e.g., parents' stress, parents' investment in their children, and parental warmth), would influence children's cognitive and socio-emotional development. Their results support the hypothesis that material hardship can directly influence the degree to which parents are stressed and, in turn, their stress is associated with not only parenting behaviors, but also with child outcomes.

Yet while there is evidence that maternal parenting stress is associated with parenting behavior and child outcomes, few studies have specifically examined the association between paternal parenting stress and father-child relationships as well with child outcomes (Bronte-Tinkew et al., 2010). In one study, Bronte-Tinkew and colleagues (2010) wanted to understand how fathers' reports of parenting stress and aggravation in parenting were associated with fathers' engagement with their children and their co-parenting relationship with their children's mothers. They found that when fathers reported higher aggravation in their parenting and more parenting stress, they were less likely to be engaged with their children, even when controlling for mothers' parenting stress, aggravation, and socioeconomic characteristics. Furthermore, they found that fathers who reported high levels of stress were also less likely to be engaged in a

harmonious, co-parental relationship with the child's mother. Their findings support similar findings from a study by Harmon and Perry (2011) that found that fathers' involvement was negatively associated with mothers' parenting stress (i.e., mothers with more involved fathers reported less parenting stress). Taken together, findings from these studies support the argument that it is imperative to include fathers in research studies, especially those examining the association between material hardship and the influence it has on parents' psychological stress, parenting behaviors, and child outcomes as mothers it can have a different association with mothers than fathers, making it important to examine them separately in statistical models.

In summary, the aforementioned studies make it plausible that parents' psychological and parenting stress can hinder parents' capacity to facilitate children's positive social and behavioral development as a result of stressors such as material hardship. However, in order to understand how parenting behaviors are influenced by parents' psychological and emotional stress and, ultimately, their influence on child outcomes, the link between parenting and children's development needs to be established.

Material Hardship and Parenting

Material hardship can alter parenting behaviors in several ways. For example, material hardship can interfere with parents' abilities to respond appropriately to their children as it can deplete parents' emotional and psychological resources needed to engage with and provide developmentally and age-appropriate parental guidance to their children (Conger & Conger, 2002; Newland et al., 2013). This can be especially true

among low-income families who routinely face multiple struggles simultaneously. For example, a family who has few economic and material resources may also: (1) be living in an impoverished neighborhood with few community resources; (2) may have unstable housing accommodations; (3) may find it difficult to acquire high-wage jobs; (4) may lack access to high-quality child care; and, (5) may lack access to quality health care. While one of the aforementioned stressors could increase the psychological and emotional stress of the average parent who may or may not live in economically stressed conditions, the combination of these stressors that are typical among families who experience poverty and material hardship can significantly impede parents from engaging in positive interactions with their children. That is, when parents are burdened with the inability to provide suitable resources to their family, it can lead to increased dysfunctional parent-child relationships that can adversely influence child outcomes. For example, Kang (2013) used material hardship as a potential mediator of the association between instrumental social support and neglectful parenting and found a direct relationship between mothers' material hardship when the child was three-years-old and mothers' neglectful parenting behavior when the child was five-years-old, such that increases in hardship predicted increases in mothers' neglectful parenting. Findings from this study suggest that material hardship can have a longitudinal influence on maternal parenting behavior that is particularly important when examining the association between material hardship and child outcomes during a developmentally sensitive period (i.e. early childhood) when children are more influenced by their primary caregivers in their proximal environments than in adolescence.

In a separate study, Conger and colleagues (1992) found that economic pressure increased the likelihood of depressed feelings among parents in their study, which was associated with parents' negative perception that their parenting could be effective at engaging with, or disciplining, their children. Perhaps when parents experience numerous economic stressors, their symptoms of depression (e.g., due to being unable to pay bills or provide their family with adequate resources) this can alter their perception of their effectiveness at being a good provider and parent.

Material hardship and parent gender. The research summarized above suggests that economic hardship and economic pressure influence parents' ability to effectively engage with their children. Yet, most of the research to date has focused on mothers' experiences of stress in the context of economic hardship (Gershoff et al., 2007; Newland et al., 2013; Zilanawala & Pilkauskas, 2011). The role of fathers' stress in the face of material hardship is not fully known and thus it is not clear if material hardship differentially influences mothers' and fathers' parenting behaviors. It may be that material hardship has a more significant association with mothers' behavior than fathers' perhaps because mothers, especially those who are unmarried or not living with the father of their child, are primarily responsible for not only the household financial responsibilities, but also for the well-being of their child(ren). Single mothers also experience more hardship than married parents; the poverty rate for households headed by single women (nearly 31%) is about five times higher than the poverty rate for households headed by married couples (6.3%) (National Center for Law and Economic Justice, 2013). Thus, it is important to understand if there is any difference in the way

that material hardship is associated with mothers versus fathers amongst a low-income sample.

Similarly, mothers' and fathers' psychological and parenting stress may be differentially influenced by how material hardship is associated with their cognitive and emotional wellbeing. Indeed, different stress responses to material hardship may manifest in different ways among mothers and fathers that, in turn, influence the way they engage with and discipline their children (Paat, 2011). For example, in a study that examined the association between parents' working conditions and economic hardship on both mothers and fathers, Whitbeck et al. (1997) found that fathers' working conditions and economic hardship were indirectly associated with adolescents' self-reports of their self-efficacy through fathers' negative affect, harsh parenting, and use of inductive reasoning, but these associations were not found for mothers. However, mothers in their sample lived in a rural community and did not hold high-status jobs as compared to their spouses. Thus, these findings suggest that mothers and fathers may react differently to not only material hardship, but also the way that it alters their parenting behaviors.

Similarly in a study by Martin and her colleagues (2010), which included families living in a rural community, findings indicate that mothers and fathers cope with material hardship and economic pressure in different ways that can consequently influence child outcomes. Results from their study suggest that the stress of economic pressure can influence mothers and fathers differently by how economic pressure is associated with their perceptions of their traditional parenting roles (e.g., mothers as primary caregivers; fathers as primarily bread winners). Specifically, these authors suggested that their

findings indicate that mothers' who may have to take on a greater financial responsibility may be profoundly threatened by this unorthodox role that may therefore negatively influence mother-child interactions and child outcomes. Additionally, they suggested that fathers, too, may also be threatened by the need to take on a different role other than that of the financial provider, which can negatively influence not only father-child relations, but also children's behavior. However, because their study included families who lived in a rural community, it was more likely that mothers and fathers in their sample endorsed traditional roles and division of household labor. Yet other studies have found that mothers and fathers do in fact perceive the stress of financial strain or material hardship differently which may not be a direct result of their perceived traditional roles as mothers and fathers in their (Paat, 2011).

Results from these studies suggest that it is possible that mothers and fathers not only react differently to economic and material hardship, but also they may manage that source of strain in differential ways that in turn influence children's behavior. Thus, it is crucial to understand if material hardship has a unique or universal association with mothers and fathers so that policies designed for families who experience material hardship can be better designed to be more effective at helping not only parents' mental health and wellbeing, but also children's healthy social, behavioral, and academic development.

The Importance of Parents' Psychological Stress

Research has illuminated the importance of parental mental health and child outcomes and various studies have shown that parental anxiety and depression are

negatively associated with parents' engagement and interactions with their children (Hudson & Rapee, 2001). Parents who experience a significant amount of general anxiety (i.e., anxiety not solely attributable to being a parent) may be more likely to experience a noticeable decrease in their overall functioning than parents who experience lower, or average, levels of anxiety. Parental anxiety may significantly impair a parent's ability to be sensitive to their child's needs and interests (Feldman, Greenbaum, Mayes, Erlich, 1997) yet current findings are mixed (Beebe et al., 2011). For example, Feldman (2007) found that maternal anxiety was associated with mothers' intrusiveness during interactions with their children, while Weinberg, Beeghly, Olson, and Tronick (2008) did not find any significant differences among anxious and non-anxious mothers and their interactions with their 6-month-old infants.

With regard to depression, similar findings have been established, such that depression can exacerbate the risk for children to display antisocial behavior and poor cognitive development as it can impede a parent's ability to provide consistent discipline and parental warmth (Bluestone & Tamis-Lemonda, 1999; Schmitz, 2003). In a study of mothers' symptoms of depression, Bluestone and Tamis-Lemonda (1999) found that maternal depression predicted lower levels of inductive reasoning and compromised mothers' ability to use child-centered parenting techniques. When mothers are unable to use child-centered techniques, there is an increased risk for children to lack assertive and prosocial behavior that enables them to approach difficult situations independently (Dix, Stewart, Gershoff, & Day, 2007). Conversely, Raver (2003) found that maternal depression decreased with an increase in work hours and that increases in earned income

were predictive of less harsh and punitive parenting; however, Raver (2003) recommended considering job quality when examining the association between employment and low-income mothers' mental health and parenting strategies. Similarly, Heflin and Iceland (2009) found that women who faced economic hardships, such as having difficulties paying bills and having telephone services terminated, had a high risk of experiencing and reporting depressive symptoms.

Still, the vast majority of these studies have only examined anxious mothers and their children among clinical and community samples (Beebe et al., 2011; Hudson & Rapee, 2001; Kaitz & Maytal, 2005; Nicol-Harper, Harvey, Stein, 2006; Whaley et al., 1999), which could hinder the ability to generalize findings to how fathers who also may experience anxiety may engage with, and behave, toward their children. Yet, some studies have tried to understand the association between mothers' and fathers' anxiety and children's outcomes. For example, in a study that included both mothers and fathers, Woodruff-Borden, Morrow, Bourland, and Cambron (2002) examined parent-child videotaped interactions in addition to self-reported measures during a 10-minute task among a clinical and community sample using anxious parents ($n = 27$) and a control group ($n = 25$). Using a multivariate analysis of variance, they found that anxious parents were less engaged with their children, praised their children fewer times, and ignored their children more frequently than control parents. However, in a study conducted by Olfson, Marcus, Druss, Pincus, & Weissman, (2003) children of parents with depression were twice as likely to experience problematic mental health symptoms than children of parents who reported having no symptoms of depression.

These results suggest that experiencing hardship (i.e., financial and material) can amplify the inherent stress of having few economic resources to pay bills, which can lead to parents' elevated risk for experiencing symptoms of both anxiety and depression that can lead to less effective parenting and problematic child behavior. Once again, the majority of this research has focused on mothers; therefore, it is important to examine whether fathers report symptoms of depression and anxiety (in response to material hardship) at a similar rate than mothers and, if so, if it influences fathers' parenting behaviors and child outcomes differently than mothers.

Does Psychological Stress Influence Mothers and Fathers Differently?

There is sufficient evidence that both mothers and fathers experience depression and anxiety (Davis, Davis, Freed, & Clark, 2011; Lovejoy, Graczyk, O'Hare, & Nueman, 2000). Yet, previous research has mainly focused on the association between maternal psychopathology and child outcomes (Connell & Goodman, 2002) vastly ignoring the potential importance of fathers' mental health for child wellbeing. In the past three decades, researchers have elucidated the importance of father involvement in children's lives (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008), suggesting that highly involved fathers have children with fewer behavioral problems (Day & Padilla-Walker, 2009), higher educational attainment (Pancsofar & Vernon-Feagans, 2006), and lower levels of emotional distress (Sarkadi et al., 2008) than children with less involved fathers. Fathers have also been shown to uniquely contribute to children's emotional regulation (Roggman, Boyce, Cook, Christiansen, & Jones, 2004), social competence (Pettit, Brown, Mize, & Lindsey, 1998), and cognitive development (Shannon, Tamis-

LeMonda, London, & Cabrera, 2002). Therefore, excluding fathers from research examining the association between parental psychopathology and child wellbeing leaves a large gap in our understanding of how fathers may distinctly prevent, or promote, the onset and maintenance of children's social and behavioral problems (Connell & Goodman, 2002).

Additionally, very few studies have examined maternal versus paternal anxiety and depression symptoms as both independent and simultaneous predictors of not only parenting behaviors but also children's social and behavioral outcomes (Dierker, Merikangas, & Szatmari, 1999; Phares & Compas, 1992). Without examining the influence of both maternal and paternal anxiety and depression symptoms simultaneously, researchers cannot ascertain what influence each parent's anxiety and depression symptoms has on child outcomes; it is possible that parental anxiety and depression symptoms exert different influences on the development of behavior problems in children depending on the gender of the parent. That is, the influence of paternal psychopathology on children's behavioral outcomes may influence children differently than the influence of maternal psychopathology on children's behavioral outcomes. For example, Foley et al., (2001) found that children were at an increased risk for developing depression if both mothers and fathers were depressed, while Brennan, Hammen, Katz, & Le Brocque (2002) found that maternal depression was only significantly associated with an increased risk for child depression when fathers did not have depressive systems. Ramchandani and Psychogiou (2009) reviewed the literature of paternal psychopathology and children's psychosocial development and found that fathers' mental health is

associated with an increased risk of children's adverse outcomes, particularly with a higher risk for behavioral rather than emotional problems. Findings from these studies suggest that more research is needed to understand if mothers and fathers are influenced differently by stressors, such as material hardship, and whether such stressors subsequently influence mothers' and fathers' parenting, and indirectly, their children's social and behavioral outcomes in dissimilar ways.

Linking Parenting Behaviors and Child Development

Parents play a pivotal role in shaping their children's development and teaching them how to successfully navigate their social worlds (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2001). The early childhood years are critical for parents as they learn how to provide their children a healthy socio-emotional environment so that their children can learn how to regulate their emotions and learn how to form and maintain positive social relationships. Parental responsiveness and sensitivity to children's needs are essential for children to develop positive skills in self-regulation, social relationships, social-competence, and autonomy. Autonomy, for example, is a critical component for child development so that children can learn how to be both independent and assertive (e.g. learning and social interactions) (Dix et al., 2007). Children whose parents value autonomy may have higher self-esteem and self-efficacy as well as more positive social relationships compared to children whose parents are authoritarian, because their learning is not restricted by their parents control (Dix et al., 2007).

Parents' Engagement

A child who is routinely exposed to a parent who responds to his or her distress quickly and appropriately will develop an internal representation of the parent as someone who is reliable in responding to their needs and will learn that they are worthy of care (Ainsworth, Bell, & Stayton, 1974). Furthermore, children learn how to express emotions appropriately in interactions with others when they have positive relationships with their parents. Thus, when parents are sensitive to their children's needs, children not only learn how to engage in harmonious interactions with others, but also they learn how to appropriately regulate their emotions when interacting with peers and adults in their social environments. Subsequently, children's ability to self-regulate (i.e., ability to actively control and inhibit socially undesirable responses to stress without external control) is a critical component to healthy development because it allows children to learn to adapt to changes in their physical and social environments.

Parents' engagement (i.e., engaging in multiple activities with their children), emotional sensitivity, and responsiveness are mechanisms by which children develop positive behavioral outcomes (e.g., self-regulation), as they display willingness to adjust to the variations in their children's emotions (Feldman, Greenbaum, and Yirmiya 1999; Gianino and Tronick, 1988; Rocissano, Slade, & Lynch, 1987). Gianino and Tronick (1988) suggested that parents and infants must work in concert toward the goal of reaching the same interpersonal state so that children can learn how to appropriately regulate their emotions. They posited that when parents and children are unable to attain a state of reciprocity, children learn that they are unsuccessful in regulating the

interaction which can lead them to use other forms of coping with stress, such as withdrawal. Parents' reactions to children's negative emotions are another distinct way that parents teach children how to respond to distress, which in turn influences children's social competence (Eisenberg, Fabes, & Murphy, 1996; Spinrad et al. (2007).

Eisenberg, Fabes, and Murphy (1996) found that children's social competencies were related to parents' responses to their child's negative emotions, such that children develop a positive representation of social relationships when their parents simultaneously help them understand emotions and respond to the children's negative emotions in a warm and supportive manner. Consequently, emotionally supportive parents are likely to have children who have more confidence and who respond to others in a socially appropriate manner. For example, Spinrad et al. (2007) found an association between emotionally supportive mothers and children's effortful control, higher social competence, and fewer externalizing behavioral problems.

However, when parents experience stressors such as material hardship, anxiety, and depression, they may be less likely to regulate their own behaviors and subsequently engage less with their children and use harsher parenting. Indeed, in a meta-analysis examining the link between maternal depression and observed parent-child interactions, Lovejoy, Graczyk, O'Hare, and Neuman (2000) found that mothers who report depression are more likely than their nondepressed counterparts to be disengaged with their children. Furthermore, Turney (2011) found that depressed mothers were more neglectful and aggressive toward their children and spent less time engaged with their children than nondepressed mothers. These findings indicate that psychological stressors

can impair parents' ability to positively engage with their children and to do activities that could conceivably decrease the likelihood of children developing internalizing or externalizing behavioral problems. Likewise, in a study by Kiernan and Huerta (2008), economic deprivation (i.e., income-poverty, financial difficulties, and housing stability) and maternal depression significantly predicted decreases in children's cognitive and behavioral outcomes, through the influence that economic deprivation had on mothers' engagement and nurturing interactions with their children.

Thus, a limited review of the literature examining parents' influence on children's outcomes demonstrates that it is critical for parents to be sensitive and responsive to their children's needs, in addition to being able to engage in positive interactions with their children to facilitate children's healthy cognitive, social, and behavioral development. Yet findings from these studies also indicate that material hardship and economic deprivation can significantly diminish a parent's capacity to positively engage with their children, and decreased engagement and increased harsh parenting behaviors can undermine children's ability to learn how to interact harmoniously, and appropriately, with others. Still, parenting is multifaceted and there can be various pathways that can help elucidate the many ways in which material hardship is associated with mothers' and fathers' psychological and parenting stress, their parenting behaviors, and most importantly, their children's social and behavioral outcomes.

Parental Discipline and Child Outcomes

Parents use discipline to discourage child misconduct and to teach them appropriate behavior (Huang, Caughy, Lee, Miller, & Genevro, 2009). Lepper (1983)

argued that parents' use of power must be sufficient enough to motivate children to trust that their parents' requests are appropriate, but not superfluous because that can undermine children's willingness to comply with parents' commands.

Spanking. Previous research links parents' increased stress with increases in using more punitive parenting, such as spanking, which has previously been linked to detrimental child outcomes (Gershoff, 2002; Mackenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2013). Even so, findings regarding the association between harsh, punitive discipline (i.e. spanking, hitting) and children's behavior in particular have been somewhat inconsistent. Some scholars have found that such parenting increases externalizing behavior problems among children (Gershoff, 2002; McLoyd & Smith, 2002; Miner & Clarke-Stewart, 2008). For example, Miner and Clarke-Stewart (2008) found higher externalizing behavior problems among children whose mothers were less responsive or who used harsh discipline. Similarly, Mackenzie, Nicklas, Waldfogel, and Brooks-Gunn (2013) examined mothers' and fathers' use of spanking among low-income families and found that mothers' and fathers' spanking was associated with children's externalizing behavior and lower child receptive vocabulary.

Furthermore, if stressors such as poverty, material hardship, and residential instability are taken into account (i.e., potential stressors among families who experience poverty or material hardship), it is conceivable that mothers and fathers may be more susceptible to using harsh discipline as a means to manage their children's behavior due to the potential depletion of parents' cognitive and emotional resources needed to patiently and effectively manage their children's behavior.

The Current Study

Taken together, there is sufficient evidence to support the contention that when families are exposed to economic and material hardship, the pressure to provide adequate economic and material resources depletes both mothers' and fathers' cognitive, psychological, and emotional resources, and such depletions can adversely influence not only parent-child relationships, but also child outcomes. While a number of studies have examined the various mechanisms that explain how material hardship influences families, relatively few studies have incorporated father-reported data to get a better understanding of if, and how, material hardship may be directly associated with fathers' psychological well-being and their parenting behaviors and indirectly with children's social and behavioral outcomes. It is critical to understand if material hardship has a universal influence on mothers and fathers (i.e., material hardship influences mothers and fathers equally), or whether material hardship has a unique influence on mothers and fathers that can uniquely and indirectly influence child outcomes.

Using a large sample from the Fragile Families and Child Wellbeing Study (FFCW), this study examined whether the mechanisms vary for mothers and fathers when examining the associations between material hardship, parenting behaviors, and children's social and behavioral outcomes.

The present research study examines the following research questions:

Research Question 1: Is material hardship associated with mothers' and fathers' symptoms of anxiety and depression and their reports of parenting stress when the child is age 1?

Since few studies have examined the associations of material hardship with mothers' and fathers' stress separately, and those that have done so have resulted in mixed findings, this analysis will be exploratory in nature. However, I hypothesized that the strength of the association between material hardship and parenting stress may differ for mothers and fathers. I suspect that mothers' stress may be more strongly linked with hardship.

Research Question 2: Do mothers' and fathers' symptoms of anxiety and depression and their reports of parenting stress at age 3 mediate the association between material hardship when the child is age 1 and mothers' and father's parenting behaviors when the child is age 3?

I hypothesized that there would be indirect effects of material hardship on parents' parenting behaviors via parents' psychological and parenting stress. Specifically, I hypothesized that increases in material hardship would predict increases in parents' reports of anxiety and depression symptoms as well as parenting stress, and increases in psychological and parenting stress would be associated with a decrease in parents' engagement with their children, but an increase in parents use of spanking.

Research Question 3: Is the association between material hardship (when the child is age 1) and children's outcomes (when the child is age 5) partially mediated through mothers' and fathers' parenting behaviors when the child is age 3?

I hypothesized that there would be indirect effects of material hardship on children's behavioral and social outcomes via parents' parenting behaviors. Specifically, I hypothesized that increases in material hardship would predict decreases in parents' engagement but increases in parents' use of spanking. Subsequently, decreases in parents' engagement would be associated with an increase in children's behavioral and social outcomes, and increases in parents' use of spanking would be associated with an increase in children's behavioral and social outcomes.

Research Question 4: Are there significant differences between mothers and fathers in the way that material hardship influences their mental health and parenting behaviors?

While previous studies have examined how material hardship influences parent and child outcomes, the aim of the present study is to understand if material hardship differentially influences mothers and fathers. That is, the goal is to examine whether significant differences exist between mothers and fathers in the way that material hardship indirectly influences children via mothers' and fathers' psychological and parenting stress, and subsequently through mothers' and fathers' parenting behaviors. I hypothesize that material hardship will significantly influence mothers and fathers in different ways; however, this analysis will be primarily exploratory in nature.

Strengths of the Study

The FFCW dataset is a large and rich dataset that provides an opportunity to examine how material hardship may universally or uniquely be associated with mothers' and fathers' symptoms of anxiety and depression and their reports of parenting stress, and how parents' engagement and use of spanking with their children may serve to mediate the association between material hardship and children's social and behavioral outcomes. By using structural equation modeling (SEM) path models, I am able to examine the direct and indirect (i.e., mediational) paths simultaneously for both mothers and fathers. Much of the prior work examining parents' influence on children's behavioral and social outcomes has relied heavily on mothers' reports of family well-being and child outcomes. Thus, the longitudinal design of this study provides the advantage of being able to investigate how material hardship may potentially predict a change in parents' psychological and parenting stress, and how changes in parents' psychological and parenting stress influence mothers' and fathers' parenting behaviors and, ultimately, children's social and behavioral outcomes.

Thus, my study is an important contribution to the literature in the following ways: 1) it examines the associations between families' report of material hardship and mothers', as well as fathers', symptoms of psychological and parenting stress; 2) it examines the relationship between mothers' and fathers' psychological and parenting stress and their parenting behaviors; 3) it examines the indirect association between material hardship and children's outcomes, through the mechanism of mothers' and fathers' reports of their engagement and use of spanking with their children; and, lastly,

(4), it examines whether there are significant differences between mothers and fathers in the way that material hardship indirectly influences their children through their parents' mental health and parenting behaviors.

Method

This study will be based on secondary analyses of data from the Fragile Families and Child Wellbeing Study (FFCW), a national and longitudinal survey intended to provide information about unmarried and married parents and their children ($N = 4,898$). I use data from the first four waves of the study. The FFCW study follows children born between 1998 and 2000 in 20 metropolitan areas with populations over 200,000 (for a complete description of the sample and design, see Reichman et al., 2001). The study contains an oversample of non-marital births and places particular emphasis on how parental resources such as parental presence and financial status influence children under the age of five.

Procedure

Core Survey. Mothers were recruited from hospitals and interviewed within 48 hours after giving birth in the hospital. Fathers were interviewed in the hospital or as soon after the birth as possible. Verbal and written consent were obtained from participants at each interview. The initial interview (i.e., baseline survey) was followed by telephone interviews with both parents with the child was one, three, five, and nine-years-old. The core interviews were, on average, an hour in length and collected extensive information on families' sociodemographic characteristics, parents' physical and mental health, parents' relationships, parenting behaviors, and child wellbeing. Data across all of the waves of the FFCW study are available to the public and do not include identifying information with regard to participants (e.g., medical records, geographic identifiers).

The sampled cities were among 77 U.S. cities with populations of more than 200,000, randomly selected using a stratified random sampling method. Hospitals with over 1,000 non-marital births per year were randomly sampled. For this study, only data from the first four years will be used for analyses, namely data from when the children were first born and when the children were ages 1, 3, and 5. Specifically, family demographic characteristics will come from the baseline survey (i.e., child's birth), maternal and paternal psychological and parenting stress will come from surveys when the children were ages 1 and 3, maternal and paternal parenting behaviors will come from surveys when the children were ages 1 and 3, and, lastly, data with regard to mothers', fathers', and teachers' reports of children's social and behavioral outcomes will come from surveys when the child was five years old.

Participants

For this study, the sample was limited to mothers and fathers who remained living together from baseline (i.e., the child's birth) until the child was age 5, resulting in a final sample of 1,326 families. This included families who reported that they were either married or cohabitating across the five waves. To calculate the final sample, indicator variables were created for each wave (i.e., baseline, year 1, year 3, and year 5) to indicate whether or not families remained resident families across each wave. If mothers and fathers responded that they were married or cohabitating at each wave they were given a 1 and all other responses (e.g., visiting, no relationship, separated/divorced) were given a 0. Next, a final indicator variable was created to indicate resident families by adding the resident variables per each of the four years. The final variable has the values of

0 (*nonresident families*) and 1 (*resident families*) from baseline through year 5. At the baseline survey 61% of families were residential families, at Year 1 (61%), at Year 3 (54%) and at Year 5 (46%). The final resident family variable indicates that 27% of families out of the full sample ($N = 4898$) remained living together across the first five years of their child's life.

Demographic characteristics for this sample can be found in Table 1. For example, participating mothers ranged in age from 15 to 43 years of age ($M = 27.63$, $SD = 6.10$) and fathers ranged in age from 17 to 53 years ($M = 30.08$, $SD = 6.90$). Over one-third (37%) of mothers in this sample classified themselves as White, Non-Hispanic, just over one quarter (27%) reported having taken some college courses, and nearly three-quarters (74%) reported being born in the United States (i.e., not an immigrant). With regard to fathers in this sample, just over one-third (36%) identified as White, Non-Hispanic, just over one-quarter (26%) reported having taken some college courses, and just over 70 percent reported being born in the United States. The sample of children was almost evenly split between boys (53%) and girls (47%). The average annual family income was \$48,000. With regard to poverty categories, 11% of families lived between 50-99% of the poverty threshold; nearly a quarter (21%) lived between 100-199% of the poverty threshold, while a majority of this sample (43%) lived at 300% above the poverty threshold.

Relationship status. Couples' relationship status is based on mothers' report of their relationship status taken at baseline. Each mother was asked multiple questions to describe her relationship with the baby's father. Using the baseline survey, relationship

status was coded as follows: a) married (24%); b) cohabitating with the baby's father (36%); c) in a visiting relationship (26%) (e.g., in a romantic relationship with the baby's father, but not residing with him); and, d) not in any relationship with the baby's father (13%). At the follow-up interviews, there were a few additional categories that mothers could choose from, such as: 1 (*married*), 2 (*cohabitating*), 3 (*romantically involved, some visiting*), 4 (*romantically involved, no cohabitation*), 5 (*separated/divorced*), 6 (*friends*), 7 (*no relationship*), and 8 (*father unknown*). For the purposes of this study, I recoded mothers' romantic relationship status for each wave following the baseline survey so that survey response categories remained fairly consistent across years one through five (however, there was no separated/divorced category at the baseline survey). The following new variables were created: 1 (*married*); 2 (*cohabitating*); 3 (*romantic, non-cohabitating*) combining responses of mothers who reported they are romantically involved but only living with the child's father some or none of the time; 4 (*separated/divorced*), and 5 (*no relationship*) which combined responses of friends, no relationship, or father of the child is unknown.

However, because the sample in this study was limited to families who remained together across all five years, the aforementioned variables were used to create four indicator variables to use as a control for couples' marital status across each wave. To do so for each wave, mothers received a 1 (*married*) if they reported they were married and a 0 (*not married*) if they answered yes to any of the other categories for each wave (e.g., cohabitating, visiting, divorced/separated). At baseline, 24% reported they were married, 27% at the Year 1 survey, 28% at the Year 3 survey, and 26% at the Year 5 survey.

Measures

The present study will use data from across the first five years of children's lives to examine the influence of family hardship on children's behavior, mainly through the indirect influence of parents' emotional health and parenting behaviors. Table 2 presents descriptive statistics with regard to the main independent variables in this study.

Demographic covariates. Several covariates will be included in the analyses; demographic covariates will come from the baseline survey. The following covariates from mothers and fathers will be included in all analyses (all indicator variables were created separately for mothers and fathers): a series of indicator variables for race and ethnicity (i.e., non-Hispanic White (reference category for mothers and fathers); non-Hispanic Black; Hispanic; Other); indicator variables for education (less than high school diploma), high school diploma or GED, some college (reference category for mothers and fathers), and college degree or higher); continuous variables for parents' ages; an indicator variable for immigration status ($0 = \textit{native born}$, $1 = \textit{immigrant}$); indicator variable for child gender ($0 = \textit{female}$, $1 = \textit{male}$), and an indicator for marital status at each wave ($0 = \textit{not married}$, $1 = \textit{married}$). For the purposes of this study, I included a control for income-to-needs ratio that reflects the ratio of the total household income to the official poverty thresholds as defined by the U.S. Census Bureau. Poverty thresholds correspond to the year prior to the interview.

Independent Variables

Material hardship. Material hardship is an index of the extent to which families have had difficulty in the previous year meeting basic needs such as acquiring shelter

(e.g., renting a home) or paying their bills. While there is not a standard measure of material hardship to date (Schwartz-Soicher, Geller, & Garfinkel, 2011), the measure of material hardship created for this study is one way to capture the variety of ways in which low-income families experience hardships that are not solely captured by using families' poverty ratio or income. Questions used in the Fragile Families Survey on material hardship include items that have been used in other national surveys such as the Survey of Income and Program Participation (SIPP) and the 1997 and 1999 Social Indicators Survey (SIS) (Fillipone & Knab, 2005).

At the Year 1 follow-up interview, mothers were asked to report whether, in the previous 12 months, they had experienced any one of the following: 1) received free food/meals because there was not enough money; 2) children went hungry because there was not enough money to buy food; 3) they themselves went hungry because there was not enough money to buy food; 4) they did not pay the full amount of rent or mortgage; 5) they got evicted for not paying their rent/mortgage; 6) they were not able to pay their gas/oil/electric bill; 7) their gas/oil/electric bill was shut-off or withheld because they were not able to pay for it; 8) their telephone service was disconnected for nonpayment; 9) they had to borrow money from family/friends to pay bills; 10) someone in the household needed medical attention but could not receive it because of the cost; 11) they had to move in with friends/family because of financial problems; and, 12) they had to stay in a shelter not meant for regular housing because they could not pay their rent or mortgage. For the purposes of this study, mothers' report of material hardship when the child was age 1 will be used to indicate the family's report of material hardship as father-

reported material hardship was only available for 21% of the sample and included responses from fathers who both did and did not reside with the child.

Mothers responded either yes (1) or no (0) to each of the questions. Initially, an exploratory factor analysis was conducted to examine if three distinct factors were being captured by the 12-item questionnaire (i.e., food insecurity, economic hardship, and housing instability); however, the Cronbach's alpha coefficients did not meet the criteria for three distinct reliable subscales (.45, .65, and .35 respectively). Therefore, for this measure of material hardship, the 12 items were used to create an overall count of the number of hardships that mothers reported at the Year 1 interview and the alpha coefficient was acceptable ($\alpha = .70$). While a majority of mothers at the Year 1 interview (N = 1326) reported that their families did not experience a significant amount of material hardship (64%) , just over 20 percent of the mothers in the sample reported not being able to pay their full bills, one-fourth of the sample (25.5%) reported that they borrowed money from family and/or friends to pay bills, and just over five percent of the sample reported that someone in their family did not receive medical attention due to inability to pay.–

Parents' psychological stress. Maternal and paternal symptoms of Generalized Anxiety Disorder (GAD) were derived from version 1.0 of the World Health Organization Composite International Diagnostic Interview-Short Form (CIDI-SF) (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). The CIDI is a standardized instrument for assessment of mental disorders and is intended for use in epidemiological, cross-cultural, and other research studies. The short form of the CIDI asks a portion of

questions from the full CIDI interview and can generate the probability that the respondent would be positively diagnosed if given a full CIDI interview. The CIDI-SF is designed to classify respondents according to the criteria required for generalized anxiety disorder and major depression set forth in the DSM-IV-TR. However, for this study, I will be looking at the count of symptoms to be able to see if there is a change in the severity of anxiety and depression symptoms from mothers' and fathers' reports from the Year 1 to the Year 3 interview.

Generalized anxiety disorder. Questions from the Composite International Diagnostic Interview-Short Form (CIDI-SF) (Kessler et al., 1998) were used to assess mothers' and fathers' symptoms of generalized anxiety as based on the criteria for GAD as found in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR: American Psychiatric Association, 2000). To generate the overall count of GAD symptoms per wave, the following variables were used: 1) in the past 12 months, did you feel worried/tense/anxious for a month or more?; 2) in the past 12 months, did you worry a lot more than most people would?; 3) during that period, was your worry stronger than in other people?; 4) did you worry most days?; 5) did you worry about one particular thing or more than one thing?; 6) did you find it difficult to stop worrying?; 7) did you have different worries on your mind at the same time?; 8) when worried, were you also restless?; 9) when worried, were you also keyed up or on edge?; 10) when worried, were you also easily tired?; 11) when worried, were you also having difficulty keeping mind on task?; 12) when worried, were you also more irritable than usual?; 13) when worried, were you also having tense/sore/aching muscles?; and 14) when worried, were you also

having trouble falling/staying asleep? Four composite variables were created for maternal and paternal anxiety for year 1 and 3 data by summing the total number of symptoms to which mothers and fathers responded “yes”.

Major depression. To assess parental symptoms of depression, parents responded to questions from the Composite International Diagnostic Interview-Short Form (CIDI-SF) (Kessler et al., 1998) based on the criteria for major depression in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR: American Psychiatric Association, 2000). The measure of depression is based on an overall count of the number of symptoms ranging from 0 to 12. The following questions were used to derive the count of depression symptoms: During past 12 months, 1) have you ever been depressed/sad/blue for 2 or more weeks in row?; 2) did you lose interest in hobbies/work normally pleasurable?; 3) have you ever lost interest in hobbies/work for 2 or more weeks?; 4) did you feel more tired and low on energy than usual?; 5) did you gain or lose weight without trying?; 6) did you have more trouble falling asleep than you usually do?; 7) did you have more trouble concentrating than usual?; 8) did you feel down on yourself/no good/worthless?; and 9) did you think about death? Four composite variables were created for maternal and paternal depression symptoms for year 1 and year 3 data by summing the total number of symptoms to which mothers and fathers responded “yes.” to

Parenting stress. Mothers and fathers were asked to respond to four questions based on items from the Parental Distress Subscale of the Parenting Stress Index–Short Form (PSI-SF) (Abidin, 1995) using a Likert-type scale with scores ranging from 1

(*strongly agree*) to 4 (*strongly disagree*). Higher scores reflect a higher degree of parenting stress. The mean of the four questions was calculated to represent the average parenting stress for mothers and fathers, separately for when the child was age 1 and 3.

Parents' engagement. Questions regarding mothers' and fathers' engagement with their children were used from the Year 1 and Year 3 interviews. Parents' engagement was measured by asking about the number of days per week they participated in various activities with their child, including playing games, reading books, or telling stories. Across the three waves of data collection (i.e., Year 1 and Year 3 interview), parents were asked about slightly different activities to more accurately reflect developmentally and age-appropriate activities at each time point that parents might do with their children. All items were based on a scale with responses ranging from 0 (*no days*) to 7 (*seven days per week*).

For the Year 1 interview, sample items included, "sing songs or nursery rhymes with child," and "play inside with toys such as block or Legos with child." For the Year 3 interview, sample items included, "tell child that you love him/her," and "play inside with toys such as blocks or Legos with child". For both the Year 1 and Year 3 scales, a total scale was created for mothers and fathers separately by using the average number of days per week mothers and fathers each reported being engaged with their children. Higher values indicate more engagement.

Parents' spanking. When children were age 1 and 3, mothers and fathers were asked if they had spanked their child in the past month because their child misbehaved or acted up. If mothers and fathers reported yes, they were then asked about the frequency

with which they reported spanking their child using four categories: 1 (*every day or nearly every day*); 2 (*a few times a week*); 3 (*a few times this past month*); 4 (*only once or twice*). Mothers' and fathers' responses to these two questions were combined to calculate a measure of spanking using the following coding criteria: 0 (*did not spank*); 1 (*spanked once or twice*); 2 (*spanked more than twice in the past month*); and, 3 (*spanked every day or nearly every day*).

Outcomes Measures

Maternal and paternal reports of child behavior. Mothers and fathers provided separate reports of children's behavior problems when the child was age 5 using the Child Behavior Checklist (CBCL 4-18 Achenbach, 1992; CBCL/6-18 Achenbach & Rescorla, 2001). For the Year 5 interview, mothers were asked to rate their children's behavior using a 19-item scale that assessed aggressive behavior, attention problems, and social skills. Scores ranged from 0 (*not true*) to 2 (*very true or often true*). The three subscales measured are: (1) poor self-regulation skills (7 items); (2) poor attention skills (4 items); and, (3), and poor social skills (9 items). A total of 19 items for both mothers and fathers, respectively, were included in the analyses. For the purposes of interpretation, higher scores on each of the subscales indicate mothers' and fathers' reports of children's difficulty with their self-regulation, attention, and social skills. Example items from the poor self-regulation subscale include, "child doesn't get along with others," and "child is disobedient." Sample items from children's poor attention skills include, "child can't concentrate for long," and "child can't sit still or is restless and hyperactive." Items from children's poor social skills include, "child clings to adults,"

and “child is withdrawn or does not get involved with others.” Scores for the mother and father scales will be calculated by averaging item scores per each scale. Please see Table 3 for descriptive statistics with regard to the CBCL subscales for mothers and fathers.

Data Analysis Plan

To test relationships among the study constructs, structural equation modeling (SEM) was used. There are a variety of benefits to using SEM, such as being able to assess the magnitude and significance of the associations between the exogenous (i.e., predictors) and endogenous (i.e., mediators and outcomes) variables as well as being able to test for both direct and indirect effects concurrently (Benner, Graham, & Mistry, 2008). All models were estimated using Mplus 7.3 (Muthén & Muthén, 1998-2012). Because the Fragile Families and Wellbeing study has missing data across the three waves of data that are included in my models, using Mplus was the appropriate statistical software to conduct my analyses because missing data is handled by using Full Information Maximum Likelihood (FIML) estimation for all models. FIML does not actually impute missing values but uses all the available information to provide maximum likelihood estimation. FIML is a preferred method for using all available data, to generate reliable estimates, and to produce less bias than listwise deletion (Hofer & Hoffman, 2007). fit will be examined using the comparative fit index (CFI), the root-mean-square-error of approximation (RMSEA), and the standardized root-mean-square-residual (SRMR). For the CFI, values above .90 indicate a good fit (Bentler, 1990), for the RMSEA, values close to zero (and below .08) indicate a good fit (Browne & Cudeck, 1993; Steiger, 1990), and for the SRMR, values close to zero indicate a good fit (Hu &

Bentler, 1999). All models controlled for the following covariates: child gender (0 = female, 1 = male), whether child had a twin, mother and father relationship status (married, visiting, no relationship; omitted group: cohabitating), parents' age, parents' race (Hispanic, White, Other; omitted group: African-American), and parents' education (high school diploma/GED, some college, college degree; omitted group: less than high school degree), parents' immigration status (0= citizen, 1 = immigrant), and families income-to-poverty ratio.

Planned Analyses by Research Question

Research Question 1: Is material hardship associated with mothers' and fathers' symptoms of anxiety and depression and their reports of parenting stress when the child is age 1?

To address this research question, two separate models were conducted using SEM modeling: a model for mothers and one for fathers. In each model, autoregressive paths were included to account for change in parents' anxiety and depression symptoms and parenting stress when the child was age 1 to when the child was age 3. The main focus in this set of models is on the direct paths between material hardship when the child was age 1 and parenting psychological stress (i.e., anxiety, depression symptoms) and parenting stress when the child was age 3. For an illustration of research question 1, please see Figures 2 and 4.

Research Question 2: Do mothers' and fathers' symptoms of anxiety and depression and their reports of parenting stress at age 3 mediate the association

between material hardship when the child is age 1 and mothers' and father's parenting behaviors when the child is age 3?

Similar to the analyses conducted for the first research question, autoregressive paths between years 1 and 3 were included in the statistical models to account for change in parents' anxiety and depression symptoms and parenting stress when the child was age 1 to when the child was age 3. First I ran models where direct paths between material hardship and parenting behaviors were estimated. Lastly, I ran models that estimated the indirect path from material hardship to parents' engagement and use of spanking via parents' psychological stress and parenting behaviors separately for mothers and fathers.

Research Question 3: Is the association between material hardship (when the child is age 1) and children's outcomes (when the child is age 5) partially mediated through mothers' and fathers' parenting behaviors when the child is age 3?

First, direct paths between material hardship and child outcomes when the children were 5 were estimated to understand the association between material hardship directly and both parents and children. Next, indirect models were conducted to understand the potential association between parenting behaviors and child outcomes, when the child was age 5, via parents' anxiety and depression symptoms and parenting stress, when the child was age 3. Models for mothers and fathers were run separately.

Research Question 4: Are there significant differences between mothers and fathers in the way that material hardship influences their mental health and parenting behaviors?

First I examined all significant paths from models for mothers and fathers. Next, I conducted a post-hoc analyses using Wald's test to examine if direct and indirect paths for mothers and fathers were indeed significantly different from each other. While a multigroup model would be the preferred method to test for significant differences between mothers and fathers, in this dataset there is no parent gender variable that would serve as the grouping variable; because all children in this restricted sample (i.e., limited to resident families across all five years) have both a mother and a father, these two groups are not mutually exclusive. Therefore, the Wald test is the most appropriate way to test for significant differences for the coefficients between mothers and fathers.

Results

Descriptive statistics for the sample are presented in Table 1, bivariate correlations among the study variables are displayed in Table 2, and descriptive statistics for the main study variables are presented in Tables 3-4. On average, mothers and fathers reported low levels of symptoms of anxiety and depression at Year 1 and Year 3, but the means for mothers' and fathers' reports of feeling stressed due to their parenting role were high and remained rather stable from Year 1 to Year 3. As expected, mothers reported being more engaged, on average, during the week with their children than fathers (see Table 3).

Table 2 indicates that material hardship when the child is age 1 is positively correlated with mothers' psychological stress and parenting stress at both Year 1 and Year 3; however, material hardship is only associated with fathers' symptoms of depression at Year 3 ($r = .12, p < .01$). Mothers' report of depression and parenting stress at Year 1 is significantly associated with fathers' reports of depression and parenting stress at Year 3 ($r = .12, p < .01$; $r = .22, p < .01$, respectively). Fathers' depression symptoms at Year 1 is significantly associated with mothers' parenting stress at Year 3 ($r = .23, p < .01$). With regard to child outcomes, material hardship is significantly associated with mothers' and fathers' reports of children's poor self-regulation skills ($r = .11, p < .05$; $r = .09, p < .01$) and with reports of children's poor attention skills ($r = .09, p < .05$; $r = .07, p < .05$). Interestingly, mothers' reports of anxiety, depression, and parenting stress will all positively and significantly associated with mothers' all three

reports of their children's social and behavioral outcomes, but not for fathers (see Table 2).

Testing Path Models for Mothers and Fathers

In order to understand if material hardship was differentially associated with mothers' and fathers' psychological and parenting stress and subsequently mothers' and fathers' parenting behavior, path models were conducted for mothers and fathers separately. All models were run once with the mothers' and fathers' ratings of their child's behavior. For ease of interpretation, results from the path models for mothers will be presented first, with results from models using father-reported data presented second. For all models, path coefficients are net of all other relationships within the model, namely, the autoregressive paths between years one and three (i.e., for parenting variables), the within-time residual correlations, and the covariates.

Mothers

Figure 2 presents the standardized path coefficients for the final model for mothers using mother-reported outcomes for child behavioral outcomes. The overall model fit was acceptable, $\chi^2(72, N = 1326) = 172.330, p < .001, CFI = 0.974, RMSEA = 0.032,$ and $SRMR = 0.024$) (see Tables 5-6).

Testing direct paths. As seen in Figure 2, material hardship when the child was age 1 was associated with only associated with some of the direct paths hypothesized when the child was age 3 (i.e., measures of psychological and stress, parenting behaviors) and when the child was age 5 (i.e., child outcomes). Autoregressive paths (not pictured in Figure 2) measured between year 1 and year 3 were significant for most of the constructs,

such that mothers' previous anxiety symptoms predicted future maternal anxiety ($\beta = .24$, $p < .001$), previous maternal depressive symptoms predicted future maternal depressive symptoms ($\beta = .36$, $p < .001$), and previous maternal parenting stress predicted future parenting stress ($\beta = .55$, $p < .001$). Furthermore, autoregressive paths from maternal parenting behaviors (i.e., engagement, spanking) from year 1 to year 3 were also significant, indicating that previous maternal engagement predicted future maternal engagement ($\beta = .43$, $p < .001$) and previous maternal spanking predicted future maternal spanking ($\beta = .33$, $p < .001$).

As seen in Table 5, however, there material hardship was only directly associated with mothers' psychological stress and children's outcomes. For example, material hardship was associated with greater mother-reported symptoms of anxiety ($\beta = .09$, $p < .01$) and depression ($\beta = .13$, $p < .001$) but not with mother-reported parenting stress. However, direct paths were found between mother-reported parenting stress when the child was age 1 and mothers' parenting behaviors when the child was age 3. As expected, parenting stress, was negatively associated with mothers' engagement, but positively associated with mothers' use of spanking (see Table 5). Lastly, as hypothesized, there were direct associations between mothers' parenting behaviors and children's social and behavioral problems. In particular, higher levels of mothers' engagement were associated with fewer reports of children's poor self-regulation ($\beta = -.09$, $p < .01$) and poor attention skills ($\beta = -.10$, $p < .01$), but not with children's poor social skills.

Testing mediated relations. Mediation analyses examined the extent to which mothers' psychological and parenting stress mediated the relationship between material

hardship and mothers' parenting behaviors and whether mothers' parenting behaviors mediated the overall relationship between material hardship and children's social and behavioral outcomes. Contrary to my hypotheses, as can be seen in Table 6, there was no evidence of partial mediation. That is, there was no evidence of significant indirect (i.e., mediated) effects of mothers' parenting behaviors on the relationship between material hardship and child social and behavioral outcomes.

Fathers

Figure 3 presents the standardized path coefficients for the final model for fathers using father-reported outcomes for child behavioral outcomes. In this model (see Figure 3), reports of material hardship when the child was age 1 were used to predict fathers' report of their psychological and parenting stress, and their parenting behaviors when their children were age 3, and children's outcomes at age 5 (see Tables 7-8). Figure 3 shows standardized path coefficients for the final model for fathers using father-reported outcomes for children's social and behavioral outcomes. The overall model fit was acceptable, $\chi^2(87, N = 1326) = 264.003, p < .001$ CFI = 0.933, RMSEA = 0.039, and the SRMR = 0.030) (see Tables 7-8).

Testing direct paths. As seen in Figure 3, multiple significant and direct paths were found with the final father model, yet not all hypothesized paths were significant. Overall, material hardship when the child was age 1 was associated with some direct paths when the child was age 3 (i.e., psychological stress) and when the child was age 5 (i.e., child outcomes). Autoregressive paths (not pictured in Figure 3) measured between year 1 and year 3 were significant for all of the constructs, such that fathers' previous

anxiety symptoms predicted future paternal anxiety ($\beta = .11, p < .001$), previous paternal depression symptoms predicted future paternal depression symptoms ($\beta = .34, p < .001$), and previous paternal parenting stress predicted future parenting stress ($\beta = .54, p < .001$). Furthermore, autoregressive paths from paternal parenting behaviors (i.e., engagement, spanking) from year 1 to year 3 were also significant, indicating that previous paternal engagement predicted future paternal engagement ($\beta = .48, p < .001$) and previous maternal spanking predicted future maternal spanking ($\beta = .32, p < .001$).

Material hardship was also positively associated with some of the main study variables for fathers, but to a much lesser extent than for mothers (see Table 7). Specifically, material hardship was only found to be significantly associated with fathers' depression symptoms ($\beta = .09, p < .01$), with children's problematic attention skills ($\beta = .08, p < .05$), and with children's problematic social skills ($\beta = .08, p < .05$). The only significant and direct paths between fathers' parenting stressors and fathers' parenting behaviors when the child was age 3 was seen between father-reported parenting stress and fathers' use of spanking ($\beta = .09, p < .001$). Lastly, similar to models with mother-reported child outcomes (see Table 5), fathers' engagement and use of spanking was associated with most of children's social and behavioral outcomes in the hypothesized directions (see Table 7).

Testing indirect paths. Mediation analyses examined the extent to which fathers' psychological and parenting stress mediated the relationship between material hardship and fathers' parenting behaviors, and whether fathers' parenting behaviors mediated the overall relationship between material hardship and children's social and behavioral

outcomes (see Table 8). In addition to the direct effects, the only significant indirect effect was that material hardship was associated with fathers' engagement via fathers' symptoms of anxiety ($\beta = .000, p < .001$), and fathers' symptoms of depression ($\beta = .000, p < .001$).

Testing for Differences in Path Coefficients Between Mothers and Fathers

In an effort to understand if material hardship differentially influenced mothers and fathers, Wald's tests were conducted to examine all significant paths based on the previous models run separately for mothers and fathers. Contrary to my hypotheses, only one path was found to be significantly different. That is, Wald's test confirmed that the path between material hardship and parents' anxiety symptoms were significantly different for mothers and fathers χ^2 's = 7.76, $p < .05$ as well as the path between material hardship and mother' and fathers' engagement χ^2 's = 2.77, $p < .10$. All other direct and indirect (i.e., mediated) paths were found to not be significantly different (see Table 9).

Discussion

While this study is not the first to examine the associations between material hardship and family and child wellbeing, the main goal of this study was to determine whether any differences existed between mothers and fathers in the ways that material hardship is associated with their psychological and parenting stress and, in turn, with their parenting behaviors and ultimately their children's social and behavioral outcomes. Additionally, this study examined the indirect effects of material hardship on child outcomes through five parenting mechanisms: psychological stress (i.e., anxiety and depression symptoms), parenting stress, and parenting behaviors (i.e., engagement, use of spanking). The discussion of the findings will be presented in the following order: the association between material hardship and mothers' parenting and the indirect effects of material hardship on child outcomes via maternal parenting variables; the association between material hardship and fathers' parenting, and the indirect effects of material hardship on child outcomes via paternal parenting variables. The discussion will end with limitations of the current study in addition to implications for future research.

Interestingly, data showed different patterns among mothers and fathers for associations between material hardship and children's social and behavioral outcomes. Overall, the main findings from this study are: (1) material hardship had direct effects on mothers' symptoms of anxiety and depression, but only on fathers' symptoms of depression; (2) only mothers' and fathers' parenting stress when the child was age 3 was associated with mothers' engagement and spanking and fathers' spanking during the same time-point (e.g., when the child was age 3); and, (3) there was no evidence of

mediated paths for models using both mother- and father-reported data and child outcome data. This study contributed to the existing literature by including both mothers and fathers in separate models as an approach to understand if material hardship influences mothers and fathers differently and, if so, if it predicted different parenting behaviors among mothers and fathers.

This study was partially motivated by Conger and Conger's (2000) Family Stress Model in that I hypothesized that when families experience significant material hardship, parents are at an increased risk for developing symptoms of anxiety or depression that can impede harmonious interactions with their children and ultimately lead to increases in adverse child social and behavioral outcomes (Elder et al., 1995; Linver et al., 2006). While not all of the hypothesized paths were significant, results from this study are consistent with the theoretical framework proposed by Conger and Conger's (2000), such material hardship was associated with increases in both mothers' and fathers' psychological stress and with children's social and behavioral outcomes.

Mothers

In the first model, mothers' reports of hardship when the child was age 1 was used to predict mothers' report of their psychological and parenting stress, and their parenting behaviors when their children were age 3, and children's outcomes at age 5. In general, findings indicate that increases in material hardship were associated with increases in adverse outcomes for both mothers and children. Consistent with previous research, findings from this study indicate that material hardship does influence mothers' depressive symptoms. For example, Kiernan and Huerta (2008) found a direct

relationship between economic deprivation and maternal depression; however, their study also found that economic deprivation was indirectly associated with child outcomes via maternal depression.

Contrary to my hypotheses, only mother-reported parenting stress was associated with mothers' engagement with their children and their use of spanking. Similar to findings from other studies (Simmons et al., 2002; Turney, 2011), higher levels of mothers' stress predicted fewer times, on average, that mothers engaged with their children (e.g., reading to them or playing games during the week) and also predicted mothers' increased use of spanking.

When parents experience stressors (e.g., mothers who may feel the pressure to add to the family's economic situation) they are more likely to feel that their stressors are unmanageable, making it more likely that they will feel stressed in their role as a parent and less likely that they will be able to consistently use positive discipline strategies to help manage their children's behavior. The direct and significant paths between mothers' parenting stress and their engagement and use of spanking are not surprising given that the average income in this sample was relatively low, making it more likely that mothers' responses to their potentially bleak financial situation would make them feel less positive and more likely to feel stressed as a result of being unable to adequately provide for their family. However, the association between parenting stress and mothers' behavior does not necessarily depend on families' economic situation or lack of adequate material resources. It is possible that other factors can explain why mothers' parenting stress was associated with less engagement and more spanking; perhaps some of the mothers in this

sample also experienced stressors such as living in an impoverished neighborhood (or communities with few resources) or lacking high-quality child care for their children that negatively contributed to their high levels of parenting stress that, in turn, negatively impeded their ability to effectively engage with and discipline their children's behavior.

Yet, maternal anxiety was not predictive of maternal engagement or use of spanking when the child was age 3 or with children's social and behavioral outcomes when the child was age 5. Contrary to previous scholars (Beebe et al., 2011; Kaitz & Maytal, 2005) that found that mothers' anxiety can be exhibited toward their children in one of two ways (i.e., through intrusive or withdrawn behaviors), mothers' symptoms of anxiety were not significantly associated with child outcomes and did not serve as a mediator between material hardship and mothers' parenting behaviors or children's social and behavioral outcomes. It is possible that parenting stress was more salient than mothers' symptoms of anxiety or depression. That is, perhaps mothers may experience some anxiety, and depression, but maybe mothers respond to material hardship (i.e., unable to provide adequate resources to their children for long periods of time), by feeling more stressed in their role as a primary caregiver that subsequently impairs their ability to engage in consistently harmonious and positive interactions with their children.

However, it is important to note that there were no significant indirect effects found for the final model with mothers. That is, while I hypothesized that mothers' psychological and parenting stress would mediate the relationship between material hardship and mothers' parenting behaviors and subsequently mothers' parenting behaviors would mediate the overall relationship between material hardship and

children's social and behavioral outcomes, findings from this study do not support these hypotheses. As can be seen in Figure 2, the coefficients between material hardship and child outcomes via mothers' parenting are all in the hypothesized directions; however, it is not surprising to that mediated pathways were not found.

Fathers

Material hardship was also directly associated with father outcomes, but unlike path models for mothers, material hardship was only directly associated with higher reports of fathers' depression when the child was age 3. While there was evidence that material hardship was associated with increases in mothers' anxiety, findings from this study indicate that material hardship was only significantly associated with fathers' depression symptoms, but not with fathers' anxiety. It is possible that fathers, like mothers, who experience some sort of financial strain or economic pressure to provide for the family respond to this type of stressor by feeling less adequate in their role as a father increasing the risk for experiencing symptoms of depression. The fact that some differences were found among mothers and fathers in the way that material hardship influenced their psychological stress is not surprising given that previous research that has found that mothers and fathers' perceive financial strain differently and the discrepancy between mothers' and fathers' perception of financial strain may be associated with different parent-child interactions among mothers and fathers (Paat, 2011).

Unlike the direct association found between material hardship and fathers' symptoms of depression, material hardship was not directly associated with fathers'

report of parenting stress. Perhaps there is something in particular about fathers' reports of parenting stress that this study did not capture, such as employment status. For example, in a current study by Nomaguchi and Johnson (2013), they found that fathers who are unemployed reported high levels of parenting stress, yet fathers who were employed but whom also reported high levels of work-family conflict had increased reports of parenting stress. Thus, it is possible that even though fathers may be the primary financial providers, they may also feel stressed in their role as the primary caregiver because of the dual pressure to not only financially provide for the family, but also to be engaged with their children. Other studies have found that fathers' reaction to financial strain may be more salient because it is negatively associated with their social role as the breadwinner and main financial provider (Conger et al., 1992; Paat, 2011).

However, this study did not include fathers' employment status in the path models conducted, thus it is impossible to ascertain if similar findings would have been found had fathers' employment status been taken into account. Yet, there was a significant and direct relationship between fathers' parenting stress and fathers' use of spanking, which indicates that fathers who perceive parenting as a stressful role may use spanking as a means to discipline their child. The path between fathers' parenting stress and fathers' engagement was in the expected direction, but not significant, which suggests that perhaps despite the perceived stress of being a parent may not significantly impact the way in which fathers engage with their children; that is, they may engage less with their children, on average, but they may still be engaged with their children in some capacity rather than disengaging completely. Future studies should examine this relationship

further to understand the association between fathers' parenting stress and the potential influence that it may have on various aspects of fathers' parenting behaviors, not limiting it to just fathers' engagement and spanking.

There was also evidence of direct paths between fathers' engagement and use of spanking with child outcomes in the expected directions. While there was not evidence of full mediation as hypothesized, these findings suggest that fathers' contributions in the home, such as their engagement with their children and their use of spanking, can have positive and negative impacts on child outcomes. These findings support other scholars that contend that fathers matter for their children, especially when they reside with the family.

Interestingly, there was evidence that fathers' symptoms of anxiety and depression served as a partial mediators between material hardship and fathers' engagement. Unlike path models conducted with mothers, only models with fathers found partial mediation between material hardship and fathers' engagement via fathers' symptoms of anxiety and depression. Perhaps anxiety manifests differently among fathers than mothers and, therefore, fathers may not respond similarly to the anxiety as previous research has established with maternal anxiety and maternal behavior (Beebe et al., 2011; Kaitz & Maytal, 2005). Namely, previous researchers have found an association between maternal anxiety and mothers' parenting: they can either disengage from interacting with their children or they can become overly intrusive during interactions with their children. Findings from these studies suggest that even if mothers experience symptoms of anxiety, they may still be engaged with their children, even if their engagement may not

necessarily be positive. Perhaps, then, it is possible that anxiety only influences fathers by hindering their ability to engage with their children, rather than heightening the possibility for intrusive interactions with their children. That is, anxiety may be more prominent for fathers who experience material hardship as it can not only negatively alter their perceived role as the primary financial provider for the family, but also decrease their interactions with their children.

Differences Between Mothers and Fathers in Links among Hardship, Parenting, and Child Outcomes

When examining the potential differential association of the influence of material hardship on mothers and fathers parenting, findings from this study, in general, did not find a significant difference between the influence of material hardship on mothers and fathers. The only significant differences were found between material hardship and mothers' and fathers' anxiety and engagement, such that material hardship differentially influenced mothers' and fathers' symptoms of anxiety and their reports of their engagement with their children. These findings again reflect a difference in the way that material hardship and economic strain negatively influences mothers' more so than fathers. Even though material hardship was found to be significantly associated with fathers' symptoms of depression, it is possible that depression is more salient to fathers than any anxiety fathers may or may not experience as a result of their potentially stressful economic situation.

Furthermore, it is possible that there is something inherently different among cohabitating families (i.e., families that remain together across time, regardless of their

marital status) that potentially buffer both mothers and fathers from the true negative influence that material hardship may have on their mental health and parenting. That is, maybe by having a partner it helps to distribute the weight and stress of material hardship between both parents so that neither parent is feeling more stressed than the other. Indeed, findings from this study support evidence from other studies that fathers' presence in the home can serve as a buffer against maternal stress and problematic mental health symptoms. However, while the present findings suggest that there are only anxiety and parenting stress are the only significantly different paths for mothers and fathers, it is possible that resident fathers, due to their proximity to the family, can both positively and negatively influence their partners and children. For example, if fathers also have problematic mental health symptoms and react negatively to the strain of material hardship, it is possible that this would increase maternal stress and this increase could potentially adversely alter mothers' parenting behaviors.

Further statistical analyses would need to be conducted to determine if material hardship would differentially influence mothers and fathers by using the residential status of the family. That is, it is possible that if multi-group models examining these same paths but comparing them to families who did not reside together, different findings would have emerged. For example in a similar study examining the residential status of the father as a potential moderator of the association between parental depression/anxiety and child behavior problems, Meadows et al. (2007) found that only for residential fathers, their mental health was significantly associated with child outcomes, suggesting

that fathers' mental health may only significantly influence children's behavior if they live with and are involved with their children.

However, because multi-group models were not conducted for residential versus nonresidential families, findings from this study are only somewhat related to the study conducted by Meadows et al. (2007). A potential follow-up study for this study would be to examine if residential status of families would differentially influence mothers and fathers. That is, it is possible that because this study only looked at families that remained together significant differences between mothers and fathers were not found.

Conceivably, nonresident fathers who are involved with their children and who provide both formal and in-kind support to their children may help reduce material hardship among the family and subsequently decrease the probability that mothers will be at an increased risk for experiencing psychological and parenting stress. Still, follow-up analyses would need to be conducted to explore these potential associations.

Limitations of the Current Study

There are several limitations to this study. First, most of the data are derived from self-report measures and are subject to reporting bias. Previous research (Achenbach et al., 1987) has found that parents' reports of children's behavior are often disparate in comparison to the perception of others (e.g., teachers). While there was teacher-reported data for using the CBCL at Year 5, only a small proportion of teachers out of the entire study sample ($N = 1039$) answered questions with regard to child behavior making it impossible to impute data for a significant proportion of the sample. Therefore,

interpretation of the results using mothers' and fathers' reports should be used with caution.

Although one of the main advantages to using data from the FFCW study is that it includes a large sample, it focused mainly on a low-income population with an over-representation of mothers who were unmarried at the time of the child's birth, thus future analyses using a representative sample of the United States population is necessary to examine if material hardship is associated with families who span the economic spectrum. Another limitation is that mother-father relationship quality was not examined as a potential mediator of the association between material hardship and both parent and child outcomes as there is evidence that mother-father relationship quality can interfere with parenting behavior and subsequent interactions with their children. In a working paper using FFCW data, Tach (2012) examined whether multi-partnered fertility would be associated with increases in mothers' and fathers' parenting stress and found that fathers can serve as a positive source rather than a strain to mothers' parenting stress, albeit she stated that taking the mother-father relationship quality is necessary to understand if this association remains even when the quality of the mother-father relationship is not very good. It is possible that because this study did not parse out resident versus nonresident fathers in all of the models, this study did not fully capture the extent to which material hardship influences mothers and fathers separately. Future studies should examine whether material hardship is differentially associated with resident and nonresident fathers and, if so, in what ways.

Another limitation is that this study sample was limited to families who remained living together across the first five years of their child's birth. Without a comparison group of families who did not remain living together, it is impossible to ascertain how the residential status of the family might change the influence that material hardship has on mothers and fathers. It is possible that by examining nonresidential families, mothers who do not have a stable father figure in the home may be more negatively impacted by material hardship than mothers who have a consistent father figure living at home and helping distribute the stress of material hardship and economic strain.

Lastly, perhaps most importantly, one significant limitation to this study is that the effect sizes were extremely small. Thus, while they were statistically significant (e.g., see the .000 coefficients found in Tables 6 and 8), the results of this study for multiple path models are not practically significant. That is, while findings from this study suggest that certain paths using parents' psychological and parenting stress are consistent with mediation, the results should be interpreted with caution. Still, findings from this study do shed light on the importance of the association between material hardship and mothers' and fathers' psychological stress and parenting behaviors as it can have important implications for children's social-emotional, behavioral, and academic outcomes.

Implications for Future Research

Most families, regardless of their income, face multiple stressors that can both positively and negatively influence their parenting and child outcomes, however, not all stressors may be attributed to material hardship. Although the results of the present study

replicate findings from previous research with regard to the indirect and negative associations between material hardship and children's outcomes via parents' psychological stress and parenting, future studies should continue to make a concerted effort to include fathers in their sample for two main reasons: 1) it is not justifiable to assume that fathers' mental health, whether resident or not, is not significantly associated with both mother and child outcomes; and, 2) it can help policymakers design effective intervention programs that target families with few economic resources as a means to facilitate healthy child development. Also, problematic mental health symptoms in mothers and fathers may interact, such that one parent without symptoms can help buffer children from the psychopathology from the other parent, making it more justifiable to continue to examine how material hardship influences both mothers and fathers (both resident and nonresident; affluent and low-income)

Furthermore, while parents who experience chronic or intermittent material hardship are more likely to experience increases in their psychological and parenting stress, it is plausible that parents who do not experience significant material hardship (e.g., middle- to upper-income families) and who are in stable relationships (i.e., married or not) may also be influenced by various sources of stress that may not be directly associated with economic stress or material hardship. Thus, it would be valuable to examine middle and upper-income households that do not experience stress due to material hardship to understand if there are other stressors that may be associated with parents' stress and behavior as well as child outcomes.

Perhaps most importantly, findings from this study suggest that more emphasis by federal, state, and local governments should be placed on what material hardship means for families, while paying less attention to poverty thresholds and income levels as computed by the United States Census Bureau. As the cost of living varies widely among cities, incorporating measures of material hardship, simultaneously with families' income levels, can help alleviate material hardship experienced by parents, thus potentially helping to reduce both mothers' and fathers' reports of psychological and parenting stress that subsequently influence parents' behaviors and, ultimately, children's social, behavioral, and academic outcomes. Researchers could help define material hardship in a way that government officials could use to design more effective and targeted interventions to help alleviate material hardship and stress among families, especially low-income and single mothers, in an effort to provide positive and stimulating environments for their children. As such, by differentiating material hardship from poverty, public and private organizations can better allocate funding and resources for interventions to help reduce low-income mothers' stress, in addition to providing benefits to reduce material hardship (e.g., TANF, housing-subsidies). Still, as previously mentioned, there should be a concerted effort by not only researchers, but also policymakers to examine how fathers play a role in influencing family outcomes, as their contributions (e.g., child-support; in-kind support) can also influence the association between material hardship and child outcomes via not only their parenting, but also by the influence that they have on the mothers' role as a caregiver.

Table 1
Demographic Statistics for Control Variables in FFCW Sample

<i>Variables</i>	<i>N</i>	<i>%</i>	<i>M (SD)</i>
<i>Race/Ethnicity</i>			
<i>Mother</i>			
Non-Hispanic, White	486	36.8%	
Non-Hispanic, Black	359	27.2%	
Hispanic	407	30.8%	
Other	70	5.3%	
<i>Father</i>			
Non-Hispanic, White	473	35.7%	
Non-Hispanic, Black	381	28.8%	
Hispanic	402	30.3%	
Other	69	5.2%	
<i>Education</i>			
<i>Mother</i>			
Less than high school	297	22.4%	
High school diploma or GED	341	25.8%	
Some college	355	26.8%	
College or post-graduate education	331	25.0%	
<i>Father</i>			
Less than high school	320	24.2%	
High school diploma or GED	348	26.3%	
Some college	350	26.4%	
College or post-graduate education	306	23.1%	
<i>Age^a</i>			
Mother	1326	15 – 43	27.63 (6.10)
Father	1253	17 - 53	30.08 (6.90)
<i>Immigration status (% native born)</i>			
Mother	987	74.4%	
Father	943	71.1%	
<i>Child gender</i>			
Female	629	47.4%	
Male	697	52.6%	

Note. ^a Age range for mothers and fathers in presented in the percentage tab.

Table 2
Correlations Among Main Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Year 1</i>													
1	Material hardship	-											
2	Mother anxiety	.22**	-										
3	Mother depression	.26**	.39**	-									
4	Mother parenting stress	.07*	.08**	.18**	-								
5	Mother engagement	-.04	-.05*	-.07**	-.26**	-							
6	Mother spanking	.09**	.01	.04	.09**	-.09**	-						
7	Father anxiety	.06	.07*	.07*	-.01	-.03	-.03	-					
8	Father depression	.05	.06*	.05	.04	-.01	.04	.15**	-				
9	Father parenting stress	.02	.01	.05	.19**	-.08*	-.02	.07**	.10**	-			
10	Father engagement	-.00	-.04	-.06*	-.08*	.19**	.00	-.05	-.05	-.09**	-		
11	Father spanking	.07*	.03	.08**	.04	-.01	.26**	.02	.07*	.04	-.05	-	
<i>Year 3</i>													
12	Mother anxiety	.15**	.28**	.24**	.10**	.00	.06*	.03	.07*	.08*	-.01	.02	-
13	Mother depression	.24**	.21**	.42**	.14**	-.03	.11**	.05	.06*	.10**	.03	.07*	.41**
14	Mother parenting stress	.06*	.08**	.12**	.57**	-.19**	.08**	.06*	.05	.23**	-.06*	.01	.18**
15	Mother engagement	-.08**	-.03	-.04	-.15**	.49**	-.06*	.01	.03	-.05	.14**	-.02	-.01
16	Mother spanking	.09**	.04	.04	.10**	-.06*	.38**	.03	.06*	.00	.00	.22**	.06*
17	Father anxiety	.01	-.04	-.00	.01	-.01	-.04	.11**	.09**	.02	-.08**	.06*	-.01
18	Father depression	.12**	.01	.12**	.08**	-.00	.03	.06*	.37**	.05	.01	.06*	.12**
19	Father parenting stress	.03	.01	.05	.22**	-.13**	.00	.09**	.10**	.55**	-.10**	.06	.06*
20	Father engagement	.01	.01	-.02	-.07*	.15**	-.04	-.03	-.01	-.07*	.49**	-.07*	.01
21	Father spanking	.07*	.01	.04	.06	.01	.18**	-.00	.08**	.05	-.05	.37**	.05
<i>Child outcomes</i>													
22	M Poor-self regulation	.11*	.08**	.13**	.16**	-.11**	.07*	.03	.01	.06	-.01	.03	.11**
23	M Poor attention skills	.09*	.10**	.10**	.14**	-.14**	.09**	.03	.07*	.12**	-.05	.03	.12**
24	M Poor social skills	.06	.09**	.10**	.15**	-.13**	.06*	.05	.01	.11*	-.04	.02	.10**
25	F Poor-self regulation	.09**	.05	.05	.05	-.02	.05	.04	.16**	.12**	-.06	.05	.02
26	F Poor attention skills	.07*	.05	.03	.07*	-.05	.09**	.04	.16**	.14**	-.08*	.09**	.09**
27	F Poor social skills	.14**	.07*	.06	.07*	-.02	.06	.00	.16**	.14**	-.04	.06	.08*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2 (continued)
Correlations Among Main Study Variables

		14	15	16	17	18	19	20	21	22	23	24	25	26
15	Mother engagement	-.16**	-											
16	Mother spanking	.16**	-.09**	-										
17	Father anxiety	.02	.03	-.01	-									
18	Father depression	.06	.01	.02	.16**	-								
19	Father parenting stress	.25**	-.09**	.04	.07*	.13**	-							
20	Father engagement	-.07*	.17**	-.06*	-.07*	-.02	-.09**	-						
21	Father spanking	.04	.01	.37**	.00	.06*	.11**	-.08**	-					
22	M Poor-self regulation	.21**	-.11**	.14**	-.02	.09**	.10**	-.04	.07*	-				
23	M Poor attention skills	.20**	-.13**	.11**	-.07*	.09**	.13**	-.04	.09**	.58**	-			
24	M Poor social skills	.19**	-.07**	.02	-.04	.05	.12**	-.07*	.00	.58**	.58**	-		
25	F Poor-self regulation	.02	.01	.02	.02	.13**	.13**	-.06	.07*	.15**	.13**	.18**	-	
26	F Poor attention skills	.05	-.06	.03	.01	.09**	.13**	-.06	.05	.15**	.24**	.20**	.55**	-
27	F Poor social skills	.06	-.03	.00	-.01	.12**	.16**	-.03	-.01	.12**	.14**	.24**	.58**	.54**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3
 Descriptive Statistics for Independent Study Variables in FFCW

<i>Variables</i>	<i>N</i>	<i>Scale</i>	<i>M</i>	<i>SD</i>	<i>α</i>
<i>Material hardship</i> ^a					
Year 1	1326	0-8	0.76	1.33	0.70
<i>Anxiety symptoms (CIDI-SF)</i>					
Maternal anxiety, year 1	1326	0-14	0.75	2.29	0.77
Maternal anxiety, year 3	1325	0-14	0.86	2.51	0.78
Paternal anxiety, year 1	1239	0-12	0.32	1.06	0.94
Paternal anxiety, year 3	1241	0-10	0.30	1.05	0.61
<i>Depressive symptoms (CIDI-SF)</i>					
Maternal depression, year 1	1325	0-8	0.78	1.79	0.92
Maternal depression, year 3	1325	0-8	1.01	2.18	0.93
Paternal depression, year 1	1234	0-8	0.41	1.33	0.94
Paternal depression, year 3	1241	0-8	0.65	1.71	0.95
<i>Parenting stress</i>					
Maternal stress, year 1	1136	1-4	2.10	0.63	0.61
Maternal stress, year 3	1324	1-4	2.21	0.64	0.64
Paternal stress, year 1	1055	1-4	2.01	0.63	0.58
Paternal stress, year 3	1236	1-4	2.04	0.65	0.62
<i>Parents' engagement</i>					
Maternal engagement, year 1	1325	1-7	5.29	1.06	0.62
Maternal engagement, year 3	1324	1-7	4.82	1.14	0.67
Paternal engagement, year 1	1231	0-7	4.68	1.30	0.83
Paternal engagement, year 3	1326	0-7	4.09	1.38	0.75
<i>Parents' spanking</i> ^b					
Maternal spanking, year 1	1325	0-3	0.29	0.65	-
Maternal spanking, year 3	1322	0-3	0.73	0.83	-
Paternal spanking, year 1	1224	0-3	0.24	0.58	-
Paternal spanking, year 3	1232	0-3	0.60	0.79	-

Note. ^a This is a measure of mothers' report of material hardship. ^b Alpha is not appropriate for the measure of spanking as it is based on one screener question and one frequency question..

Table 4
Descriptive Statistics for Dependent Variables in FFCW at Year 5 by Rater

<i>Subscales by Rater</i>	<i>N</i>	<i>Scale</i>	<i>M</i>	<i>SD</i>	<i>α</i>
<i>Child Behavior Checklist (CBCL)</i>					
Mothers					
Poor self-regulation	1133	0-2	0.40	0.34	0.68
Poor attention skills	1133	0-2	0.37	0.41	0.52
Poor social skills	1133	0-2	0.28	0.26	0.55
Fathers					
Poor self-regulation	969	0-2	0.40	0.34	0.68
Poor attention skills	969	0-2	0.44	0.44	0.58
Poor social skills	969	0-2	0.31	0.26	0.65

Table 5
Direct Effects for Paths Analysis Model with Mothers

Path	<u>Mplus estimate of effects</u>		
	B	(S.E).	β
<i>Autoregressive lags, year 1 to year 3</i>			
Anxiety → anxiety	0.263	(0.028)***	0.242
Depression → depression	0.414	(0.029)***	0.346
Parenting Stress → parenting stress	0.550	(0.024)***	0.551
Engagement → engagement	0.459	(0.027)***	0.431
Spanked → spanked	0.425	(0.033)***	0.334
<i>Direct paths, material hardship year 1 to parenting outcomes at year 3</i>			
Hardship → anxiety	0.172	(0.053)**	0.091
Hardship → depression	0.212	(0.043)***	0.131
Hardship → parenting stress	0.023	(0.012) [†]	0.048
Hardship → engagement	-0.035	(0.022)	-0.041
Hardship → spanked	0.024	(0.016)	0.038
<i>Direct paths, material hardship year 1 to child outcomes at year 5</i>			
Hardship → child poor self-regulation	0.025	(0.008)**	0.096
Hardship → child poor attention skills	0.023	(0.010)*	0.070
Hardship → child social skills	0.011	(0.006)	0.054
<i>Direct paths, parenting stress year 3 to parenting behaviors at year 3</i>			
Anxiety → engagement	0.009	(0.012)	0.020
Anxiety → spanking	-0.005	(0.009)	-0.015
Depression → engagement	-0.007	(0.014)	-0.013
Depression → spanking	0.016	(0.011)	0.043
Parenting stress → engagement	-0.136	(0.044)**	-0.077
Parenting stress → spanking	0.160	(0.033)***	0.124
<i>Direct paths, parenting behavior year 3 to child outcomes at year 5</i>			
Engagement → child poor self-regulation	-0.028	(0.009)**	-0.091
Engagement → child poor attention skills	-0.037	(0.012)**	-0.095
Engagement → child social skills	-0.007	(0.007)	-0.030
Spanked → child poor self-regulation	0.057	(0.012)***	0.137
Spanked → child poor attention skills	0.062	(0.016)***	0.116
Spanked → child social skills	0.015	(0.009)	0.046

Model fit: CFI = .974, RMSEA = .032, SRMR = .024, χ^2 (df = 72) = 172.330

Note. Shown coefficients are account for the following covariates: child gender (0 = female, 1 = male), mother and father relationship status (0 = not married, 1 = married), maternal and paternal age, maternal and paternal race (Hispanic, African American, Other; omitted group: White, Non-Hispanic), mothers' and fathers' education (less than high school degree, high school diploma/GED, college degree; omitted group: some college), maternal and paternal immigration status (0 = citizen, 1 = immigrant), and income-to-needs ratio.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6
Indirect Effects for Path Analysis Model with Mothers

Path	<u>Mplus estimate of indirect effects</u>		
	B	(S.E).	β
<i>Indirect paths from material hardship at year 1 to parenting behaviors at year 3</i>			
Hardship → anxiety → engagement	0.002	(0.002)	0.002
Hardship → anxiety → spanking	-0.001	(0.002)	-0.001
Hardship → depression → engagement	-0.001	(0.003)	-0.002
Hardship → depression → spanking	0.003	(0.002)	0.006
Hardship → parenting stress → engagement	-0.003	(0.002)	-0.004
Hardship → parenting stress → spanking	0.004	(0.002)	0.006
<i>Indirect paths from material hardship to child outcomes via parenting variables</i>			
Hardship → anxiety → engagement → poor self-regulation	0.000	(0.000)	0.000
Hardship → anxiety → spanking → poor self-regulation	0.000	(0.000)	0.000
Hardship → depression → engagement → poor self-regulation	0.000	(0.000)	0.000
Hardship → depression → spanking → poor self-regulation	0.000	(0.000)	0.001
Hardship → parenting stress → engagement → poor self-regulation	0.000	(0.000)	0.000
Hardship → parenting stress → spanking → poor self-regulation	0.000	(0.000)	0.001
Hardship → anxiety → engagement → poor attention	0.000	(0.000)	0.000
Hardship → anxiety → spanking → poor attention	0.000	(0.000)	0.000
Hardship → depression → engagement → poor attention	0.000	(0.000)	0.000
Hardship → depression → spanking → poor attention	0.000	(0.000)	0.001
Hardship → parenting stress → engagement → poor attention	0.000	(0.000)	0.000
Hardship → parenting stress → spanking → poor attention	0.000	(0.000)	0.001
Hardship → anxiety → engagement → poor social skills	0.000	(0.000)	0.000
Hardship → anxiety → spanking → poor social skills	0.000	(0.000)	0.000
Hardship → depression → engagement → poor social skills	0.000	(0.000)	0.000
Hardship → depression → spanking → poor social skills	0.000	(0.000)	0.000
Hardship → parenting stress → engagement → poor social skills	0.000	(0.000)	0.000
Hardship → parenting stress → spanking → poor social skills	0.000	(0.000)	0.000

Model fit: CFI = .962, RMSEA = .046, SRMR = .025, χ^2 (df = 44) = 496.241

Note. Shown coefficients are account for the following covariates: child gender (0 = female, 1 = male), mother and father relationship status (0 = not married, 1 = married), maternal and paternal age, maternal and paternal race (Hispanic, African American, Other; omitted group: White, Non-Hispanic), mothers' and fathers' education (less than high school degree, high school diploma/GED, college degree; omitted group: some college), maternal and paternal immigration status (0 = citizen, 1 = immigrant), and income-to-needs ratio.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7
Direct Effects Path Models with Fathers

Path	<u>Mplus estimate of effects</u>		
	B	(S.E).	β
<i>Autoregressive lags, year 1 to year 3</i>			
Anxiety → anxiety	0.107	(0.028)***	0.108
Depression → depression	0.428	(0.034)***	0.336
Parenting Stress → parenting stress	0.550	(0.026)***	0.537
Engagement → engagement	0.506	(0.027)***	0.477
Spanked → spanked	0.434	(0.036)***	0.320
<i>Direct paths, material hardship year 1 to parenting outcomes at year 3</i>			
Hardship → anxiety	0.018	(0.023)	0.023
Hardship → depression	0.119	(0.035)**	0.093
Hardship → parenting stress	0.009	(0.013)	0.018
Hardship → engagement	0.017	(0.027)	0.016
Hardship → spanked	0.017	(0.016)	0.028
<i>Direct paths, material hardship year 1 to child outcomes at year 5</i>			
Hardship → child poor self-regulation	0.016	(0.009)	0.061
Hardship → child poor attention skills	0.025	(0.011)*	0.076
Hardship → child social skills	0.015	(0.007)*	0.078
<i>Direct paths, parenting stress year 3 to parenting behaviors at year 3</i>			
Anxiety → engagement	-0.039	(0.033)	-0.030
Anxiety → spanking	-0.018	(0.019)	-0.024
Depression → engagement	-0.009	(0.021)	-0.011
Depression → spanking	0.013	(0.012)	0.028
Parenting stress → engagement	-0.064	(0.054)	-0.030
Parenting stress → spanking	0.114	(0.032)***	0.093
<i>Direct paths, parenting behavior year 3 to child outcomes at year 5</i>			
Engagement → child poor self-regulation	-0.016	(0.008)*	-0.065
Engagement → child poor attention skills	-0.023	(0.010)*	-0.071
Engagement → child social skills	-0.015	(0.006)*	-0.078
Spanked → child poor self-regulation	0.069	(0.014)***	0.161
Spanked → child poor attention skills	0.075	(0.018)***	0.133
Spanked → child social skills	0.009	(0.011)	0.028

Model fit: CFI = .933, RMSEA = .039, SRMR = .030, χ^2 (df = 87) = 264.003

Note. Shown coefficients are account for the following covariates: child gender (0 = female, 1 = male), mother and father relationship status (0 = not married, 1 = married), maternal and paternal age, maternal and paternal race (Hispanic, African American, Other; omitted group: White, Non-Hispanic), mothers' and fathers' education (less than high school degree, high school diploma/GED, college degree; omitted group: some college), maternal and paternal immigration status (0 = citizen, 1 = immigrant), and income-to-needs ratio.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 8
Indirect Effects for Path Analysis Model with Fathers

Path	Mplus estimate of indirect effects		
	B	(S.E.)	β
<i>Indirect paths from material hardship at year 1 to parenting behaviors at year 3</i>			
Hardship → anxiety → engagement	.000	(.000)***	.000
Hardship → anxiety → spanking	.000	(.001)	-.001
Hardship → depression → engagement	.000	(.000)***	.000
Hardship → depression → spanking	.002	(.002)	.003
Hardship → parenting stress → engagement	-.001	(.001)	-.001
Hardship → parenting stress → spanking	.001	(.001)	.002
<i>Indirect paths from material hardship to child outcomes via parenting variables</i>			
Hardship → anxiety → engagement → poor self-regulation	.000	(.000)	.000
Hardship → anxiety → spanking → poor self-regulation	.000	(.000)	.000
Hardship → depression → engagement → poor self-regulation	.000	(.000)	.000
Hardship → depression → spanking → poor self-regulation	.000	(.000)	.000
Hardship → parenting stress → engagement → poor self-regulation	.000	(.000)	.000
Hardship → parenting stress → spanking → poor self-regulation	.000	(.000)	.000
Hardship → anxiety → engagement → poor attention	.000	(.000)	.000
Hardship → anxiety → spanking → poor attention	.000	(.000)	.000
Hardship → depression → engagement → poor attention	.000	(.000)	.000
Hardship → depression → spanking → poor attention	.000	(.000)	.000
Hardship → parenting stress → engagement → poor attention	.000	(.000)	.000
Hardship → parenting stress → spanking → poor attention	.000	(.000)	.000
Hardship → anxiety → engagement → poor social skills	.000	(.000)	.000
Hardship → anxiety → spanking → poor social skills	.000	(.000)	.000
Hardship → depression → engagement → poor social skills	.000	(.000)	.000
Hardship → depression → spanking → poor social skills	.000	(.000)	.000
Hardship → parenting stress → engagement → poor social skills	.000	(.000)	.000
Hardship → parenting stress → spanking → poor social skills	.000	(.000)	.000

Model fit: CFI = .933, RMSEA = .039, SRMR = .030, χ^2 (df = 87) = 264.003

Note. Shown coefficients are account for the following covariates: child gender (0 = female, 1 = male), mother and father relationship status (0 = not married, 1 = married), maternal and paternal age, maternal and paternal race (Hispanic, African American, Other; omitted group: White, Non-Hispanic), mothers' and fathers' education (less than high school degree, high school diploma/GED, college degree; omitted group: some college), maternal and paternal immigration status (0= citizen, 1 = immigrant), and income-to-needs ratio.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 9
Wald's Test for Significant Differences Between Mothers and Fathers^a

	Wald's Test ^b
<i>Direct paths, material hardship year 1 to parent outcomes and child outcomes</i>	
Hardship → anxiety	7.75**
Hardship → depression	2.53
Hardship → parenting stress	0.50
Hardship → engagement	2.76*
Hardship → spanked	0.00
Hardship → child poor self-regulation	0.50
Hardship → child poor attention skills	0.50
Hardship → child social skills	0.50
<i>Direct paths, parenting stress year 3 to parenting behaviors at year 3</i>	
Anxiety → engagement	2.50
Anxiety → spanking	0.20
Depression → engagement	0.00
Depression → spanking	0.50
Parenting stress → engagement	1.56
Parenting stress → spanking	1.38
<i>Direct paths, parenting behavior year 3 to child outcomes at year 5</i>	
Engagement → child poor self-regulation	0.50
Engagement → child poor attention skills	2.0
Engagement → child social skills	0.50
Spanked → child poor self-regulation	0.50
Spanked → child poor attention skills	0.50
Spanked → child social skills	0.50
<i>Indirect paths from material hardship at year 1 to parenting behaviors at year 3</i>	
Hardship → anxiety → engagement	1.00
Hardship → anxiety → spanking	0.20
Hardship → depression → engagement	0.11
Hardship → depression → spanking	0.13
Hardship → parenting stress → engagement	0.80
Hardship → parenting stress → spanking	1.80
<i>Indirect paths from material hardship to child outcomes via parenting variables</i>	
Hardship → anxiety → engagement → poor self-regulation	0.00
Hardship → anxiety → spanking → poor self-regulation	0.00
Hardship → depression → engagement → poor self-regulation	0.00
Hardship → depression → spanking → poor self-regulation	0.00
Hardship → parenting stress → engagement → poor self-regulation	0.00
Hardship → parenting stress → spanking → poor self-regulation	0.00
Hardship → anxiety → engagement → poor attention	0.00
Hardship → anxiety → spanking → poor attention	0.00
Hardship → depression → engagement → poor attention	0.00
Hardship → depression → spanking → poor attention	0.00
Hardship → parenting stress → engagement → poor attention	0.00
Hardship → parenting stress → spanking → poor attention	0.00
Hardship → anxiety → engagement → poor social skills	0.00
Hardship → anxiety → spanking → poor social skills	0.00
Hardship → depression → engagement → poor social skills	0.00
Hardship → depression → spanking → poor social skills	0.00
Hardship → parenting stress → engagement → poor social skills	0.00
Hardship → parenting stress → spanking → poor social skills	0.00

Note. ^aPlease refer to tables 5 – 8 to view the unstandardized coefficients for mothers and fathers. ^bValues greater than 3.85 have a p value less than .05, values 2.71 or greater have a p value that is less than .10

** $p < .05$ * $p < .10$.

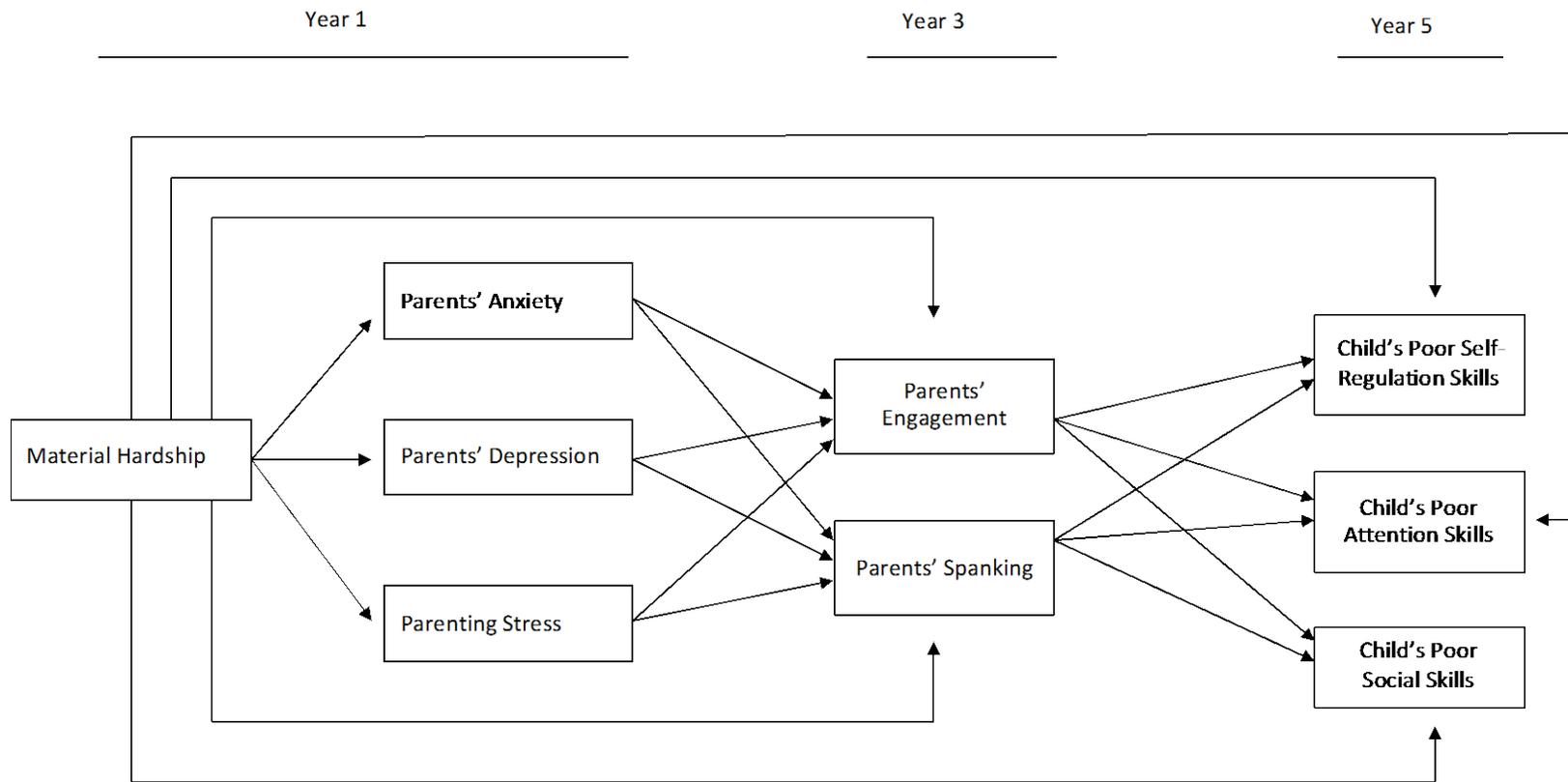


Figure 1. Hypothesized longitudinal model of material hardship on child behavioral outcomes regressed on parents' parenting behaviors. *Note:* Though not displayed in the figure, within wave parent emotional and parenting stress as well as parenting behaviors at year 1 are intercorrelated.

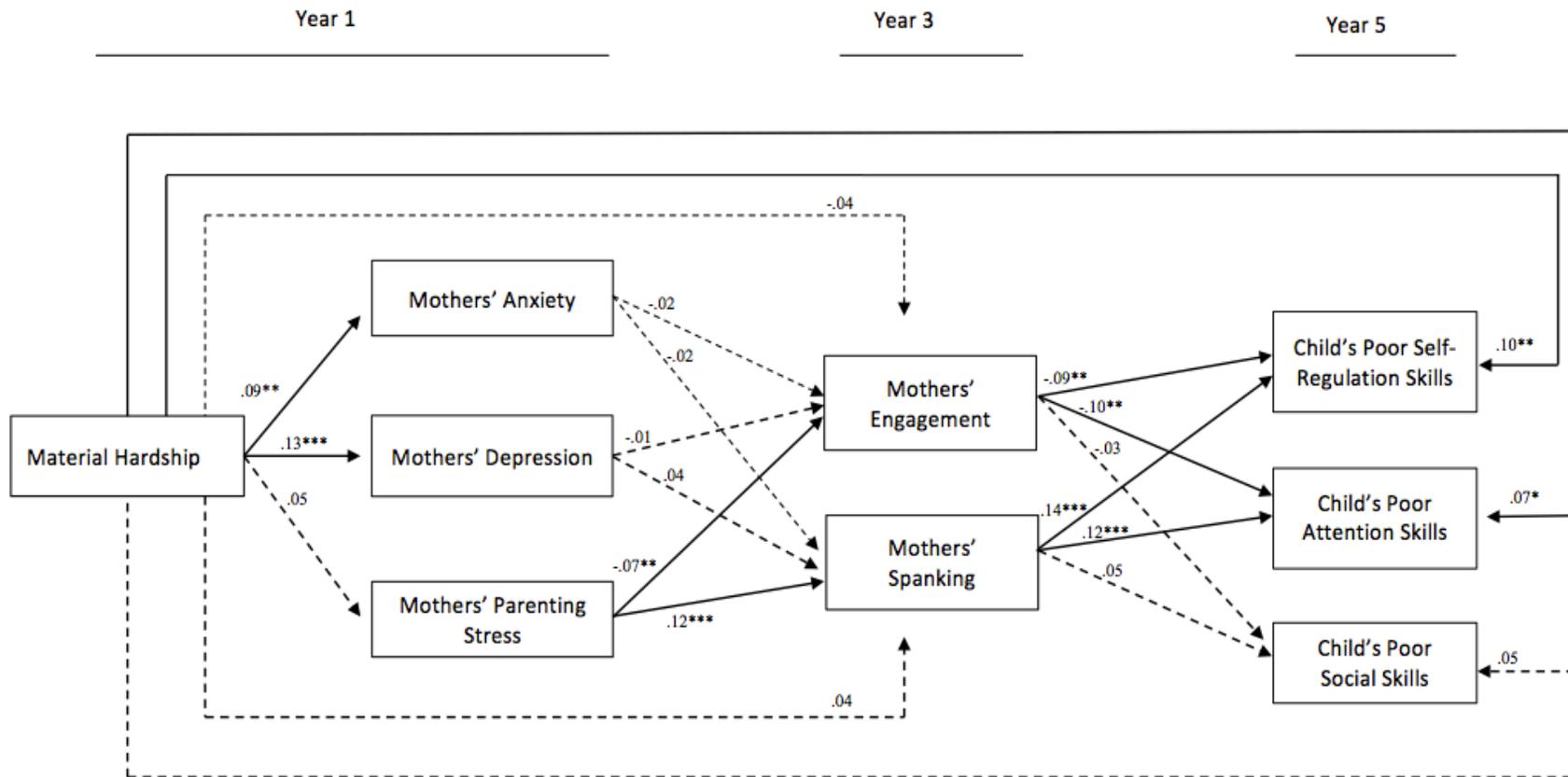


Figure 2. Standardized coefficients for model of material hardship, maternal stress, on children's behavioral skills with mothers' parenting behaviors as mediating pathways, with child outcomes from mother-reported CBCL. *Note:* Though not displayed in the figure, within-wave parent emotional and parenting stress as well as parenting behaviors are intercorrelated. Shown coefficients are standardized path coefficients after accounting for the following covariates: child gender (0 = female, 1 = male), mother and father relationship status (0 = not married, 1 = married), maternal age, paternal age, maternal race (African-American, Hispanic, Other; omitted group: White), paternal race (African-American, Hispanic, Other; omitted group: White), mothers' and fathers' education (less than high school degree, high school diploma/GED, college degree; omitted group: some college), maternal and paternal immigration status (0 = citizen, 1 = immigrant), and income-to-poverty ratio.

* $p < .05$, ** $p < .01$, *** $p < .001$.

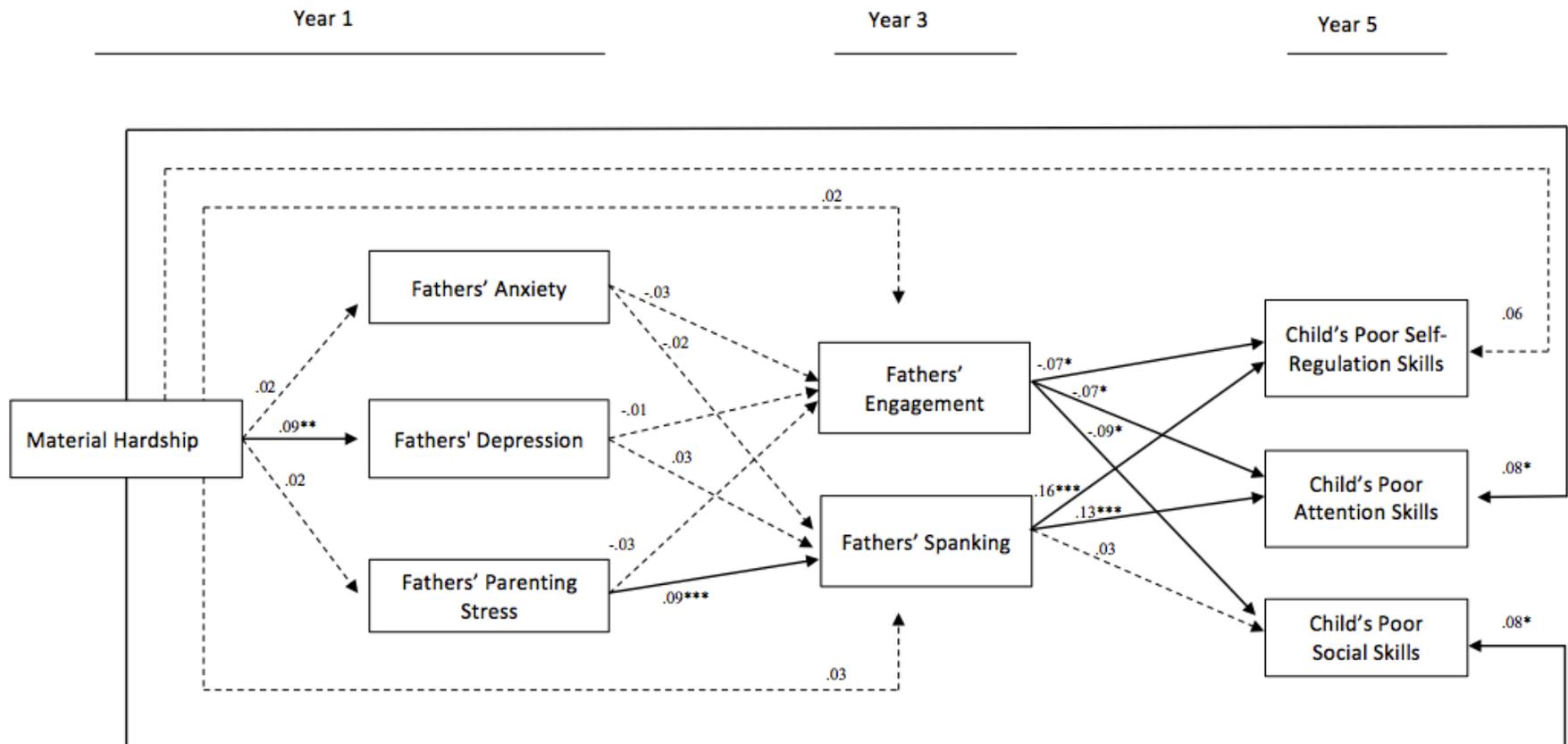


Figure 2. Standardized coefficients for model of material hardship, maternal stress, on children's behavioral skills with mothers' parenting behaviors as mediating pathways, with child outcomes from mother-reported CBCL. *Note:* Though not displayed in the figure, within-wave parent emotional and parenting stress as well as parenting behaviors are intercorrelated. Shown coefficients are standardized path coefficients after accounting for the following covariates: child gender (0 = female, 1 = male), mother and father relationship status (0 = not married, 1 = married), maternal age, paternal age, maternal race (African-American, Hispanic, Other; omitted group: White), paternal race (African-American, Hispanic, Other; omitted group: White), mothers' and fathers' education (less than high school degree, high school diploma/GED, college degree; omitted group: some college), maternal and paternal immigration status (0 = citizen, 1 = immigrant), and income-to-poverty ratio.
 * $p < .05$, ** $p < .01$, *** $p < .001$.

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