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RESIDENTIAL MOBILITY, PARENTAL STRESS, AND PARENTING

by

CHELSEA BARROWS

Under the Direction of Chris Henrich, PhD

ABSTRACT

The relationship between residential mobility, parental stress, and parenting is explored using a model based on the Family Stress Model. The roles of social support within this model are also explored. A secondary data analysis of the Fragile Families Child Wellbeing Study was conducted, providing a sample size of 4,300 families. The analyses did not support the indirect relationships hypothesized based on the FSM or stress buffering theories. However, residential mobility and parental stress had a direct effect on harsh parenting behaviors. Residential mobility was also found to reduce social support.

INDEX WORDS: Residential mobility, Parental stress, Parenting, Social support

RESIDENTIAL MOBILITY, PARENTAL STRESS, AND PARENTING

by

CHELSEA BARROWS

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

in the College of Arts and Sciences

Georgia State University

2019

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2019

RESIDENTIAL MOBILITY, PARENTAL STRESS, AND PARENTING

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December 2019

DEDICATION

To my husband Craig, for all his love and support throughout this process, and to our son Cohen who is always there with hugs at the end of long days.

ACKNOWLEDGEMENTS

I want to thank my committee for their support during this project. Thank you Dr. Henrich for chairing my committee, helping me through the analyses, and reading countless drafts while providing thoughtful and supportive feedback. I would also like to thank my friends and family for their support in many ways through this process.

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LIST OF ABBREVIATIONS

FFCWS: Fragile Families and Child Wellbeing Study

FSM: Family Stress Model

1 INTRODUCTION

1.1 Introduction

With nearly 35 million Americans moving each year, the effects of residential mobility can weigh on numerous families (U.S. Census Bureau, 2018). These consequences can be seen in negative changes to children's behavior and academic achievement, but to varying degrees. However, there is little understanding of why there are variations in outcomes, or the potential mechanisms driving them. Thus, it is important to consider the child's family environment as a source of influence on these outcomes, especially as it becomes one of the few constants in the child's life following a move. Similarly, moving can introduce a significant source of stress into the family life, particularly for the parents, which may compound the negative influence moving has on children. The Family Stress Model (FSM), which outlines the path from parental stress to negative child outcomes, offers a useful structure with which to understand the connections between parental stress and child maladjustment (Conger, Conger, & Martin, 2010).

The FSM traditionally focuses on parental distress resulting from economic hardship, and the paths through which it is related to child outcomes (Masarik & Conger, 2017). Parental distress within the FSM has been operationalized in a variety of ways, including financial stress, parental stress, emotional distress, and depression (Barnett, 2008; Conger et al., 2010; Neppl, Senia, & Donnellan, 2016; Newland, Crnic, Cox, & Mills-Koonce, 2013). Within the FSM, parental distress then leads to an increase in parental conflict and disruptive parenting. Parental psychological distress and economic pressure were found to be related to an increase in parental conflict and lower levels of satisfaction and stability in romantic relationships; resulting in less sensitive parenting (Barnett, 2008; Conger et al., 2010). Other studies have found more direct effects of parental distress leading to harsh, less supportive, and ineffective parenting (Neppl et

al., 2016; Newland et al., 2013). The ultimate result within the FSM is that disruptions in parenting result in negative effects on children's development, such as increased internalizing and externalizing behaviors (Masarik & Conger, 2017).

While economic stress is the primary focus in the FSM, there is the potential to utilize this framework to address other sources of parental stress (Masarik & Conger, 2017). When residential mobility is used as the initial stressor, it is possible that there would be a similar progression from parental distress to negative changes in parenting behaviors and the parent-child relationship. The stress often experienced by parents as a result of moving is likely to lead to the increase in harsh and inconsistent parenting, an outcome often found in FSM studies. The FSM also emphasizes the negative effects that economic hardship has on families, including parental psychological health (Newland, et al., 2013), child cognitive development (Nievar, Moske, Johnson, & Chen, 2014) and externalizing behavior (Neppl et al., 2016), and as such often advocates for interventions targeted at providing tangible help programs to support parents. However, while the potential for risk and protective factors for each relationship within the FSM has been acknowledged, current research has primarily focused on strengthening evidence of the primary relationships (Masarik & Conger, 2017). Using the FSM to frame the consequences of residential mobility offers the opportunity to explore how social support may act as a protective factor at several points within this model.

Pairing the FSM with stress buffering theories can highlight how social support may mitigate some of the negative outcomes related to residential mobility. Stress buffering can be seen in the effects of social support reducing levels of stress, as well as the potential for social support to diminish the negative effects of stress (Cohen & McKay, 1984). By exploring how residential mobility is related to disruptions in the family environment, and negative outcomes

for children, we may be better able to understand these effects and establish effective interventions to mitigate them. In the sections below, each aspect of the model hypothesized in the current study, including residential mobility as the stressor in a comparable FSM, will be reviewed.

1.2 Residential mobility

Residential mobility is often related to negative changes for both children and parents. Residential mobility disrupts many aspects of an individual's life and can be related to increased problems in a myriad of areas. Children, especially younger children, often experience the greatest difficulties. For example, children who move more frequently are more likely to display internalizing and externalizing behavior problems (Anderson, Leventhal, & Dupéré, 2014; Gillespie, 2013; Ziol-Guest & McKenna, 2014). Similarly, children are also more likely to demonstrate adjustment problems after experiencing multiple moves (Adam, 2004), especially adjusting to new schools (Bradshaw, Sudhinaraset, Mmari, & Blum, 2010). The effects of residential mobility also extend to physical consequences. Children who experience residential mobility have been found to have higher rates of teen pregnancy and depression, earlier beginning of drug use, and greater inconsistency in their healthcare (Jelleyman & Spencer, 2008). However, children are not the only ones affected; there are significant concerns for parents as well. Research has shown that mothers experiencing housing instability were found to have higher rates of depression and generalized anxiety disorder (Suglia, Duarte, & Sandel, 2011). Mothers and fathers were also found to change parenting styles and fathers were found to change monitoring behaviors following moves (Gillespie, 2014). This can become a severe problem when housing instability increases neglect risk, and through its effect on maternal stress, increases abuse risk (Warren & Font, 2015). These changes throughout the family suggest the

need for research to explore the impacts moving has beyond the individual, and to discover how resulting increases in parental stress are affecting family dynamics.

1.3 Parental stress

Parents experience stress from a number of sources, but often their children can compound those stressors. Sources of stress have been broken down into three categories, including extrafamilial, interparental, and child stressors (Webster-Stratton, 1990). Extrafamilial stressors include stressful life events and situations, such as unemployment, low socioeconomic status (SES), or simply daily hassles. Interparental stressors primarily focus more on the parents' relationship status, including marital distress, divorce, or single parenthood. Child stressors involve qualities and situations related to a specific child, such as difficult temperament, conduct problems, or other complications directly related to the child.

The most extensive research on extrafamilial stressors has been focused on poverty, and its effects on child development. Living in poverty has been found to be related to negative physical effects, lower cognitive abilities, lower school achievement, negative emotional and behavioral outcomes, and increased chances of being a teenage mother (Brooks-Gunn & Duncan, 1997). While many of these child outcomes can be related to poverty through mechanisms such as material hardship, health and nutrition deficiencies, and physical and neighborhood environments, poverty also effects parents in multiple ways, which can have trickle down effects on their children (Brooks-Gunn & Duncan, 1997; Chaudry & Wimer, 2016; Yeung, Linver, & Brooks-Gunn, 2002). For example, living in poverty can have serious negative effects on both parents' mental health (Chaudry & Wimer, 2016; Yeung et al., 2002), as well as physical health (Brooks-Gunn & Duncan, 1997). Parents living in poverty and experiencing emotional distress, or even depression, are less likely to participate in warm and responsive ways with their child,

resulting in less secure attachment, and poor emotional, behavioral, and achievement outcomes for their child (Brooks-Gunn & Duncan, 1997; Chaudry & Wimer, 2016, Yeung et al., 2002). Poverty has also been found to be related to higher rates of harsh punishments from the parent, and often increased externalizing behaviors from the child. It is also likely that within the context of poverty parental stress and the physical environment can be interrelated (Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005). The “context of chaos” is seen in the physical environment as living in crowded, noisy, substandard housing, as well as the family life as a lack of structure and predictability (Chaudry & Wimer, 2016). The disruption children experience can have a negative impact on school achievement, psychological adjustment, and increase psychological distress and learned helplessness.

The study of parental stress frequently incorporates extrafamilial, interparental, and child stressors that could increase general stress related to the overall role of being a parent (Abidin, 1990). Interparental stress focuses on parents, such as the effects of parental conflict and the resulting stress (Xu, Wang, Ahn, & Harrington, 2018), and the effects of single parenthood on parental mental health (Liang, Berger, & Brand, 2019), or even the effects of parental conflict and divorce on the child’s mental health (Leys, Arnal, Kotsou, Van Hecke, & Fossion, 2019). Many studies focus on specific situations in which a child’s condition would compound typical stressors parents experience, such as children diagnosed with autism spectrum disorder (Derguy, Bailara, Michel, Roux, & Bouvard, 2016), that are deaf or hard of hearing (Jean, Mazlan, Ahmad, & Maamar, 2018), or are admitted to a pediatric intensive care unit (Lisanti, Allen, Kelly, & Medoff-Cooper, 2017; Miles & Cooper, 1982). The common focus across these diverse situations is the sense that even when a stressor is separate from the child it is still considered parental stress if it has an impact on how the parent interacts with or feels about their

child. All of these stressors together can disrupt parenting behaviors, increasing irritable and critical interactions with the child and reducing nurturing behaviors. By focusing on a significant situational stressor, such as residential instability, it may be possible to identify and reduce associated consequences that increase overall levels of parental stress.

“Change in residence” is widely accepted as a significant stressor in an individual’s life. This stress is even greater if it includes a change in the family structure, employment status, school setting, or social activities (Holmes & Rahe, 1967). Increases in parental stress caused by a move may lead families to experience negative changes in parent-child relationships. When parents experience elevated levels of parental stress, they often undergo negative changes in their attitudes and behaviors, leading to increased negative interactions with their children. Anderson, Leventhal, and Dupéré, (2014) found that residential mobility is often accompanied by changes in family process and structure. These changes vary by age, resulting in changes in family structure, such as the quality of the home environment, maternal depression, and maternal sensitivity, occurring predominantly during early childhood (birth – 54 months); when infant attachment is forming. Coyl, Roggman, and Newland (2002) similarly found that parental stress was related to maternal depression levels, which were in turn associated with higher levels of spanking and negative interactions with their children. The progression from stress to maternal depression, spanking, and negative interactions was then found to negatively influence infant attachment security when assessed at 14 months old (Coyle et al., 2002).

Similarly, in families with children, ages 2-6 years old, parental stress was found to be related to increases in harsh parenting, as well as higher levels of abuse potential and child anxiety, anger, and aggression (Crum & Moreland, 2017). While Crum and Moreland (2017) found that lower levels of the child social competence can increase parental stress, Creavey,

Gatzke-Kopp, and Fosco (2018) found that higher levels of parental stress can lead to lower levels of children's social competence in families of kindergarten children, highlighting the reciprocal nature of parent-child interactions and potential disruptions. Moving during later childhood (K-6th grade) was also more likely to be related to various disruptions, including fluctuations in the family structure, such as changes in employment and marital status, causing increased stress for the parents beyond a simple move (Anderson et al., 2014).

Residential mobility has also been linked to changes in overall parenting style. Current research in parenting style is largely based off of Diana Baumrind's (1966) model of three parenting styles, permissive, authoritarian, and authoritative parents. Common classifications used to address parenting styles are response (or warmth) and control (or discipline) (Montgomery, Fisk, & Craig, 2008; Wolfradt, Hempel, & Miles, 2003). Rickel and Biasatti (1982) found evidence of these two dimensions of behavior. Restrictive or harsh parenting behaviors included behaviors such as not allowing the child to question decisions and believing the child should be aware of how much is sacrificed for him, suggestive of authoritarian parenting. Warm nurturing parenting was represented by actions that demonstrate care, such as expressing affection by hugging, kissing, and holding the child; and behaviors that encourage development, such as talking it over and reasoning with the child when he misbehaves and encouraging the child to be curious, to explore, and question things, representing authoritative parenting. Parenting style and behaviors can have a significant impact on children's social, academic, and behavioral outcomes. From the beginning of their academic careers, children with authoritative parents are more likely to demonstrate higher levels of academic readiness, as well as social-emotional readiness (Kim et al., 2018), experience fewer adjustment problems and greater acceptance from their peers (Chen, Dong, & Zhou, 1997), and are less likely to drop out

of high school than those with authoritarian or neglectful parents (Blondal & Adalbjarnardottir, 2009). Several meta-analyses have confirmed overall differences in behavior, seen in the association of authoritarian parenting with higher levels of internalizing problems (Rose, Roman, Mwaba, & Ismail, 2018), externalizing problems in children (Ruiz-Hernández, Moral-Zafra, Llor-Esteban, & Jiménez-Barbero, 2019), and even specifically higher levels of conduct problems (Thompson, Hollis, & Richards, 2003).

The changes in parenting resulting from residential mobility have been found to be different for mother-daughter pairs and father-son pairs (Gillespie, 2014). While changes were seen for both same-sex parent-child pairings, the changes varied significantly. Gillespie (2014) found that the mothers that displayed a change in parenting in these pairings were most likely to become more attentive and more supportive, most likely in an attempt to ease the transition from the move. Fathers, in contrast, were more likely to adopt an authoritarian parenting style. Fathers were also more likely to increase monitoring of their sons. Mistry, Vanderwater, Huston, and McLoyd (2002) also found that distressed parents reported feeling less capable, as well as less effective, when issuing discipline to their children, ages 5-12. This lack of discipline was found to result in increased problem behaviors from the children, as well as feelings of anger from the parents. During observed interactions with their children, distressed parents were also more likely to display less affection and warmth (Mistry et al., 2002). As these changes in parenting styles and behaviors are likely happening concurrently with changes associated with moving, the children are prone to experience even greater uncertainty or conflict when interacting with their parent.

1.4 Social support

In addition to the effects of stress on parents and children, it is also important to consider how stress can interact with the family's social support. Social support has been found to have both direct and buffering effects on mental health (Rodriguez et al., 2019). Social support can also lessen the negative impacts of financial stress, including decreasing depression and increasing positive parenting (Lee, Anderson, Horowitz, & August, 2009). However, financial stress, especially when accompanied by depression, have also been found to decrease levels of social support (Simons, Lorenz, Wu, & Conger, 1993; Steven Lee, Lee, & August, 2011). This bidirectional relationship emphasizes the importance of understanding the mechanisms behind acquiring, utilizing, and maintaining social support for these families.

Social support has been widely studied, often demonstrating direct positive effects on mental health (Santini, Koyanagi, Tyrovolas, Mason, & Haro, 2014), as well as buffering the negative effects of stress on psychological well-being (Rodriguez et al., 2019). Social support can have important effects on parents' stress levels, their interactions with their children, and child outcomes. For example, social support has been found to be related to parental outcomes, such as general welfare and protection behaviors and responsivity towards their children (Respler-Herman, Mowder, Yasik, & Shamah, 2012), as well as child outcomes. Similarly, when parents had lower perceived levels of social support when their children were infants and toddlers, their children were later found to have poorer socioemotional development once they reached elementary age (Parkes & Sweeting, 2018). Mothers in the Parkes and Sweeting study who reported higher perceived levels of social support also experienced a decrease in maternal distress, which was further related to a reduction in dysfunctional parenting and fewer child internalizing problems. McConnel, Breitkreuz, and Savage (2010) also found friend and kin

support to be vital for mitigating the negative impact of parental stress on children, ages 0-17. Parents in the McConnel et al. study who reported higher levels of social support were more likely to report lower levels of parental stress, indicating that support can lessen negative effects at the source, simply by preventing the stress. It was also found that even when parental stress was not prevented completely, those that experienced stress and also reported higher perceived levels of support, were less likely to exhibit the same decrease in positive interactions with their child than those that did not have support. The effectiveness of social support has also been found to be related to the type of support being offered in the appropriate situation (Freeman & Rees, 2010).

Social support can come in a variety of types, such as emotional, informational, and tangible support (Schaefer, Coyne, & Lazarus, 1981). Emotional social support includes engaging in acts of intimacy, offering reassurance, and being available for the individual to confide in and rely on. Informational social support consists of giving information, advice, and feedback. Tangible social support includes direct aid, such as monetary support or provision of services. Tangible support has resulted in outcomes with more mixed levels of effectiveness than other types of social support, which may be the result of the type of support appropriate to different stressors included in the studies (Cohen, Clark, & Sherrod, 1986). However, it has been suggested that while the primary impact of tangible support stems from the concrete help received, additional benefit may arise from the receiver interpreting the help as care or support from others (Cohen & McKay, 1984). Thus, the variability seen found in studies on the effectiveness of social support may be related to the type of social support and how that relates to the outcomes that are being studied. It is important to consider if the type of social support being included is appropriate for the context of the stress and outcome measures being studied

(Coburn, Gonzales, Luecken, & Crnic, 2016). This becomes even further complicated when studying social support in relation to residential mobility.

Residential mobility can be a significant source of stress for parents, making identifying potential protective factors from stress, sources for stress reduction, and hindrances to those processes crucial. The beneficial effects of social support have been seen in lower stress levels, as well as in diminished negative outcomes resulting from stress, however, retaining sources of social support may be difficult once a family has moved. Moving may disrupt the family's current support networks, as well as deterring the formation of new sources of support (Pettit & McLanahan, 2003). Similarly, families that tend to be more mobile may have deficiencies in the ability to develop social ties, making it all the more challenging to establish social connections following each move. Multiple studies have confirmed that parents who moved more frequently were found to interact less with other parents, often specifically engaging in fewer interactions with the parents of their children's friends (Gillespie, 2013; Pettit & McLanahan, 2003). Anderson, Leventhal, Newman, and Dupéré (2014) also found that mothers reporting higher numbers of moves reported lower levels of involvement in their neighborhoods. Not only were mothers less involved in their communities, but the neighborhoods were more likely to have higher levels of residential instability, further contributing to difficulties in establishing social support. The contexts within the home were also likely to deteriorate, such as changes in parental marital or employment status, offering fewer opportunities outside the neighborhood to make social connections. Residential instability in the neighborhood, even without individual family moves, has been found to have negative effects on establishing social support, resulting in negative impacts to the parent-child relationship (Riina, Lippert, & Brooks-Gunn, 2016). When a neighborhood had high turnover, lower parent-child warmth and heightened conflict were seen

within the families living there. This difference in parent-child interaction was found to be modified by family level support, suggesting a need to explore the association between residential mobility and parent-child relationship quality, including ways in which social support may have an impact on that relationship.

1.5 Present study

The present study aimed to understand the mechanisms underlying the relationship between residential mobility and parent-child relationship quality. Previous studies have addressed individual facets of the residential mobility's impact on parents or children; however, we do not fully understand the interrelated effects on the family system. The issue of residential mobility, parental stress, and social support have all been examined independently, but have not been explored together. The Fragile Families and Child Wellbeing Study (FFCWS) is a large scale, longitudinal study, conducted by Princeton University's Center for Research on Child Wellbeing and Center for Health and Wellbeing, the Columbia Population Research Center, and the National Center for Children and Families at Columbia University, that follows a cohort of nearly 5,000 families from shortly after their child's birth through the child's teen years (The Trustees of Princeton University, 2019). This study oversampled unmarried couples, and focused on family structure and involvement, along with child wellbeing (Reichman, Teitler, Garfinkel, & McLanahan, 2001). By connecting the individual studies utilizing data from the FFCWS that have explored residential mobility, parental stress, and social support, we can use the FSM and stress buffering theories to synthesize these studies in an attempt to understand the context and processes related to residential mobility.

Residential mobility and parental stress have been found to be important factors when exploring how mothers in the FFCWS are interacting with their child. Warren and Font (2015)

studied an elevated level of residential mobility, housing instability, defined as more than one move per year, evictions, or spells of homelessness. Using data from mothers that participated in the FFCWS, Warren and Font determined that housing instability was related to increased risk for neglect and abuse. Maternal stress was also considered in this model, which accounted for only a small part of the relationship between residential instability and neglect risk, but fully mediated the relationship with abuse risk. This finding suggests that frequent moves, as well as parental stress, are important factors to consider when examining parent-child interactions and relationships. Berryhill (2016) also found that mothers participating in the FFCWS who reported experiencing higher levels of parental stress when the child was 1 year old experienced lower levels of maternal engagement with their child at age 5. However, the relationship between parental stress and maternal engagement was also found to be mediated by perceived parental competence when the child was 3 years old, indicating a potential for protective factors to lessen the negative impact of parental stress.

The benefits of social support can be seen in the reduction of negative outcomes associated with parental stress. Sampson, Villarreal, & Padilla (2015) found that all types of partner support were associated with less maternal parental stress at one-year postpartum within the FFCWS. Carlson and McLanahan (2006) also studied partner support within the FFCWS, finding a variety of positive parent-child outcomes resulting from a supportive parental relationship at the time of the child's birth. When mothers experienced higher levels of support, they are likely to see higher levels of engagement with their child as well as lower occurrences of spanking. Kang (2013) found that social instrumental support, operationalized as tangible support from friends or kin, reduced neglectful parenting within the FFCWS. This relationship begins with perceived instrumental support, when the child is 1-year old, being associated with

lower maternal hardship and increase personal control when the child is 3-years old. Lower maternal hardship and higher personal control, at age 3, were then found to be related to lower levels of neglectful parenting at age 5. While these studies offer promising results, moving forward, it is important to determine whether these benefits of social support will also be seen when applied to stress related to residential mobility, or if moving is related to reductions in social support.

The present study aims to draw all of these components (residential mobility, parental stress, social support, and parenting) together to gain a deeper understanding of the mechanisms underlying the negative effects related to residential mobility. By adapting the primary focus of the Family Stress Model from economic stress to residential mobility as the initial stressor that relates to child outcomes, the relationships between residential mobility and parenting stress to parenting behaviors and parent-child relationships, displayed in figure 1, can be explored using the FFCWS data. These models also seek to capture stress buffering effects that may be related to these relationships. To address the primary questions, it is hypothesized that residential mobility will be associated with increased parental stress, as well as an increase in harsh parenting and a decrease in parent-child relationship quality. It is also hypothesized that social support will moderate the relationships between residential mobility and parental stress, parental stress and harsh parenting, as well as parental stress and parent-child relationship quality. In addition to these outcomes, it is hypothesized that residential mobility will be associated with lower levels of social support.

Residential mobility can often be related to financial stress. Parents experiencing financial stress consistently display a number of negative changes, which can be similar in nature to those found following a move, including higher levels of depression and disruptive parenting

(Lee et al., 2009; Mistry, Lowe, Benner, & Chien, 2008; Simons et al., 1993). While financial stress and residential mobility can occur together, it is important to distinguish the individual consequences of each type of stress. For this reason, financial stress is included in the models as a covariate to provide the opportunity to explore the effects of residential mobility above and beyond cooccurring financial struggles.

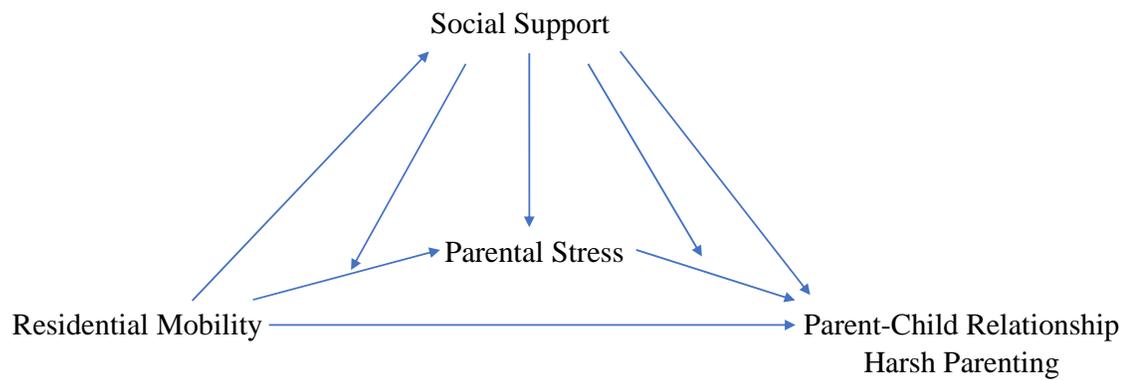


Figure 1.1 Model for Current Study

2 METHOD

As mentioned previously, the current study is a secondary data analysis of the FFCWS data. The focus of the FFCWS was to oversample unmarried births, seeking to gain information on unwed parents, specifically fathers, and their children (Reichman et al., 2001). The families were randomly selected within hospitals in the cities chosen as nationally representative. Cities with populations over 200,000 were rated on welfare generosity, child support systems, and the local labor market. The cities were then sorted into two groups, either being rated at the extreme positive or negative end of the scale for all three criteria (welfare generosity, child support, and the labor market), or cities with at least one middle value for those criteria. Different combinations of high and low extreme scores were arranged into eight categories, and one city was randomly selected from each. The other nine cities were randomly selected from the remainder of non-extreme cities. There were also four cities included in the study that were of specific interest to relevant foundations.

2.1 Participants

The current study examined the data from follow up surveys conducted one, five, and nine years after the focal child was born. Families were selected for the original study in a multistep process. Participants in this study come from the selected U.S. cities with populations greater than 200,000 (Reichman et al., 2001). Within these cities, births were selected randomly in the hospitals. Exclusion criteria for births included parents that planned to put their child up for adoption, if the father was not living at the time of the birth, if either parent did not speak English or Spanish well enough to complete the interview, if the mother or infant was too ill for the mother to complete the interview, or if the infant died before the interview. There were also some hospitals that did not allow interviews if either parent was under the age of 18.

The original study planned to collect data on nearly 4700 births, with non-married couples being oversampled at approximately 3600 of those births, in 20 US cities and 75 hospitals (Reichman et al., 2001). Mothers in this study ranged in age from 15-43 at the time of their child's birth. The mothers' backgrounds included 69, 19, 8, and 4 percent African American, Hispanic, Caucasian, and other respectively. 87% of the mothers were U.S. born, and 59% had at least a high school diploma. The current study used data from follow up interviews conducted approximately 1, 5 and 9 years after the baseline interview. The total sample size of the FFCWS at baseline was 4,898 families. For this study families were only excluded if they were missing data on all variables, resulting in sample sizes ranging from 4,355 to 4,358, depending on the analyses.

2.2 Measures

2.2.1 Residential Mobility

Residential mobility was calculated from mother reports collected at three and five year follow up surveys. Mothers were asked during both of these interviews how many moves they had made since the previous survey. The responses from these years were summed to create the total number of moves the child has experienced from age 1 to age 5, with final totals including 1, 2, 3, 4, and 5+ moves. The number of moves reported in the mother interviews has been used to study child wellbeing (Beck, Buttaro, & Lennon, 2016), school readiness (Ziol-Guest & McKenna, 2014), and the relationship of maternal stress to child maltreatment (Warren & Font, 2015) using this data set with similar count and cutoff methods. In this sample there were 404 families that had not moved between the ages 1-9 of the focal child. In that time 557 families moved once, 482 families move twice, 445 families moved three times, 312 families moved four times, and 620 families moved five or more times.

2.2.2 Parental Stress

Parental stress was measured using the Fragile Families aggravation in parenting scale using questions asked of mothers at the 1-year, 5-year, and 9-year follow-up interviews. This scale consists of the same four items at each wave, derived from the Child Development Supplement of the Panel Study of Income Dynamics, and are meant to measure parental stress based on different aspects of the parent's life. These questions include (1) Being a parent is harder than I thought it would be (2) I feel trapped by my responsibilities as a parent (3) I find that taking care of my child(ren) is much more work than pleasure, and (4) I often feel tired, worn out, or exhausted from raising a family. The FFCWS modified the original scale by using four of the nine original items, as well as changing from a 5-point Likert scale to a 4-point Likert scale. Xu et al. (2018) published this scale at the 5-year follow-up with a Cronbach's alpha of 0.70, when addressing predictors of parental stress. Parental stress in this sample had an alpha of 0.61 for age 1, .62 for age 5, and .53 for age 9. The difference between the alpha in the current study and the alpha reported in the Xu study is likely due to the Xu study being limited to a subsample of mothers not born in the United States.

2.2.3 Social support

Tangible social support was also derived from questions asked at the 1-year, 5-year, and 9-year follow up surveys. While there is no scale included in the FFCWS, social support for parents has been operationally defined in several studies utilizing this data and includes four yes or no questions that directly address tangible social support. These questions include "If you needed help during the next year, could you count on someone to... (1) Loan you \$200? (2) Provide you with a place to live? (3) Help you with emergency childcare? and (4) Co-sign a bank loan with you for \$1000?" These questions are coded as 1 for "yes" responses and 0 for "no"

responses. Each question is designated as one point and are summed to create a social support score. This type of scale has been used frequently in previously published FFCWS studies that assess social support in relation to a variety of topics, including effects on fathers (Fagan & Lee, 2011), neglectful parenting (Kang, 2013), maternal depression (Manuel, Martinson, Bledsoe-Mansori, & Bellamy, 2012; Reid & Taylor, 2015), and maternal stress (Sampson et al., 2015). The Cronbach's alpha of the social support scale was 0.75 at age 1, 0.70 at age 5, and 0.76 at age 9.

2.2.4 Harsh parenting

Harsh parenting was assessed using mother report questions from the Parent Child Conflict Tactics Scale, asked at the 9-year follow up interviews. There is a total of 14 items, from 3 subscales, measured on an 8-point scale ranging from 0 (never happened) to 7 (more than 20 times). The subscales include physical aggression (have you spanked, hit, slapped, pinched, or shook your child), psychological aggression (have you shouted, swore, threatened to spank, threatened to kick out, or called your child dumb), and nonviolent discipline (did you explain why something was wrong, put your child in time out, give them something else to do, take away privileges), reflecting the traditional harsh and demanding behaviors that often characterize authoritarian parenting (Braza et al., 2015; Rickel & Lawrence, 1982). Choi and Becher (2018) reported an alpha of 0.78 at age nine for this 14-item scale when examining the relationship between harsh parenting, parenting stress, and child behavior problems. This sample had a Cronbach's alpha of 0.85 at age nine.

2.2.5 Parent-child relationship quality

Parent-child relationship quality was measured using a series of questions from the 9-year follow up interview with the children. The questions asked of the children include "Does your

mom ... (1) talk over important decisions with you? (2) listen to your side of an argument? (3) spend enough time with you?" There were measured on a Likert scale ranging from 0 (never) to 3 (always). Additionally, they were asked (4) how close do you feel to your mom? Measured on a Likert scale ranging from 0 (not very close) to 3 (extremely close). And (5) How well do you and your mom share ideas or talk about things that matter?, measured on a Likert scale ranging from 0 (not very well) to 3 (extremely well). This scale was used by Jensen and Pace (2016) using the same questions, but asked about step-fathers at year 9, with a reported alpha of 0.75. This sample had an alpha of 0.56.

2.2.6 Financial stress

Financial stress was measured as a percentage, comparing the reported annual income of the family at the 1-year follow up interview to the federal poverty level of that year. Lengua (2012) suggests that there may be a sensitive period, during preschool years, when poverty has the largest impact on children, even when outcomes are measured in middle childhood. Forty-four of the mothers in this study were met, or fell below, the poverty line at the 1-year follow up.

2.2.7 Maternal education

Maternal education was asked at the 1 year follow up interviews. It is dummy coded as (1) less than high school or High school or equivalent, (2) some college or technical school or college or graduate school. In this sample 2,396 mothers had a high school diploma or less, while 1,663 had completed some education beyond high school.

2.2.8 Maternal relationship status

Maternal relationship status was assessed at the one year follow up interview. Questions were asked to determine if the mother was married to the child's father or another partner, and

was scored as 1 if the mother was married and 0 if the mother was not married. In this sample 1,292 mothers were married, and 2,767 mothers were not married.

2.2.9 Maternal depression

Maternal depression was also assessed at the 1 year follow up interview. The questions used to assess depression in the mothers are from the Composite International Diagnostic Interview – Short Form (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). Fifteen percent of mothers were classified as meeting depression criteria at this wave.

2.2.10 Maternal health

Mothers were asked during the one year follow up interview “In general, how is your health?” Responses included 1: Excellent, 2: Very Good, 3: Good, 4: Fair, 5: Poor.

2.2.11 Child health

During the one year follow up interview mothers were asked “How is your child’s health?” Responses included 1: Excellent, 2: Very Good, 3: Good, 4: Fair, 5: Poor.

3 RESULTS

Analyses were conducted for harsh parenting and parent-child relationship quality using longitudinal as well as concurrent models. The longitudinal model, displayed in Figure 3, included residential mobility, social support, and parental stress, measured at the Age 5 follow up interviews, predicting harsh parenting and parent-child relationships at the Age 9 follow up interviews. However, because of the four year time lapse between the predictor and outcome variable in the longitudinal model a concurrent model (Figure 4) was conducted, which included all predictor and outcome variables from the Age 9 follow up interviews, to determine if the trends hold. Control variables in all models included social support, parental stress, child health, family income level, maternal education, age, depression, health, and relationship status from Age 1 interviews. Interaction terms were created by centering the residential mobility, social support, and stress variables and creating residential mobility X social support and stress X social support in MPLUS. The indirect effect of residential mobility on harsh parenting, through parental stress, were also explored for the longitudinal and concurrent models in MPLUS.

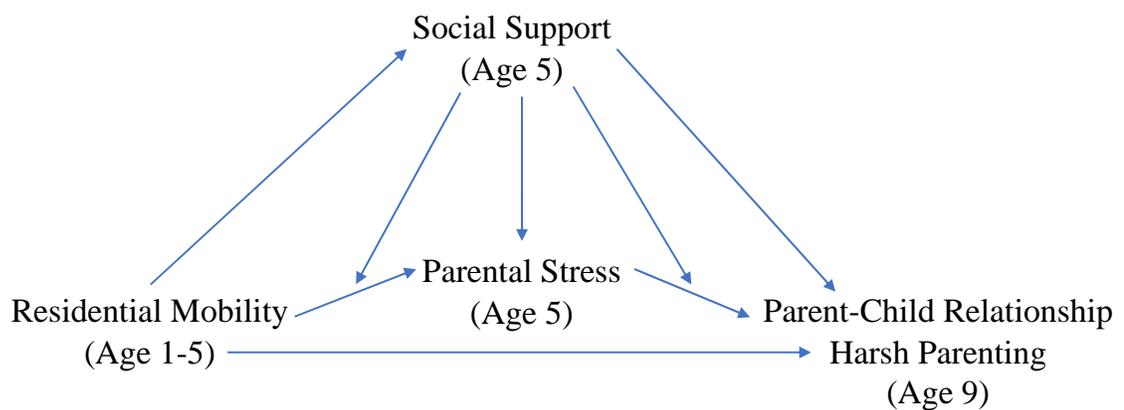


Figure 3.1 Longitudinal Model

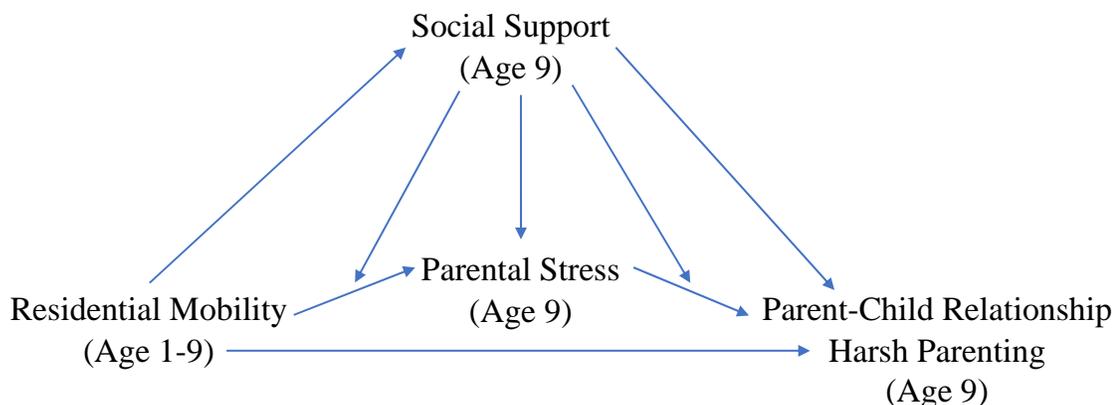


Figure 3.2 Concurrent Model

3.1 Descriptives

To begin the examination of all variables descriptive statistics were conducted (see Table 1). The mean poverty level of the mother's in the current study was 1.87% of the national poverty level. Families in this sample had moved an average of 2.55 times between the ages of one and nine for the focal child. Correlations between the variables of interest (see Table 2), including outcome variable as well as social support, parental stress, and maternal age from Age 1. Residential mobility had a small positive relationship with harsh parenting. Maternal age and parental stress Age 1, Age 5, and Age 9 also showed a small negative relationship with harsh parenting. Because parental stress is reverse coded, higher levels of parental stress were related to more frequent occurrences of harsh parenting behaviors. No significant correlations were found between any of the predictor variables and parent-child relationship quality. Maternal age had a moderate negative correlation with residential mobility. Residential mobility had a small negative correlation with social support at Age 1, Age 5, and Age 9. It also had a minimally negative relationship with parental stress at Age 1, Age 5, and Age 9. Social support had a small positive relationship with parental stress, at all waves of each. Maternal age was minimally correlated with social support at Age 5 and Age 9, as well as parental stress at Age 1 and Age 9.

Correlations were also conducted to establish the relationships between all control variables (see Table 3). Social support at Age 1 and Age 5 had a small positive correlation with parental stress at Age 1 and Age 5, as well as maternal education level, relationship status, and poverty level. At both waves they had small negative correlations with maternal depression, maternal health, and child health. Maternal age also had a very small positive correlation with social support at Age 5. Parental stress at Age 1 and Age 5 also had similar patterns. Maternal depression, maternal health, and child health had a small negative relationship with parental stress at both waves. They also had a minimal positive relationship with maternal education, and maternal poverty levels. However, maternal age and relationship status were only positively correlated with parental stress at Age 1. Maternal age had a moderate positive correlation with education level, relationship status, and poverty level.

3.2 Maternal age

Teenage mothers may experience more challenges than their adult counterparts. It has long been established that teenage mothers are more likely to have lower education and income levels, live in overcrowded homes, have less knowledge about the development of their child, and less positive parenting attitudes (Roosa & Vaughan, 1984). In addition to disadvantages for the mother's development, detriments to their children's development in academic achievement and higher rates of externalizing behavior problems have also been found (Duncan, Lee, Rosales-Rueda, & Kalil, 2018). In order to determine if there was a difference in inter-relationships between teenage and adult mothers in the present study, participants were assigned to either a teenage mother group (ages 15-19 at child's birth) or an adult mother group (ages 20-40 at child's birth). Multi-group analyses were conducted with all regression paths that included variables of interest fully constrained and fully freed to determine if there was a difference

between teenage and adult mothers. Using chi-square difference tests to compare model fit it was concluded that there was no significant difference between groups for the longitudinal model or the concurrent model ($\Delta\text{chi-square} = 9.058$, $\Delta\text{df} = 12$, $p > .05$; $\Delta\text{chi-square} = 14.124$, $\Delta\text{df} = 12$, $p > .05$). As a result, maternal age groups were collapsed into one group, and analyses were conducted on that sample, including maternal age as a covariate.

3.3 Longitudinal model

3.3.1 Harsh parenting & parent-child relationship quality

In the longitudinal model harsh parenting and parent-child relationship were measured at Age 9, residential mobility accounted for moves between Age 1 and Age 5, parental stress, and social support were measured at Age 5, and all control variables were measured at Age 1 (see Table 4). This model explained nine percent of the variance in harsh parenting, $R^2 = .09$, $p < .001$. In this model, residential mobility and parental stress were both significant predictors of harsh parenting behaviors, $\beta = .08$, $SE = .02$, $p < .001$, $\beta = -.18$, $SE = .02$, $p < .001$, respectively. This suggests that there was an effect of more frequent moves being related to higher levels of harsh parenting behaviors. Also, because parental stress is reverse coded, there was an effect of higher levels of stress on more frequent harsh parenting behaviors. Maternal age was significantly related to harsh parenting, $\beta = -.12$, $SE = .02$, $p < .001$, suggesting younger mothers had higher reports of harsh parenting. Maternal depression also had a small effect on harsh parenting $\beta = .14$, $SE = .02$, $p < .001$, suggesting that mothers classified as depressed reported higher levels of harsh parenting. Maternal education was also related to harsh parenting, $\beta = .13$, $SE = .02$, $p < .001$, indicating that mothers that were more highly educated also had higher reports of harsh parenting. This model explained one percent of the variance in harsh parenting, $R^2 = .01$, $p = .05$, consequently we did not find any significant relationships of predictor or control variables with

parent-child relationship quality. We also did not find evidence of an interaction effect between stress and social support on harsh parenting, $\beta = .00$, $SE = .02$, $p = .99$, or parent-child relationship, $\beta = -.01$, $SE = .02$, $p = .80$.

3.3.2 Parental stress

Thirty percent of the variance in parental stress was explained by this model, $R^2 = .30$, $p < .001$. Social support at Age 5 was significantly related to parental stress at the same wave, $\beta = .06$, $SE = .02$, $p = .001$, suggesting a small effect of mothers reporting higher levels of social support also reporting lower levels of parental stress. To explore the longitudinal nature of this relationship additional analyses were performed, which estimated the effect of social support at Age 1 on parental stress at Age 5, without social support at age 5 included in the model. This relationship was not significant, $\beta = .04$, $SE = .02$, $p = .02$, suggesting that social support at earlier time points did not predict current levels of parental stress. There was a small relationship between maternal education level at Age 1 and parental stress at Age 5, $\beta = .05$, $SE = .02$, $p < .01$, suggesting mothers with higher levels of education reporting lower levels of stress. Maternal depression, $\beta = -.07$, $SE = .02$, $p < .001$, and child's health, $\beta = -.07$, $SE = .02$, $p < .001$, also had small negative relationships with parental stress. This suggests that increased levels of stress for mothers had children in poor health and decreased levels of parental stress for mothers that were classified as depressed. There was no evidence of an interaction of residential mobility and social support on parental stress, $\beta = .01$, $SE = .02$, $p = .48$.

3.3.3 Social support

This model explained thirty three percent of the variance in social support, $R^2 = .33$, $p < .001$. Residential mobility had a small negative relationship with Social Support at Age 5, $\beta = -.04$, $SE = .02$, $p = .01$, suggesting that mothers who moved more frequently reported having

lower levels of support. Maternal depression had a similarly small negative relationship with social support, $\beta = -.07$, $SE = .02$, $p < .001$, so that mothers classified as depressed reported lower levels of social support. However, relationship status, $\beta = .06$, $SE = .02$, $p < .001$, poverty level, $\beta = .09$, $SE = .02$, $p < .001$, and education level, $\beta = .05$, $SE = .02$, $p < .001$, had small positive relationships with social support. This suggests that mothers reported higher levels of support if they were married, if their income was higher above the poverty level, or they were more highly educated.

3.3.4 Indirect effects

There was no evidence of a significant indirect relationship from residential mobility to harsh parenting, through parental stress, $\beta = .00$, $SE = .00$, $p = .49$. The lack of an indirect relationship stems from the fact that residential mobility was not associated with parental stress, even though both residential mobility and parental stress each independently predicted harsh parenting behaviors. The indirect relationship from residential mobility to parent-child relationship, through parental stress, was also non-significant, $\beta = .00$, $SE = .00$, $p = .54$, because neither residential mobility nor parental stress was associated with parent-child relationship quality.

3.4 Concurrent model

3.4.1 Harsh Parenting

For this model all outcome and predictor variables were measured at Age 9, while the control variables were still measured at Age 1 (see Table 5). This model explained twelve percent of the variance in harsh parenting, $R^2 = .12$, $p < .001$. Residential mobility, $\beta = .11$, $SE = .02$, $p < .001$, and parental stress at Age 9, $\beta = .09$, $SE = .02$, $p < .001$, were still significant predictors of harsh parenting. This suggests that there is a small relationship between more

frequent moves and higher stress levels to more frequent harsh parenting behaviors. However, social support was not significantly related to harsh parenting. In the concurrent model maternal age, $\beta = -.10$, $SE = .02$, $p < .001$, depression, $\beta = .11$, $SE = .02$, $p < .001$, and education, $\beta = .12$, $SE = .02$, $p < .001$ still had similar, if slightly weaker, relationships with harsh parenting as compared to the longitudinal model. Also, parental stress at Age 5 was still significantly related to harsh parenting, $\beta = -.10$, $SE = .02$, $p < .001$, but with a somewhat smaller effect than in the longitudinal model. This model also found no evidence of an interaction effect of stress and social support on harsh parenting, $\beta = .05$, $SE = .02$, $p = .07$.

3.4.2 Parent-child relationship quality

In this model only one percent of the variance in parent-child relationship quality was explained, $R^2 = .01$, $p < .01$. Parental stress at Age 9 was significantly related to parent-child relationship quality, $\beta = .06$, $SE = .02$, $p < .01$. This suggests that the children of mothers with lower levels of stress reported having a better relationship with their mother. There was no evidence of an interaction effect of moving and social support on parent-child relationship, $\beta = .02$, $SE = .02$, $p = .42$.

3.4.3 Parental stress

This model explained thirty percent of the variance in harsh parenting, $R^2 = .30$, $p < .001$. Social support, maternal education level, and child's health status were not significantly related to parental stress at Age 9 in the concurrent model. However, maternal depression was related to parental stress, $\beta = -.12$, $SE = .02$, $p < .001$, so that mothers classified as depressed also reported experiencing higher levels of parental stress. There was no evidence of an interaction effect of residential mobility and social support on parental stress, $\beta = .01$, $SE = .02$, $p = .60$.

3.4.4 *Social support*

This model explained forty percent of the variance explained by this model, $R^2 = .40$, $p < .001$. Residential mobility from ages 1-9 was significantly related to social support at Age 9, $\beta = -.06$, $SE = .02$, $p < .001$, with a stronger relationship between higher frequencies of moves and lower levels of social support than was seen in the longitudinal model. Maternal depression, $\beta = -.06$, $SE = .01$, $p < .001$, and poverty level, $\beta = .05$, $SE = .02$, $p < .001$, were also associated with social support. However, social support was no longer related to maternal education or relationship status in the concurrent model.

3.4.5 *Indirect effects*

This model also did not find a significant indirect effect of residential mobility on harsh parenting, resulting from the lack of relationship between residential mobility and parental stress $\beta = -.00$, $SE = .00$, $p = .63$. There was also no significant indirect relationship from residential mobility to parent-child relationship quality, through parental stress, $\beta = .00$, $SE = .00$, $p = .63$. This was a result of the non-significant relationship between residential mobility and parental stress, as well as the lack of a significant relationship of both residential mobility and parental stress with parent-child relationship quality.

Table 3.1 Descriptive Statistics

| <i>Descriptive Statistics</i> | Mean | SD |
|---------------------------------|-------|------|
| Measure | | |
| Parent-Child Relationship | 3.22 | .55 |
| Harsh Parenting | 1.87 | .87 |
| Residential Mobility | 2.55 | 1.75 |
| Parental Stress A9 | 2.97 | .69 |
| Parental Stress A5 | 2.83 | .68 |
| Parental Stress A1 | 2.83 | .67 |
| Social Support A9 | 3.23 | 1.09 |
| Social Support A5 | 3.21 | 1.17 |
| Social Support A1 | 3.22 | 1.16 |
| Maternal Age | 26.52 | 6.06 |
| Maternal Education A1 | 1.41 | .49 |
| Maternal Depression A1 | .17 | .37 |
| Maternal Health A1 | 2.23 | 1.06 |
| Maternal Relationship Status A1 | .32 | .47 |
| Maternal Poverty % A1 | 1.87 | 2.20 |
| Child Health A1 | 1.51 | .81 |

Table 3.2 Variables of Interest Correlation Matrix
Variables of Interest Correlation Matrix

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------------------------|--------|-------|--------|-------|-------|-------|-------|-------|------|----|
| 1. Harsh Parenting A9 | - | | | | | | | | | |
| 2. Parent-Child Relationship A9 | -.09** | - | | | | | | | | |
| 3. Residential Mobility A1-9 | .16** | -.01 | - | | | | | | | |
| 4. Social Support A1 | .03 | -.00 | .09** | - | | | | | | |
| 5. Social Support A5 | -.01 | .02 | -.13** | .53** | - | | | | | |
| 6. Social Support A9 | .01 | .04 | -.15** | .49** | .56** | - | | | | |
| 7. Parental Stress A1 | -.11** | .02 | -.04 | .14** | .12** | .12** | - | | | |
| 8. Parental Stress A5 | -.18** | .04 | -.04 | .13** | .14** | .13** | .52** | - | | |
| 9. Parental Stress A9 | -.26** | .06** | -.04 | .10** | .12** | .13** | .41** | .51** | - | |
| 10. Maternal Age A1 | -.12** | -.01 | -.37** | .01 | .06** | .08** | .05* | .01 | .05* | - |

Note. * < .01; ** < .001

Table 3.3 Control Variable Correlation Matrix
Control Variable Correlation Matrix

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|
| 1. Social Support A1 | - | | | | | | | | | | |
| 2. Social Support A5 | .53** | - | | | | | | | | | |
| 3. Parental Stress A1 | .14** | .12** | - | | | | | | | | |
| 4. Parental Stress A5 | .13** | .14** | .52** | - | | | | | | | |
| 5. Maternal Age A1 | .01 | .06** | .05* | .00 | - | | | | | | |
| 6. Maternal Education A1 | .17** | .18** | .06** | .08** | .30** | - | | | | | |
| 7. Maternal Depression A1 | -.10** | -.13** | -.11** | -.14** | -.04* | -.06** | - | | | | |
| 8. Maternal Health A1 | -.21** | -.17** | -.13** | -.12** | -.01 | -.10* | .12** | - | | | |
| 9. Relationship Status A1 | .17** | .19** | .06** | .04 | .34** | .28** | -.06* | -.09** | - | | |
| 10. Maternal Poverty % A1 | .25** | .26** | .06** | .05* | .32** | .40** | -.08** | -.15** | .40** | - | |
| 11. Child Health A1 | -.14 | -.11** | -.12** | -.15** | -.01 | -.12** | .06* | .23** | -.07** | -.11** | - |
| 12. Residential Mobility A1-9 | .09** | -.13** | -.04 | -.04 | -.37** | -.14** | .12** | .07** | -.21** | -.22** | .01 |

Note. * < .01; ** < .001

Table 3.4 Longitudinal Model Regression Table
Regression Table for Model 1: Predictor Variables at Age 5

| | Parent-Child Relationship | | Harsh Parenting | | Parental Stress | | Social Support | |
|---------------------------------|---------------------------|-----|-----------------|-----|-----------------|-----|----------------|-----|
| | β | SE | β | SE | β | SE | β | SE |
| Maternal Age | -.01 | .02 | -.12** | .02 | -.03 | .02 | -.02 | .02 |
| Maternal Education A1 | .03 | .02 | .13** | .02 | .05* | .02 | .05** | .02 |
| Maternal Poverty % A1 | .00 | .02 | .02 | .02 | -.03 | .02 | .09** | .02 |
| Maternal Depression A1 | -.01 | .02 | .14** | .02 | -.07** | .02 | -.07** | .02 |
| Maternal Health A1 | -.01 | .02 | .04 | .02 | -.02 | .02 | -.03 | .02 |
| Maternal Relationship Status A1 | -.00 | .02 | -.03 | .02 | -.01 | .02 | .06** | .02 |
| Child Health A1 | -.05 | .02 | -.02 | .02 | -.07** | .02 | -.01 | .02 |
| Social Support A1 | -.03 | .03 | .06 | .03 | .01 | .02 | .48** | .01 |
| Parental Stress A1 | .00 | .02 | .01 | .03 | .50** | .01 | .03 | .02 |
| Residential Mobility | .01 | .02 | .08** | .02 | -.01 | .02 | -.04* | .02 |
| Parental Stress A5 | .03 | .02 | -.18** | .02 | - | - | - | - |
| Social Support A5 | .02 | .02 | .01 | .03 | .06** | .02 | - | - |
| Stress X Social Support | -.01 | .02 | .00 | .02 | - | - | - | - |
| Moves X Social Support | - | - | - | - | .01 | .02 | - | - |

Note. * < .01; ** < .001

*Table 3.5 Concurrent Model Regression Table
Regression Table for Model 2: Predictor Variables at Age 9*

| | Parent-Child Relationship | | Harsh Parenting | | Parental Stress | | Social Support | |
|---------------------------------------|------------------------------|-----|--------------------|-----|--------------------|-----|-------------------|-----|
| | β | SE | β | SE | β | SE | β | SE |
| Maternal Age | -.02 | .02 | -.10** | .02 | .03 | .02 | .00 | .02 |
| Maternal Education A1 | .03 | .02 | .12** | .02 | -.03 | .02 | .02 | .02 |
| Maternal Poverty % A1 | -.00 | .02 | .02 | .02 | -.01 | .02 | .05* | .02 |
| Maternal Depression A1 | .01 | .02 | .11** | .02 | -.12** | .02 | -.06** | .01 |
| Maternal Health A1 | -.00 | .02 | .03 | .02 | -.01 | .02 | -.04 | .02 |
| Maternal Relationship Status A1 | -.01 | .02 | -.02 | .02 | .04 | .02 | .02 | .02 |
| Child Health A1 | -.05 | .02 | -.01 | .02 | .02 | .02 | .00 | .02 |
| Social Support A1 | -.04 | .03 | .05 | .03 | -.02 | .02 | .28** | .02 |
| Parental Stress A1 | -.01 | .02 | .04 | .02 | .19** | .02 | .02 | .02 |
| Social Support A5 | -.01 | .03 | .00 | .03 | .02 | .02 | .37** | .02 |
| Parental Stress A5 | .00 | .02 | -.10** | .03 | .39** | .02 | - | - |
| Residential Mobility | -.01 | .02 | .11** | .02 | .01 | .02 | -.06** | .02 |
| Social Support A9 | .05 | .03 | .05 | .03 | .04 | .02 | - | - |
| Parental Stress A9 | .06* | .02 | -.20** | .02 | - | - | - | - |
| Stress X | .02 | .02 | .03 | .02 | - | - | - | - |
| Social Support Moves X | - | - | - | - | .01 | .02 | - | - |
| Social Support | | | | | | | | |

Note. * < .01; ** < .001

4 DISCUSSION

The purpose of this study was to examine how residential mobility is associated with parenting behaviors and parent-child relationships, as well as the roles of parental stress and social support in that relationship. The Family Stress Model (FSM) has provided ample evidence of financial stress leading to disruptive parenting, through parental stress and distress. Therefore, this study aimed to investigate if residential mobility operated in a similar manner to financial stress, in relating to higher parental stress, disrupted parenting, and poor parent-child relationships. Stress buffering was also taken into consideration in an attempt to understand if social support buffered the negative effects of residential mobility and parental stress on parenting behaviors and parent-child relationship quality.

Results did not support the hypothesized indirect effect of residential mobility on parenting behaviors through stress. Although moving has long been established as a significant source of stress (Holmes & Rahe, 1967), results did not detect any direct relationship between residential mobility and parental stress. The lack of relationship between residential mobility and parental stress in the current study may be a result of simplistic measurement of residential mobility in the FFCWS. It may be important to take the circumstances of moving into account when exploring its relation to stress. For example the current study was only able to take frequency of moves into account, and did not have information on change in neighborhood quality (Clark, Deurloo, & Dieleman, 2006) or if it was an expected move (Kan, 1999), both of which can have significant impacts on the moving and the resulting outcomes.

It is also possible that parental stress is less likely to be influenced by residential mobility than general life stress. If this is the case, then the way stress is measured within the FFCWS may not be the most relevant to moves. Parental stress in this study focuses specifically on

feelings related to parenting, which while important to how parents interact with their children, may not be as highly affected by moving as other general types of stress parents experience.

While the expected indirect relationship was not found, there was a direct relationship between higher rates of residential mobility and greater levels of harsh parenting behaviors, as well as a direct relationship found from higher parental stress to higher rates of harsh parenting behaviors. These direct paths highlight that there is an effect of residential mobility on levels of harsh parenting behaviors, even when taking the increase in harsh parenting that results from parental stress into account. However, neither residential mobility nor parental stress were found to be related to parent-child relationship quality. While the lack of findings may be related to the previously discussed measurement issues with residential mobility and parental stress, it is also possible that with an alpha of only 0.56 the scale utilized by the FFCWS was not reliable.

We also did not find evidence of moderating effects of social support that were hypothesized based on stress buffering theories. While social support has been found to have a buffering effect on reducing negative outcomes related to stress (Lee et al., 2009), it has also frequently been found to have a direct effect on positive psychological wellbeing (Santini et al., 2015). In this study social support was not found to have buffering effects in the longitudinal or concurrent model but was found to have a direct effect on parental stress in the longitudinal model. Higher levels of social support were found to predict lower levels of parental stress in the longitudinal model. Overall the minimal effects of social support in the current study may be a result of the way in which the FFCWS operationalizes social support. In a study by Freeman and Rees (2010), emotional, esteem, informational, and tangible support all had direct effects on self-esteem, but tangible support was the only type of support that was not found to have a buffering effect on stress. This may suggest that the tangible support scale used by the FFCWS does not

represent the potential broad range of effects emotional, esteem, and informational social support could have.

Results supported the hypothesis presented by Pettit and McLanahan (2003), that parents with higher mobility would report lower levels of social support. The implications of this decrease in social support for mobile parents may indicate the possibility of an indirect relationship from residential mobility to parental stress, through social support. Lu et al. (2018) found that social support can mediate the relationship between parental stress and life satisfaction for parents of children with ASD. This may suggest that the lack of a significant relationship between residential mobility to parental stress in the current study may, in part, be due to this untested indirect relationship. The findings of the current study, as well as the potential for an indirect relationship, signifying the importance of assisting families that have recently moved in establishing new sources of social support or creating a system to maintain previous sources of support.

4.1 Limitations and Future Directions

Because this study was a secondary data analysis, it was limited by the measures collected by the FFCWS. Overall the length of time between waves got gradually longer as the FFCWS progressed, making it more difficult to detect effects in longitudinal models. Future studies may benefit by collecting waves of data over shorter periods of time, so the effects of moving can be narrowed down to a specific change within the parent as well as the family. The effects of residential mobility are also difficult to understand with such a rudimentary measurement of mobility. When the only measure of mobility is counting the number of moves important insights may be missed (Kan, 1999). By collecting additional information on the moves, such as circumstance (Morris, 2017), distance from family (Spring, Ackert, Crowder, &

South, 2017), and differences in neighborhood quality (Lee, Oropesa, & Kanan, 1994), future studies may gain helpful insights into the way moving is related to stress. Also, while parental stress is a relevant type of stress when studying parent child interactions, a broader overview of the parents' stress levels may have been of greater use in understanding the role of stress as it relates to residential mobility. Similarly, the only measure of social support within this study focuses only on tangible support, when it would have been beneficial to be able to analyze and compare multiple types of social support as they can show different effects within the same model (Freeman & Rees, 2010). In the future studies should focus on the types of stress and social support that may change the way residential mobility operates in a system similar to the FSM. For example, by understanding what types of stress affect the parents, interventions would be better informed as to what types of social support would be the most effective. Finally, the measures of social support and parent-child relationship quality were not as reliable as would be preferred. Finding accurate measurement tools for these important factors would improve the impact of future studies.

4.2 Implications

This study demonstrated that the effects of residential mobility were not operating through the indirect paths proposed by the Family Stress Model for this sample. This finding may suggest that while targeting parental stress is an important piece of reducing harsh parenting behavior, that may not be the most effective way to assist families experiencing residential mobility. Interventions specifically designed for families experiencing moves may be more successful by directly addressing parenting behaviors, as well as helping them to establish new sources of social support following a move. Assisting parents to establish reliable sources of

social support, in any situation, is likely to reduce parental stress and the negative outcomes associated with it.

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