The Relationship Between Family Structure and Mothering Behaviors Within Race and Ethnic Groups

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Parental socialization is one pathway through which family structure affects child well-being. Because of this established link, it is important to understand the relationship between family structure and a mother's behaviors with her children. Theory posits that family structure affects mothering behaviors through its effect on economic resources and emotional support from the mother's partner. Mothers who are married to their child's biological father presumably have access to the highest levels of economic resources and emotional support. These factors, in turn, reduce her levels of maternal stress and allow the mother to be a better parent. The empirical evidence linking family structure to mothering is somewhat mixed, but generally finds that stable marriages are related to better parenting (Amato, 1987; Amato & Booth, 1996; Astone & McLanahan, 1991; Brown, 2001; Dornbusch et al., 1985, Hetherington, Cox, & Cox, 1982; Thomson, McLanahan, & Curtin, 1992; Thomson, Mosley, Hanson, & McLanahan, 2001; Wallerstein & Kelly, 1980).

However, family structure differs considerably across race and ethnic groups. Today, 28 percent of White children are born to unmarried mothers, compared to 43 percent of Hispanic children, and almost 70 percent of Black children (HHS Table 9). These large differences in family structure suggest that the meaning and benefits of marriage may differ across race and ethnic groups as well. Thus, family structure may affect parenting differently across race and ethnic groups.

Prior research has also found that parenting practices and cultural norms of parenting behavior differ across race and ethnic groups (Bluestone & Tamis-LeMonda, 1999; Phinney, 1996). Therefore, it is likely that the determinants of mothering behaviors differ by group too. These two facts – differences in family structure and parenting across race and ethnic groups – suggest that it is important to investigate the link between family structure and mothering

separately by race and ethnic group. Pooling all mothers in one analysis may mask the effects of family structure on mothering behaviors within race and ethnic groups.

In this analysis I address two primary questions: (1) is there a relationship between family structure and mothering within race and ethnic groups, and (2) does this relationship vary across groups? In particular, I investigate a mother's playful interaction and spanking with her one-year-old child across five different family structures for White, Black, and Hispanic mothers of Mexican descent.

Most of the prior research in this field has compared mothering practices of married versus divorced or remarried mothers. Thus the focus has largely been on family instability (e.g. changes in family structure) rather than on family structure per se (e.g. relationship status and number of parents in the household). Moreover, much of this research has not focused on unmarried family forms that involve both biological parents of the child (e.g. cohabitation), nor on separation from these unmarried relationships. Unmarried households, especially cohabiting households, are increasingly common for children, and thus need to be considered in studies of family structure. In this paper, I address these concerns by focusing on the relationship between the child's biological parents and taking into consideration changes in the relationship over the child's first year.

Background

The mother-child relationship is thought to be the foundation on which all subsequent relationships are built and a primary pathway affecting a child's subsequent social, emotional, and cognitive development (Baumrind, 1996; NRC, 2000). Harsh punishment and maternal neglect are often associated with subsequent child behavioral problems (Baumrind, 1996; Greenberg, Speltz, & DeKlyen, 1993; Hill & Bush, 2001; Power & Chapieski, 1986; Simons,

Johnson, & Conger, 1994). Because of the association between mothering and child development, there is a long-standing literature on the determinants of parental socialization. In this analysis, I am particularly interested in the relationship between family structure and mothering behaviors.

According to theory, family structure affects a mother's interaction with her child through its effects on the mother's household income (Elder, 1980; McLeod & Shanahan, 1993; McLoyd & Wilson, 1991; Ross & Van Willigen, 1996; Zill, Moore, Smith, Steif, & Cairo, 1995) and emotional support (Belsky, 1990; Brofenbrenner, 1979; Kerig, Cowan, & Cowan, 1993). Income and support are posited to affect a mother's maternal stress, which impacts her ability to parent optimally.

Married families generally have the highest economic resources (Manning & Lichter, 1996; Manning & Brown), which helps to account for lower levels of maternal stress among married mothers (Brown, 2001; Ross & Van Willigen, 1996). Higher-income families have also been found to be less likely to spank their child often (Hoff-Ginsberg & Tardiff, 1995; Pinderhughes, Dodge, Pettit, & Zelli, 2000) and less likely to display low levels of warmth to their children (Jarrett, 1997; Pinderhughes, Nix, Foster, & Jones, 2001; Simons, Johnson, Conger, & Lorenz, 1997). Due to the high correlation between race and income, race is often confounded with low-income status (Garcia-Coll, 1990; Harrison, Wilson, Pince, Chane, & Buriel, 1990 in Bluestone & Tamis-LeMonda, 1999).

Moreover, married mothers report the highest levels of father support, and cohabiting mothers report more emotional support than do mothers who are romantically involved, but not living with their child's father (Carlson, McLanahan, & England, 2003; Osborne, 2003). Carlson and McLanahan (2002) find that mothers who report higher levels of emotional support from

their baby's father are more likely to engage in activities with their young child, regardless of the parent's relationship status.

None of these studies has been able to establish a causal link between marriage and better mothering behaviors because of the large differences in characteristics between mothers who choose marriage over nonmarriage for childbearing. These maternal characteristics may also be related to how the mother interacts with her child. Mothers with higher economic resources and greater relationship happiness are more likely to choose marriage over cohabitation (Manning, 1993; Brown, 2000; Bumpass & Lu, 2000), and these mothers are also more likely to be in stable relationships (Carlson, et al, 2003). Research also shows that lower educated, younger, and minority women are less likely to be married (Manning, 1993) and more likely to use harsh punishment and display less warmth with their children (Brody & Flor, 1998; Giles-Sims & Sugarman, 1995; Klebanov, Brooks-Gunn, & Duncan, 1994; McLoyd, 1990; Pinderhughes et al., 2001).

One prior study analyzed mothering behaviors with one-year-olds in various forms of stable and unstable family structures that involved both biological parents of the child. The study found little evidence of a relationship between family structure and mothering behaviors, net of mothers' background characteristics that are exogenous to family structure. However, the study found large differences in mothering behaviors across race and ethnic groups (Osborne, 2003). The differences across race and ethnicity existed net of mother's education, employment, income, and emotional support from her partner. The findings from this study imply that marriage is not similarly associated with better parenting for all race and ethnic groups.

Two possible conclusions can be drawn from this prior study. One could conclude that family structure does not affect mothering behaviors at this early stage of mother-child interaction for any race or ethnic group. Rather, mothering behaviors with a young child are

likely determined by cultural influences. These cultural influences may be driven by a mother's race or ethnicity, education, religious affiliation, immigrant status or other kin or community influences. The second possible conclusion is that the effect of family structure varies across race and ethnic groups, such that pooled analyses do not reveal what might be going on within a given race or ethnic group. This conclusion does not rule out the possibility that cultural influences affect mothering, and that there may be differences in mothering behaviors across race and ethnic groups. Yet, the second conclusion assumes that marriage affects maternal stress differently by race and ethnic group, or that the effect of maternal stress on mothering behaviors differs by group.

How the relationship between family structure and mothering differs by race and ethnicity is not clear. Marriage may confer more benefits (e.g. economic resources and emotional support) to White mothers, given the higher prevalence of marriage among this group. On the other hand, marriage is most selective among Black mothers, and therefore may be related to the largest benefits for this group. It is also an empirical question as to whether the relationship between economic resources and emotional support and maternal stress is similar for all race and ethnic groups. If a given behavior is strongly influenced by cultural norms, then it may be that economic and social support have little bearing on whether or not a mother engages in that behavior. This same reasoning may apply to the link between maternal stress and mothering.

An important note is that a causal relationship cannot be established in this analysis. I use data from a longitudinal birth cohort study. However, these data do not provide information on the mother before she formed her relationship with the child's biological father. Therefore, it is not possible to determine the direction of the relationship between family structure, economic resources, emotional support, maternal stress, and mothering behaviors. Understanding a causal

link between marriage and mothering would be useful to inform policies aimed at promoting marriage among unmarried parents. However, it is also useful to understand if similar relationships between these variables exist for each race and ethnic group. If a relationship does not exist, then it is possible to rule out a causal link.

In this analysis, I am interested in first determining whether a correlation between family structure and mothering behaviors exist for any race or ethnic group. If it does not exist for any group, then I am interested in understanding which part of the theoretical model does not apply to family structure and mothering behaviors with one-year-olds. For example, is family structure related to income and support? Are these factors related to maternal stress? Does maternal stress affect mothering behaviors? If I find that the relationship between family structure and mothering behaviors differs by race and ethnic group, then I am interested in determining how the answers to these questions differ by race and ethnicity.

I have used the term family structure quite broadly in this paper, and often interchange the term with marriage. However, I do not presume that all unmarried relationships are similar. In this analysis, I look at mothers who are cohabiting with their child's biological father and mothers who marry their child's biological father within one year following a nonmarital birth. In addition, I look at mothers who do not live with their child's biological father, are not romantically involved with the father, and mothers who separate from the biological father within one year following a birth. It is likely that mothers with the highest incomes and emotional support select into marriage, or that because of the strong legal and social commitment of marriage, marriage causes the highest levels of resources. Thus marriage may be unique from other unmarried relationships. However, mothers who live with or marry their child's father shortly after the child's birth may be more advantaged than mothers who do not live with or have

a relationship with their child's father. Moreover, mothers who experience separation may be the most disadvantaged.

Data

I use data from the Fragile Families Study to determine the relationship between family structure and mothering behaviors within race and ethnic groups. The Fragile Families Study is a birth cohort survey that interviewed 2658 unmarried and 830 married mothers of newborns in 16 cities throughout the United States[1]. When weighted, the sample is representative of all births in U. S. cities with populations of 200,000 or more residents. The mothers were interviewed in the hospital at the time of their child's birth, and almost 90 percent were re-interviewed approximately one-year later.

This sample includes 2,621 mothers who were interviewed at baseline and at the one-year follow-up, and who described their race or ethnicity as White, Black, or Hispanic of Mexican descent. This excludes 524 mothers who described their race as something other than White, Black, or Hispanic of Mexican descent, and an additional 343 mothers who were not re-interviewed at the one-year follow-up survey.

The Fragile Families Study is well-suited for this analysis because it is one of only a few large data sets to provide information on mothering behaviors with very young children on several domains. Moreover, it allows for an analysis of mothering behaviors across a variety of unmarried family forms that involve the child's biological parents, including a large sample of biological cohabiting parents. In addition, the longitudinal nature of the study is conducive to investigating changes in the biological parent's relationship.

[1] The Fragile Families Study also interviewed mothers in four additional large cities, which are not part of the randomly selected national sample.

Dependent Variables

I examine two outcomes of mothering behaviors: playful interaction and spanking. Playful interaction is representative of warmth and responsive behaviors that foster a secure attachment between mother and child. Each outcome is based on the mother's reported frequency of behavior, measured at the one-year follow-up. I create two dichotomous outcome variables to represent mothers in the lower end of the distribution for each of these behaviors. Reported mothering behavior is not normally distributed. Rather, responses are heavily skewed toward the upper end of the distribution (e.g. most mothers report interacting with their child often and not spanking). Therefore, continuous outcome measures are not appropriate.

A scale for playful interaction is based on the mean response to five questions regarding the number of days per week the mother reads, tells stories, plays games (such as peek-a-boo or gotcha), sings songs, and plays with toys inside (such as *Legos* or blocks) with their one-year-old ($\alpha = .67$). The dichotomous variable represents engaging in these playful behaviors an average of 4 days per week or less, which reflects the bottom 20 percent of the distribution.[2] The assumption is that engaging in these behaviors more frequently will provide better stimulation and bonding with the child.

The spanking measure is a dichotomous variable coded 1 if the mother reports that she has spanked her child in the prior month. Almost 60 percent of mothers who respond affirmatively to this question report that they have spanked their child once or twice in the past month, and about 20 percent of mothers who spank at all report spanking their child daily or weekly. From a child development viewpoint, mothers who spank their one-year-old frequently

[2] In preliminary analyses I experimented with various cut-points in the distribution for this outcome to test for robustness of the results. I also ran ordinary least squares regression models using the outcome as continuous variables. The pattern of the results is similar regardless of the specification. Moreover, I analyzed the high end of the distribution for all three mothering behaviors, and the results are similar at both ends of the distribution.

are of most concern. However, due to the small number of mothers who report spanking, there is not enough power in the models to get a precise estimate for each family structure, separately by race and ethnicity if I only focus on spanking frequently.

The playful interaction measure may be culturally biased. The *Chronbach's* alpha on this measure for White and Black mothers is .67. However, for Hispanic mothers, the alpha is only .60. The questions assume that games such as peek-a-boo and gotcha, and toys such as *Legos* are ubiquitous among families. But this may not be the case, particularly among immigrant and Hispanic mothers. Different interpretations of the questions and different norms of mothering behaviors across race and ethnic groups justify investigating the relationship between family structure and mothering behaviors within race and ethnic groups, rather than pooling the groups in one analysis.

Independent variables

The mother's relationship status with her child's biological father between the child's birth and age one is the primary independent variable. I examine five mutually exclusive family structures: stable married, stable cohabiting, stable single, moved closer together, and separated, all based on the mother's report. Stable married is defined as married at the child's birth and the one-year follow-up. Stable cohabiting is defined as cohabiting at the child's birth and the one-year follow-up. However, the question regarding cohabitation was asked differently at each wave. At the child's birth, the mother is considered cohabiting if she answered yes to the question of whether she is living with her baby's father. At one-year, the mother is considered cohabiting if she reports living with her baby's father all or most of the time. Stable single is defined as not living with the baby's father at the child's birth or at one-year. Approximately 34 percent of these mothers were romantically involved with their child's father over this time frame, whereas 66 percent were not romantically involved with the child's father at the child's

birth or at the one-year follow-up. Preliminary analyses showed that these mothers' behaviors do not differ significantly from each other and, therefore, can be combined to create a larger group. Moved closer together includes mothers who moved from cohabitation to marriage, or from being single to cohabitation or marriage over the child's first year. From a child's perspective, moving from cohabitation to marriage may be less of a transition than moving from being single to cohabitation or marriage (Manning, Smock, & Majumdar, 2003). However, preliminary analyses showed that these mothers' behaviors do not differ significantly. Therefore, I combined all mothers who moved closer together to create a larger group. Separated includes mothers who separated from marriage, cohabitation, or romantic involvement subsequent to the child's birth. Separation from marriage may have the worst effect on a mother's behaviors, due to the stronger initial level of commitment in the relationship (Osborne, 2003). However, very few mothers separated from marriage which precluded examining this group by race and ethnic group. Therefore, all mothers who separated were combined into one larger group.

The other primary independent variable is the mother's race or ethnic identity. Race and ethnicity are self-reported by the mother at the child's birth. I create three race and ethnic groups including non-Hispanic White (N= 782), non-Hispanic Black (N=1303), and Hispanic mothers of Mexican descent (N=536). Almost 60 percent of the Hispanic mothers interviewed in the Fragile Families Study are of Mexican descent. I limited the analysis of Hispanic mothers to those of Mexican descent because of significant cultural differences among mothers who identify themselves as Hispanic (e.g. Puerto Rican, South and Central American). In this paper I refer to non-Hispanic White mothers as White, non-Hispanic Black mothers as Black, and Hispanic mothers of Mexican descent as Hispanic.

Other background variables in the analysis include mother's age, education, nativity, religiosity, family background, and child's gender. Arguably, these characteristics are not determined by the mother's current family structure. However, prior research shows that these covariates are predictive of the mother's family structure and of mothering behaviors. Mother's age is a continuous variable. Education is based on four dichotomous categories including less than high school, high school or its equivalent, some college or technical training, and college or more. Nativity is a dichotomous variable based on the mother's report of her country of origin. Mothers born outside of the United States are coded 1. Religiosity measures the mother's frequency of attendance at a religious service. Mothers who attend a religious service weekly are coded 1. Family background is a dichotomous variable coded 1 if the mother's parents were married when she was 15-years-old. The child's gender is coded 1 if the focal child is a boy. Mother's family background and the child's gender are included in each of the models, but not shown in the tables.

Potential mediators of the effect of family structure on mothering behaviors are also included in the analysis. These include economic resources, emotional support, and maternal stress, all measured at one-year. I include two measures of economic resources: the mother's household income to poverty ratio and employment in the week prior to the one-year interview. The analysis also includes two measures to capture the emotional support the mother gets from her relationship with her child's biological father. One measure, parenting support, represents the support the mother feels from the child's father regarding her parenting. Parenting support is a continuous four point scale, based on the mean response to six questions (each ranging from 1 to 4) asked at one-year. The questions include how often the baby's father acts like the father the mother wants for the child, the mother can trust the father to take good care of the child, the

father respects the schedules and rules the mother makes for the child, the father supports the mother in the way the mother wants to raise the child, the mother and father talk about problems in raising the child, and the mother can count on the father to watch the child for a few hours (α = .96). A high score indicates higher levels of parenting support. The second emotional support measure is the mother's relationship quality with the child's father. This is a continuous variable based on her response to the question "how is your relationship with [the child's biological father]?" Responses range from 5 (excellent) to 1 (poor).

Maternal stress is represented by three measures: parenting stress, substance abuse, and depression. Parenting stress is a continuous variable based on the mean responses to four questions, including how much the mother agrees that being a parent is harder than she thought, taking care of children is more work than pleasure, feels trapped by parental responsibilities, and often feels tired and worn out from raising her family (α = .61). Substance abuse is a dichotomous variable that is coded 1 if the mother reports that since her child's birth alcohol or drugs have interfered with her personal relationships or how she manages her daily life, has been treated for alcohol or drug dependency within the past year, has drank more than 5 drinks a day for more than 10 days out of the prior month, smokes marijuana several times a month or more, or uses hard drugs such as cocaine or heroin. Depression is a dichotomous variable assessed using items from the Depressive Episode section of the Composite International Diagnostic Interview-Short Form (CIDI-SF; Version 1.0 November 1998; Nelson, Kessler, & Mroczek, 1998). The CIDI-SF is a widely used screening instrument based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994) and is designed for epidemiological research.

I experimented with several methods for handling missing data, and the overall results are invariant to the method. To maintain a large enough sample to analyze mothering behaviors separately by race, I imputed missing variables based on the mean response of the respondent's family structure and race.

Methodology

The primary aim of this analysis is to estimate the relationship between family structure and mothering behaviors separately for White, Black, and Hispanic mothers. Prior research using a pooled model of all race and ethnic groups found no effect of family structure on mothering behaviors, but large differences in mothering by race (Osborne, 2003). This finding implies that either the relationship between family structure and mothering differs by race and ethnicity, or that there is no relationship between family structure and mothering for any group. The goal of this analysis is to determine which of these scenarios is correct. The theoretical model posits that family structure affects mothering through its effects on income and support. Income and support, in turn, affect maternal stress, which affects mothering. If the relationship between family structure and mothering varies by race and ethnicity, then I am interested in determining where in the theoretical model the groups diverge. If family structure is not related to mothering for any group, then I am interested in understanding which processes of the theoretical model do not apply to these behaviors.

I begin by estimating a logistic regression model for each mothering outcome, separately for White, Black, and Hispanic mothers. This model controls for family structure (stable married is the reference group) and background characteristics of the mother that are exogenous to family structure, yet predict selection into a given family type. These background characteristics include mother's age, education, nativity, religiosity, family background, and the child's gender.

I use the results of this model to create predicted probabilities of each mothering behavior. The results determine if there is a relationship between family structure and mothering behaviors within a race or ethnic group. If a relationship exists, I cannot rule out the possibility that it is due to selection, rather than caused by family structure.

In order to understand the process through which family structure potentially affects mothering, I model each stage of the theoretical model, separately for each race and ethnic group. I predict each potential mediator, controlling for family structure and mother's background characteristics. Using ordinary least squares models for continuous outcome measures and logistic regression models for dichotomous outcomes, I predict the mother's poverty ratio, employment, parenting support, relationship quality, depressive symptoms, substance abuse, and parenting stress. These models determine the correlation between family structure and each of these possible intervening mechanisms. For depressive symptoms, substance abuse, and parenting stress, I also control for the poverty ratio, employment, parenting support, and relationship quality to understand if these variables affect mothering through their effect on maternal stress. In addition, I predict parenting stress, controlling for depressive symptoms and substance abuse to understand the correlation between these measures. If family structure is not predictive of economic resources or emotional support, and if one of these is not predictive of maternal stress, then I can rule out the measure as a possible mechanism through which family structure affects mothering.

Lastly, for each race and ethnic group, I predict low playful interaction and spanking, controlling for the possible mechanisms through which family structure affects mothering behaviors. These mediating factors should attenuate any effect of family structure on mothering behaviors, and be predictive of mothering. In this model, I include mother's poverty ratio,

employment, parenting support, relationship quality, parenting stress, substance abuse, and depressive symptoms, in addition to family structure and background characteristics. I also show the model that predicts the mothering behaviors, controlling only for background characteristics, in order to determine whether the mediating factors attenuate any relationship between family structure and mothering for any race or ethnic group.

The models are designed to reflect the theory that marriage causes greater economic resources and higher emotional support, which in turn reduce maternal stress and allow for better parenting. However, it is not possible with these data to determine a causal relationship between family structure and mothering behaviors and to rule out selection.

Results

Table 1 shows the means of the independent and dependent variables used in this analysis, separately for White, Black, and Hispanic mothers. The results in Table 1 show, that as expected, there are large differences across race and ethnic groups in family structure. Almost 75 percent of White mothers who have a child in large urban areas are married to their child's biological father throughout the child's first year. In contrast, less than one-quarter of Black mothers and about one-half of Hispanic mothers are married over this time frame. However, the differences are not quite as great when cohabitation is considered. Approximately 88 percent of White mothers are stably married, cohabiting, or move to cohabitation or marriage with their child's biological father over the child's first year. By comparison, almost half of Black mothers and three-quarters of Hispanic mothers fall into these categories. Differences across race and ethnic groups in separation rates are also significant. Approximately 8 percent of White mothers separate from their child's biological father in the child's first year, compared to almost 30

percent of Black mothers and 16 percent of Hispanic mothers. Separation includes separation from marriage, cohabitation, or a visiting relationship.

Background characteristics of the mothers also differ by race and ethnicity. White mothers are approximately three years older than Black or Hispanic mothers. Moreover, 40 percent of Hispanic mothers in large urban areas are foreign born, compared to about five percent of White and Black mothers. Education also differs considerably by race. About one-third of White mothers have a college degree or more, compared to less than 7 percent of Black and Hispanic mothers. Almost 30 percent of Black mothers and over one-half of Hispanic mothers have not earned a high school diploma or its equivalent.

The results also show that economic resources and emotional support differ across race and ethnic groups, but there are not large differences in maternal stress. White mothers have significantly higher income to needs ratios as compared to Black or Hispanic mothers. However, White and Black mothers are equally likely to be employed at their child's first year, and both of these groups are more likely than Hispanic mothers to be working. White mothers report the highest levels of parenting support and relationship quality with their child's father, which could be directly related to the higher prevalence of stable marriage among White mothers. Black mothers report slightly higher levels of parenting stress than White mothers, and Hispanic mothers fall in between the two groups. Fewer than 2 percent of mothers report having a substance abuse problem, which may be underreported, and there are no significant differences between race and ethnic groups. Hispanic mothers are the least likely to report depressive symptoms, and there are no differences in the prevalence of depressive symptom between White and Black mothers.

Table 1 also shows significant differences in mothering behaviors across the three race and ethnic groups. On average, White mothers are the least likely to report that they do not engage in playful interaction with their child, whereas Hispanic mothers are the most likely to report low playful interaction. The differences in behavior across race and ethnic groups persist after controlling for the background characteristics of the mother (not shown). However, the results across race and ethnic groups may be biased due to different norms of mothering behaviors. All mothers are likely to over-report their interactions with their child. However, mothers who are more likely to believe a given behavior is socially desirable, will likely over-report that behavior more than a mother who does not view the behavior as culturally or socially desirable. However, the primary focus of this analysis is not on differences in behaviors across race and ethnic groups. Therefore, cultural bias or different interpretations of ideal mothering behavior is not a great concern to this analysis, so long as it does not bias mothers in different family structures within a given race and ethnic group.

The results also show that less than 20 percent of mothers report spanking their one-year-old child in the past month. However, consistent with prior research, Black mothers are the most likely to report that they have spanked their child, and Hispanic mothers are the least likely to report spanking. These significant differences across race and ethnic groups persist after controlling for family structure and mother's background characteristics (not shown).

Multivariate Analysis

Table 2 shows the predicted probabilities of low playful interaction and spanking for each race and ethnic group. The predicted probabilities are based on the results of a logistic regression model, holding constant the mean of mothers' age, education, nativity, religiosity, family background, and the child's gender for each race and ethnic group. These results

determine whether the relationship between family structure and mothering behaviors differs by race and ethnic group, or if there is no effect of family structure for any group.

The results suggest that family structure is related to low playful interaction for White mothers, but not for Black or Hispanic mothers. As compared to stably married White mothers, White mothers who separate from their child's biological father are over twice as likely to infrequently interact with their child. Moreover, as compared to stably married mothers, the other unmarried family structures report higher rates of low playful interaction, yet these rates are not statistically different from stably married mothers. These results suggest that family instability, rather than family structure per se, is most negatively related to mothering for White mothers.

By contrast, there are no significant differences between stably married Black mothers and any of the other family structures. The results suggest that stably single Black mothers are more likely than other Black mothers to report low levels of playful interaction, yet the differences are not significant. For Hispanic mothers, the results suggest that unmarried Hispanic mothers who have lived for some time with their child's biological father are less likely to infrequently interact with their child than are stably married or stably single mothers. However, as with Black mothers, there is no significant relationship between family structure and low playful interaction for Hispanic mothers. The results for spanking suggest that family structure is not significantly related to this behavior for any race or ethnic group.

To understand why playful interaction is significantly related to family structure for White mothers, but not for Black or Hispanic mothers, and why spanking is not significantly related to family structure for any group, I model each stage of theoretical model, separately for White, Black, and Hispanic mothers. The theory predicts that unmarried mothers have lower

economic resources and emotional support than married mothers have access to, and this in turn increases the maternal stress of unmarried mothers.

Table 3 models each stage of the theoretical model linking family structure and maternal stress for White mothers. The results show that family structure is significantly related to household income for White mothers. As compared to stably married mothers, each unmarried family structure has a significantly lower poverty ratio, with the exception of mothers who move to marriage or cohabitation after the child's birth. However, family structure is not related to the odds of a mother working at one-year. Married mothers are no more or less likely to be working than any of their unmarried counterparts.

Not surprisingly, family structure is significantly related to the emotional support White mothers receive. Stably single mothers and mothers who separate have significantly lower levels of parenting support, as compared to married or cohabiting mothers. These mothers also report that their relationship quality with their child's biological father is significantly lower than stably married mothers or mothers who move closer together over the first year. This finding is also true for stably cohabiting mothers, although the size of the difference between stably married and stably cohabiting is significantly smaller.

Family structure does not have an independent effect on any of the maternal stress measures. However, the theory posits that maternal stress differs by family structure due to differences in economic resources and emotional support, and therefore family structure is not predicted to have an independent effect.

Economic resources (measured as income to needs and employment) are not significantly related to depression or parenting stress for White mothers, but higher income is significantly related to substance abuse. Interestingly, however, higher income mothers are more likely to

have a substance abuse problem. This finding implies that marriage's effect on income is not driving lower stress and thus better parenting for White married mothers.

Emotional support is strongly related with each of the three measures of maternal stress for White mothers. Higher parenting support and relationship quality are related to lower odds of depression and substance abuse for White mothers (although the coefficient is not statistically significant for relationship quality on substance abuse). Moreover, higher relationship quality is also related to lower reports of parenting stress. This finding holds even after controlling for substance abuse and depression. Substance abuse and depression both predict higher levels of parenting stress for White mothers (although the link between depression and parenting stress is not statistically significant). These results show that the theoretical model linking family structure and maternal stress applies fairly well for White mothers, yet it is working through family structure's relationship with emotional support rather than income.

Table 4 shows the results of each stage of the theoretical model for Black mothers. In terms of economic resources, family structure is significantly related to the mother's poverty ratio, but not to her employment. This finding is similar to that for White mothers. In addition, Black mothers who are single and those who separate report significantly lower levels of parenting support and relationship quality, as compared to Black mothers who are stably married, cohabiting, or move closer together. However, for Black mothers, the difference between the married and unmarried (single and separated) mothers is not as large as it is for White mothers. This finding implies that there is a weaker relationship between family structure and emotional support for Black mothers as compared to White mothers.

As predicted by the model, income and support are negatively related to depression. However, economic resources are not related to substance abuse or parenting stress for Black

mothers. Emotional support is related to maternal stress for Black mothers. Parenting support is negatively related to substance abuse and higher relationship quality is related to lower levels of parenting stress for Black mothers. Depression is positively related to parenting stress for Black mothers. The results suggest that, for Black mothers, emotional support is more predictive of maternal stress than are economic resources, which is similar to the finding for White mothers.

The results for Hispanic mothers are shown in Table 5. Similar to White and Black mothers, unmarried Hispanic mothers have significantly lower poverty ratios than stably married mothers or mothers who move closer together. However, the family structure effect size is much smaller for Hispanics than for the other two groups. Unlike White and Black mothers, family structure is related to employment for Hispanic mothers. Single and separated Hispanic mothers are more likely than their stably married counterparts to be employed at year 1. Single and separated mothers also report lower parenting support and relationship quality, as compared to married or cohabiting mothers. Interestingly, economic resources and emotional support have a weaker relationship with maternal stress for Hispanic mothers than they do for White or Black mothers. The coefficients are suggestive of an inverse relationship between emotional support and depressive symptoms, yet the coefficients are not statistically significant. However, there is a significant inverse relationship between the poverty ratio and substance abuse and parenting stress. Substance abuse is also positively related to parenting stress. The results suggest that for Hispanic mothers, the link between family structure and maternal stress is fairly weak and works through income rather than emotional support. In contrast, for White and Black mothers, the link between family structure and maternal stress works through emotional support and not income.

Tables 6 and 7 show the final stage of the theoretical model linking family structure with mothering behaviors. The second model in each table shows how maternal stress is related to mothering, and if there are any direct effects of economic resources or emotional support on mothering.

Table 6 shows the results of low playful interaction for each race and ethnic group. For White mothers, parenting stress is strongly and positively related to lower levels of playful interaction. This finding is consistent with the theoretical model, and helps to explain how family structure is related to playful interaction for White mothers. As shown earlier, single and separated mothers report lower levels of relationship quality than stably married mothers. Moreover, relationship quality is negatively related to parenting stress for White mothers. Thus, there is a pathway from family structure to low playful interaction through relationship quality and parenting stress. Moreover, relationship quality has a direct, inverse relationship with the mothering behavior.

Interestingly, White mothers with a substance abuse problem are less likely to report low interaction. Moreover, earlier results showed that White mothers with higher incomes (e.g. married mothers), are more likely to report a substance abuse problem. This finding could diminish the differences in low playful interaction between married and unmarried family structures. The relationship between substance abuse and low playful interaction could be an artifact of the data, caused by the low number of mothers who report a substance abuse problem.

In addition to the effects of maternal stress on low playful interaction for White mothers, there is also a direct effect of income. Mothers with higher incomes are less likely to report low playful interaction. Results discussed earlier show that unmarried White mothers, particularly those who separate, have lower incomes than stably married mothers. Thus, this connection

between family structure, income, and playful interaction may also explain the higher likelihood that White mothers who separate report lower levels of playful interaction.

Table 6 also shows that White working mothers are more likely to report low levels of playful interaction. However, this finding does not help explain the relationship between family structure and playful interaction for White mothers because mother's employment is not significantly related to family structure.

The second two columns in Table 6 show the results for Black mothers. Similar to the results for White mothers, parenting stress is significantly and positively related to low levels of playful interaction. The coefficient is somewhat smaller for Black mothers than it is for White mothers, but the difference is not statistically significant. Thus, it is surprising that there is no relationship between family structure and playful interaction for Black mothers (as shown in model 1). As shown previously, there are two pathways through which family structure affects maternal stress for Black mothers. The first pathway is through income. Married mothers have higher incomes than unmarried mothers, and higher income is related to lower levels of depression. Depression is positively related to parenting stress. The second pathway is through relationship quality. Single and separated mothers report lower levels of relationship quality, which is associated with higher rates of depression and parenting stress. Given that parenting stress is related to playful interaction, it would seem likely that there would be a significant relationship between family structure and playful interaction before controlling for the mediating factors. The fact that no significant relationship exists, suggests that the effects of income and relationship quality on parenting stress and the effects of parenting stress on low playful interaction is not the same for all Black mothers. I tested this hypothesis in preliminary analysis, and the results suggest that parenting stress is positively related to low playful interaction for

married mothers, and negatively related to low playful interaction for unmarried mothers. This finding is particularly true for stably single Black mothers.

The last two columns in Table 6 show the results for Hispanic mothers. Parenting stress is strongly and positively related to low playful interaction for Hispanic mothers, which is consistent with the theoretical model. However, as discussed earlier, there is a weak relationship between family structure and maternal stress for Hispanic mothers. Emotional support is not related to maternal stress. Income is negatively related to parenting stress, yet the relationship is weak. Thus, it is not surprising that there is no significant relationship between family structure and low playful interaction for Hispanic mothers. Interestingly, mother's background characteristics have direct effects on low playful interaction for Hispanic mothers, which is not the case for White or Black mothers. For Hispanics, being foreign born significantly increases the odds that a mother will report low playful interaction, whereas Hispanic mothers with higher levels of education are significantly less likely to report low levels of playful interaction.

Table 7 shows the results for spanking, separately for each race and ethnic group. As stated previously (and shown in model 1 in Table 7), there is no significant relationship between family structure and spanking for any race or ethnic group. Interestingly, there is also no significant relationship between parenting stress and spanking for any group.

For White mothers, it is surprising that there is not a relationship between family structure and spanking. There are three possible pathways through which family structure could be related to spanking for White mothers. The first is through income. Married mothers have higher income, and income is negatively related to the odds of spanking for White mothers. The second pathway is through parenting support. As stated previously, single and separated mothers report lower levels of parenting support. Mothers with less parenting support are more likely to

have a substance abuse problem, and substance abuse is positively related to spanking. The third pathway is through relationship quality. Single and separated White mothers have lower reported relationship quality. Mothers with lower relationship quality are more likely to spank. With these three possible pathways, it would seem likely that model 1 would show a significant difference between married and unmarried mothers in the likelihood of spanking. Yet this is not the case. This implies that the mediating variables have a relatively weak relationship with family structure and spanking for White mothers. In addition to the effects of income, relationship quality and substance abuse on spanking, White mothers who attend a religious service weekly are more likely than other mothers to spank their child. No other background characteristic is significantly related to spanking, net of family structure.

The second two columns in Table 7 show the results of spanking for Black mothers. It is not surprising that the results show no relationship between family structure and spanking for Black mothers, because the theoretical model is relatively weak for this group. The only possible pathway through which family structure could affect spanking is through relationship quality. Single and separated mothers have lower relationship quality. Black mothers with lower relationship quality are more likely to spank their one-year-old. Moreover, mothers with lower relationship quality are also more likely to be depressed, and depression is positively associated with spanking. Independent of the potential effects of family structure on spanking, Black mothers who are older are less likely to spank, and interestingly, Black mothers with a college education are more likely to report spanking.

The final two columns in Table 7 show the results for Hispanic mothers. The second model shows that there is no relationship between maternal stress and spanking. It also shows that there is no direct effect of economic resources or emotional support for Hispanic mothers.

This finding reinforces the earlier finding that the theoretical model linking family structure and mothering behaviors does not hold well for Hispanic mothers. Mother's background characteristics, namely immigrant status and religiosity, have independent effects on spanking, net of family structure.

Conclusion

This analysis examined the relationship between family structure and mothering behaviors within race and ethnic groups. Because of the considerable differences in family structure and parenting norms across race and ethnic groups, pooling all groups in one model may mask within group variation.

The results show a weak relationship between family structure and mothering behaviors with a one-year-old child for each race and ethnic group. White mothers who separate within the first year of their child's life are less likely than their stably married counterparts to engage in playful behaviors with their child. However, there is no significant relationship between family structure and playful interaction for Black or Hispanic mothers, and no relationship between family structure and spanking for any group.

The theoretical model linking family structure and mothering behaviors is most applicable to White mothers, as compared to Black or Hispanic mothers. There are several pathways through which family structure may affect mothering for White mothers, including economic resources, emotional support, and maternal stress. It is actually surprising, given the strength of the model, that larger differences in mothering behaviors were not found between stable married mothers and single or separated White mothers. This finding implies that other factors besides family structure have a stronger effect on the way a mother interacts with her child.

The theoretical model applies somewhat to Black mothers, although it works only through emotional support and not economic resources. However, the relationships between family structure, emotional support, and maternal stress are weaker for Black mothers as compared to White mothers. This finding helps to explain why there is no significant relationship between family structure and mothering for Black mothers.

The theoretical model does not apply well at all to Hispanic mothers of Mexican descent. Family structure is predictive of economic resources and emotional support. However, income and support are not predictive of maternal stress or mothering behaviors for Hispanic mothers. Thus, it is not surprising that there is no significant relationship between family structure and mothering for Hispanic mothers.

These findings should not be interpreted to represent all mothering behaviors or all stages of mother-child interaction. Moreover, family structure in this analysis is based on the mother's relationship with her child's biological father. New partners, and the cumulative experience of family instability may have more of a negative impact on a mother's behaviors with her child. However, these findings do show that the earliest stages of mother-child interaction are not strongly influenced by family structure, per se. Moreover, the results show that the determinants of mothering behaviors differ by race and ethnicity.

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Table 1: Distribution of Independent and Dependent Variables by Mother's Race/Ethnicity

	White N=782	Black N=1303	Hispanic[a] N=536	Total N=2621
Relationship Status Between Child's Birth and Age One				
Stable married	73.83	24.07[f]	51.97[fg]	50.79
Stable cohabiting	9.29	13.86[f]	14.70[f]	12.65
Stable single[b]	4.22	21.78[f]	8.79[fg]	10.78
Moved closer together[c]	4.38	11.13[f]	11.21[f]	8.76
Separated[d]	8.27	29.15[f]	13.33[fg]	17.01
Mother's Background Characteristics				
Age (years)	28.61	25.02[f]	25.81[f]	26.48
White				35.69
Black				28.71
Hispanic				26.13
Foreign born	3.16	5.29	48.36[fg]	17.44
Less than high school	11.91	28.59[f]	57.85[fg]	31.08
High school	27.85	39.06[f]	26.96[g]	31.32
Some college	26.52	25.40	12.76[fg]	21.94
College	33.72	6.95[f]	2.43[f]	15.66
Attend religious service weekly	27.08	24.02	22.99	24.77
Household income to poverty ratio	3.63	1.53[f]	1.35[f]	2.24
Employed in prior week	56.61	55.98	38.41[fg]	50.83
Parenting support (1-4)	3.66	3.30[f]	3.52[fg]	3.51
Relationship quality (1-5)	4.08	3.29[f]	3.71[fg]	3.72
Parenting stress (1-4)	2.09	2.18[f]	2.15	2.14
Substance abuse	1.58	2.31	1.36	1.75
Depressive symptoms	14.15	14.03	8.42[fg]	12.46
Mothering Behaviors				
Playful interaction[e] $\leq$ 4 days/week	12.99	25.82[f]	36.97[fg]	23.98
Spanked in past month	16.45	29.49[f]	11.88[fg]	19.26

a. Hispanic includes only mothers of Mexican descent.
b. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
c. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
d. Separated includes separation from marriage, cohabitation, or romantic involvement.
e. Playful interaction includes reading, telling stories, singing songs, playing with toys, and playing baby games.
f. Differs significantly from White mothers at the .05 level.
g. Differs significantly from Black mothers at the .05 level.

Source: Fragile Families Study. Figures are weighted based on national sampling weights.

Table 2: Predicted Probability[a] of Mothering Behavior by Family Structure For Each Race and Ethnicity

	Playful Interaction ≤ 4 Days/Week			Spanked in Past Month		
	White	Black	Hispanic	White	Black	Hispanic
Stable married	8.73	22.09	26.22	17.47	24.72	13.80
Stable cohabit	15.46	20.76	18.20	16.78	24.59	9.25
Stable single[b]	14.01	32.03	24.72	23.91	28.00	14.09
Moved closer[c]	16.23	27.27	19.52	19.98	25.20	15.71
Separated[d]	20.44*	25.96	19.63	18.23	32.41	21.89

a. Mother's age, education, nativity, religiosity, family background, and child's gender set to mean for each race or ethnic group.
b. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
c. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
d. Separated includes separation from marriage, cohabitation, or romantic involvement.

*Differs significantly from stable married at the .05 level, within race or ethnic group.
Source: Fragile Families Study. Figures weighted based on national sampling weights.

Table 3: Multivariate Analysis for Each Stage of Theoretical Model of Family Structure Effects on Mothering: White Mothers

	Economic Resources		Emotional Support		Maternal Stress			
	Poverty Ratio OLS	Employment Odds Ratio	Parenting Support OLS	Relationship Quality OLS	Depressive Symptoms Odds Ratio	Substance Abuse Odds Ratio	Parenting Stress OLS	Parenting Stress OLS
Relationship Status Between Child's Birth and Age One								
Stable married (omitted)								
Stable cohabit	-.56*	.97	-.01	-.37**	1.55	.33	-.04	-.05
Stable single [a]	-.77+	1.66	-2.29**	-1.88**	.23	3.00	-.18	-.14
Moved closer [b]	-.34	1.92	-.05	-.04	.98	3.36	.09	.09
Separated [c]	-1.06*	1.20	-.89**	-2.28**	.45	.40	-.26*	-.24*
Background Characteristics								
Age	.09**	.97+	-.00	-.01	.95	1.11+	-.01+	-.01
Foreign born	-.43	.53	.02	-.06	1.31	NA	.01	.00
Less than h. s. (omitted)								
High school	.16	1.63	-.01	-.11	.56	.23	.04	.07
Some college	.28	4.49**	.00	-.15	1.02	.00**	.17+	.18*
College	2.43**	3.74**	.05	-.00	.55	.06+	.16+	.19+
Religiosity[d]	-.77**	.95	.02	.06	1.31	.90	-.04	-.05
Poverty ratio					1.03	1.15*	.00	.00
Employment					1.18	1.56	-.07	-.07
Parenting support					.58+	.50+	-.02	.01
Relationship quality					.75+	.89	-.15**	-.14**
Depression								.15
Substance Abuse								.24**

a. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
b. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
c. Separated includes separation from marriage, cohabitation, or romantic involvement.
d. Religiosity defined as attending a religious service weekly.

Source: Fragile Families Study. Figures weighted based on national sampling weights. +$p \leq .10$. *$p \leq .05$. **$p \leq .01$. All models also include mother's family background and child's gender.

Table 4: Multivariate Analysis for Each Stage of Theoretical Model of Family Structure Effects on Mothering: Black Mothers

	Economic Resources		Emotional Support		Maternal Stress			
	Poverty Ratio OLS	Employment Odds Ratio	Parenting Support OLS	Relationship Quality OLS	Depressive Symptoms Odds Ratio	Substance Abuse Odds Ratio	Parenting Stress OLS	Parenting Stress OLS
Relationship Status Between Child's Birth and Age One								
Stable married (omitted)								
Stable cohabit	-.71**	1.19	.02	.24	.86	6.17+	-.03	-.04
Stable single [a]	-1.19**	.78	-.94**	-.96**	.42+	3.03	.04	.05
Moved closer [b]	-.74**	1.15	-.14	.06	.76	1.76	.11	.11
Separated [c]	-.83**	1.11	-.96**	-1.25**	.49	5.22+	.09	.09
Background Characteristics								
Age	.00	1.06**	-.01	-.02+	1.05*	1.12**	-.00	-.00
Foreign born	-.14	.84	-.02	-.04	.78	NA	.04	.05
Less than h. s. (omitted)								
High school	.47**	3.50**	-.01	.08	.41**	.58	-.24**	-.22**
Some college	1.19**	5.37**	.10	.17	.78	.34	-.13	-.12
College	2.69**	7.90**	-.01	.35	.62	.49	-.25**	-.23+
Religiosity[d]	-.19	.96	.10	.08	1.57+	.12**	.01	.01
Poverty ratio					.75*	.95	.01	.02
Employment					.74	.91	-.10	-.09
Parenting support					.80	.62*	-.02	-.02
Relationship quality					.70**	1.02	-.14**	-.14**
Depression								.28+
Substance Abuse								.12

a. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
b. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
c. Separated includes separation from marriage, cohabitation, or romantic involvement.
d. Religiosity defined as attending a religious service weekly.

Source: Fragile Families Study. Figures weighted based on national sampling weights. +$p \leq .10$. *$p \leq .05$. **$p \leq .01$. All models also include mother's family background and child's gender.

Table 5: Multivariate Analysis for Each Stage of Theoretical Model of Family Structure Effects on Mothering: Hispanic[a] Mothers

	Economic Resources		Emotional Support		Maternal Stress			
	Poverty Ratio OLS	Employment Odds Ratio	Parenting Support OLS	Relationship Quality OLS	Depressive Symptoms Odds Ratio	Substance Abuse Odds Ratio	Parenting Stress OLS	Parenting Stress OLS
Relationship Status Between Child's Birth and Age One								
Stable married (omitted)								
Stable cohabit	-.32**	1.39	.03	-.05	1.71	2.54	.11	.10
Stable single[b]	-.38*	2.33*	-1.65**	-1.43**	.85	7.36	-.10	-.11
Moved closer[c]	-.09	1.45	-.11	-.08	2.41	1.69	-.16	-.18
Separated[d]	-.32*	1.95+	-.89**	-1.84**	2.00	16.66*	-.03	-.04
Background Characteristics								
Age	-.00	1.03	.01	.00	1.05	.97	.00	.00
Foreign born	-.28*	.54*	.00	-.16	.88	.01**	-.05	-.05
Less than h. s. (omitted)								
High school	.52**	2.18*	-.00	.08	.73	.05**	-.11	-.11
Some college	1.16**	5.26**	.12	.15	1.87	7.59**	-.28**	-.29**
College	3.39**	5.84**	.03	.36	NA	NA	NA	NA
Religiosity[e]	.02	.92	-.08	-.04	.13**	NA	-.09	-.08
Poverty ratio					.92	.49+	-.06+	-.05+
Employment					.56	.59	.00	.01
Parenting support					.75	2.02	-.07	-.07
Relationship quality					.79	1.30	-.01	-.00
Depression								.01
Substance Abuse								.21*

a. Hispanic includes only mothers of Mexican descent.
b. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
c. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
d. Separated includes separation from marriage, cohabitation, or romantic involvement.
e. Religiosity defined as attending a religious service weekly.

Source: Fragile Families Study. Figures weighted based on national sampling weights. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. All models also include mother's family background and child's gender.

Table 6: Results of Logistic Regression Models: Playful Interaction[a] ≤ 4 Days Per Week by Race Odds Ratios

	White		Black		Hispanic[b]	
	(1)	(2)	(1)	(2)	(1)	(2)
Relationship Status Between Child's Birth and Age One						
Stable married (omitted)						
Stable cohabiting	1.91	1.42	.92	.82	.63	.50+
Stable single[c]	1.70	1.19	1.66	1.14	.92	.60
Moved closer together[d]	2.02	1.64	1.32	1.10	.68	.73
Separated[e]	2.69*	.87	1.24	.77	.69	.39+
Mother's Background Characteristics						
Age	1.02	1.03	1.04*	1.02	1.04	1.04
Foreign born	.42	.36	.74	.73	1.87*	2.23**
Less than high school (omitted)						
High school	1.28	1.07	.84	.81	.44*	.43**
Some college	1.04	.74	.54+	.51+	.18**	.18**
College	.62	.68	.70	.80	.19*	.15*
Attend religious service weekly	1.11	1.02	.84	.84	.73	.82
Economic resources at year 1						
Poverty ratio		.81**		.88		1.06
Employed in prior week		1.76+		2.47**		1.53
Emotional support at year 1						
Parenting support (1 – 4)		1.33		.84		.99
Relationship quality (1 – 5)		.65**		.99		.82
Maternal stress at year 1						
Parenting stress (1 – 4)		2.19**		1.59**		2.69**
Substance abuse		.14*		2.02		3.38
Depressive symptoms		.99		1.44		1.25

a. Playful interaction includes reading, telling stories, singing songs, playing with toys, and playing baby games (α=.66).
b. Hispanic includes only mothers of Mexican descent.
c. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
d. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
e. Separated includes separation from marriage, cohabitation, or romantic involvement.

Source: Fragile Families Study. Figures weighted based on national sampling weights. +$p\leq.10$. *$p\leq.05$. **$p\leq.01$. All models also include mother's family background and child's gender.

Table 7: Results of Logistic Regression Models: Spanked in Past Month by Race
Odds Ratios

	White		Black		Hispanic[b]	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
Relationship Status Between Child's Birth and Age One						
Stable married (omitted)						
Stable cohabiting	.95	.74	.99	1.04	.63	.70
Stable single[c]	1.46	.86	1.18	.76	1.02	.97
Moved closer together[d]	1.19	.95	1.03	.95	1.16	1.19
Separated[e]	1.04	.42	1.46	.90	1.74	1.65
Mother's Background Characteristics						
Age	.98	.99	.95**	.94**	.95	.95
Foreign born	.61	.62	.48	.42	.19**	.19**
Less than high school (omitted)						
High school	1.11	.98	.98	1.23	.62	.56
Some college	.60	.53	1.08	1.40	1.76	1.57
College	.66	.77	2.06	3.49**	.85	.49
Attend religious service weekly	1.93*	1.81*	1.41	1.40	.46*	.43+
Economic resources at year 1						
Poverty ratio		.84**		.91		1.14
Employed in prior week		1.53		.89		1.07
Emotional support at year 1						
Parenting support (1 – 4)		1.34		.88		.96
Relationship quality (1 – 5)		.68*		.81*		.93
Maternal stress at year 1						
Parenting stress (1 – 4)		1.29		1.09		.97
Drug or alcohol problem		3.99*		.57		.29
Depressive symptoms		.78		2.07**		.80

a. Playful interaction includes reading, telling stories, singing songs, playing with toys, and playing baby games (α=.66).
b. Hispanic includes only mothers of Mexican descent.
c. Stable single includes mothers who are romantically involved but do not co-reside and mothers who are not romantically involved with the baby's father.
d. Moved closer together includes cohabitors who married, and singles who married or moved to cohabitation.
e. Separated includes separation from marriage, cohabitation, or romantic involvement.

Source: Fragile Families Study. Figures weighted based on national sampling weights. +$p\leq.10$. *$p\leq.05$. **$p\leq.01$. All models also include mother's family background and child's gender.