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PREDICTORS OF FATHER INVOLVEMENT ACROSS THE TRANSITION
TO PARENTHOOD

A Thesis Presented

by

KAREN B. METEYER

Submitted to the Graduate School of the
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of the requirements for the degree of

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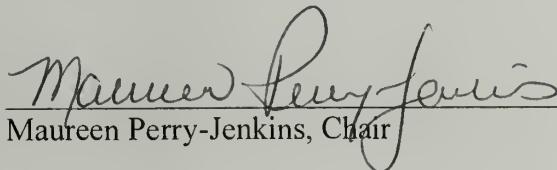
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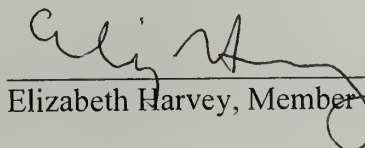
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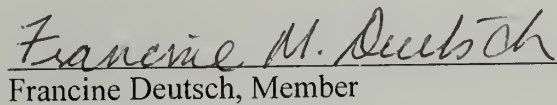
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ABSTRACT

PREDICTORS OF FATHER INVOLVEMENT ACROSS THE TRANSITION TO PARENTHOOD

MAY 2005

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This study explores predictors father involvement among 140 dual-earner, working class couples experiencing the transition to parenthood for the first time. Four theoretical models were tested including: a) relative economic resources; b) demand-response; c) family systems; and d) sex-role attitudes. Perinatal variables from each model were used to predict levels of father involvement with their one-year old children, as well as rates of change in father involvement during the first year of parenthood. Both maternal and paternal reports of father involvement were used, and predictors determined for each. Results offer the most support for the demand-response and family systems models. Specifically, fathers had the highest levels of involvement when they worked opposite shifts from their partners, and when mothers were lower on gatekeeping. In addition, father involvement increased the most during the first year when babies were easier to soothe and when mothers' reported lower levels of father skill in the immediate postnatal period. Findings suggest that different predictors account for levels of involvement than predict changes in involvement. Furthermore, results differed depending on which parent was reporting on father involvement.

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CHAPTER 1

INTRODUCTION

Father Involvement

There is a general belief among researchers and the public alike that greater father involvement is associated with a number of positive outcomes for families. For example, fathers who are more involved in child care report higher marital satisfaction and greater generativity at midlife (Snarey, 1993), as well as increased life satisfaction and a sense of fulfillment (Lamb, Pleck & Levine, 1985). In addition, there is increasing consensus among scholars that the father-child relationship influences child outcomes (Lamb, 1997). Specifically, father involvement has been linked to social and cognitive developmental benefits in children (Parke, 1996), including increased cognitive competence, increased empathy, less sex-stereotyped beliefs, and a more internal locus of control (Pleck, 1997).

Although there has been a recent trend toward greater participation of fathers in child care tasks, across a variety of family types (Lamb, 1997; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001) women still spend more time on child care than men (e.g., Bailey, 1994; Deutsch, Lussier & Servis, 1993; Pleck, 1997). Among two-parent families with employed mothers, fathers' involvement is greater than in single-earner families (Lamb, 1997). Even so, in dual-earner, middle class families with infants, mothers perform, on average, about twice as many caregiving tasks as fathers (Manlove & Vernon-Feagans, 2002). However, most studies rely on maternal reports of father involvement, which may tend to underestimate fathers' involvement. Even

when fathers rate their own involvement, though, they still acknowledge that mothers assume greater responsibility for child care tasks (Sanderson & Thompson, 2002).

Despite the fact that fathers lag behind mothers in their contributions to child care, there is some indication that this is changing. Research on father involvement suggests a slow increase in levels of involvement of fathers in two-parent households since the 1970's (Pleck, 1997). Although women are still performing the majority of child care tasks, there is evidence that many fathers would like to be more involved than they are. One study found that 40% of fathers would prefer to spend more time with their children (Pleck, 1983). Furthermore, some fathers do make every effort to split child care more equally, suggesting that there is a wide range in father involvement among men (Deutsch, 1999). For example, one study of dual-earner, middle class couples found that although fathers spent considerably fewer hours per week in child care than mothers, on average, there was large variability among fathers in terms of their involvement (Manlove & Vernon-Feagans, 2002).

Conceptualizations of Father Involvement

Recently, theorists have attempted to expand the conceptualization of what constitutes father involvement to include a broader range of ways that fathers participate in their children's lives (Marsiglio, Amato, Day, & Lamb, 2000). In the past researchers have focused on father involvement as indicated by financial support and visitation, one-on-one activities between father and child, or on other markers of father presence or absence in the home (Marsiglio et al., 2000). However, current conceptualizations have expanded to include fathers' participation in direct care of their children, as well as more indirect forms of involvement.

One model designed to account for the different ways in which fathers may be involved with their children was developed by Lamb and colleagues (Lamb, 1987; Lamb, Pleck, Charnov, & Levine, 1987). They proposed three dimensions of father involvement: interaction/engagement, accessibility, and responsibility. Interaction/engagement involves time that fathers spend in direct contact with their children. Accessibility and responsibility refer to indirect types of involvement; specifically, accessibility includes periods of time when the father is available to children, but not interacting with them directly (i.e., at home, but in the next room). Finally, responsibility indicates the degree to which fathers assume ultimate responsibility for their children's care and well-being (e.g., keeping track of doctor visits, arranging for babysitters, etc.). Studies that have explored father involvement in these three domains estimate father interaction/engagement and accessibility to be about 33-65% of the level of mothers' contributions, when mothers are employed, with the level of responsibility assumed by fathers generally even lower (Lamb, 1997).

In response to these different ways of conceptualizing father involvement, researchers have developed numerous ways of quantifying men's participation in child care. In accordance with Lamb's dimension of father interaction/engagement, some studies have utilized behavioral involvement by assessing the amount of time that fathers spend with their children or the number of child care tasks that fathers perform (e.g., Bonney, Kelley, & Levant, 1999; Volling & Belsky, 1991). Other studies have compared the amount of time fathers spend in direct (e.g., playing and talking to the baby) and indirect (e.g., cleaning the baby's room, buying the baby

clothes) child care tasks both jointly with their wives or solely, when their wives were not home (Beitel & Parke, 1998).

The type of father involvement that is measured is an important factor in considering research findings. For example, most studies that have measured different kinds of involvement have found that fathers participate more in social interactions and play with their young children than in routine caregiving tasks (Bailey, 1994). In one study, fathers and mothers were equally involved in playing with their infants and preschoolers, while mothers performed the majority of more formal caregiving activities (Bailey, 1994). Bailey (1994) found that the amount of time fathers spent in play was uncorrelated with time spent on caregiving tasks, indicating that type of involvement is an important factor to consider in studies of paternal involvement.

Theoretical Approaches to Understanding Father Involvement

The Ecological Perspective

The ecological perspective offers a lens through which family processes can be better understood (Bronfenbrenner & Morris, 1997). Previous research on father involvement has tended to focus on White, two-parent, middle class families with the sometimes implicit assumption that the same processes would occur with the same results in other family types. However, a growing body of theoretical and empirical work suggests that family context can be a crucial moderator of how processes such as father involvement shape family life. For example, father involvement may have very different antecedents and consequences among dual-earner families than in traditional

single-earner couples. Thus, it is important to explore how father involvement may differ among various family contexts.

One family variable which has been consistently shown to influence father involvement is whether mothers are employed. Maternal employment has been found to moderate the relationship between predictors of father involvement and levels of involvement (Barnett & Baruch, 1987; Crouter, Perry-Jenkins, Huston, & McHale, 1987). Specifically, Barnett and Baruch (1987) found that wives' greater work hours and more traditional attitudes towards the male sex role predicted less father involvement among dual-earner couples, while fathers' less favorable fathering experiences from their own childhood were the best predictors of father involvement in single-earner families. Findings such as these highlight the importance of family context in determining patterns of involvement.

Crouter et al. (1987) demonstrated that fathers in dual-earner families were significantly more involved than their single-earner counterparts. Moreover, different factors were related to levels of involvement in the two family types. In single-earner families, fathers' self-ratings of their skill at parenting were the best predictors of their involvement, whereas in dual-earner families perceived skill was not related to involvement (Crouter et al., 1987). In contrast, fathers from dual-earner families who were more involved in caring for their children reported feeling significantly less love for their wives and reported more negative marital interactions than did fathers from single-earner families.

In addition to the dual-earner context, the socioeconomic status of families is another variable which influences father involvement. Beitel and Parke (1998) have

suggested that among lower income families in which mothers must work and cannot afford alternative child care, father involvement may be an economic necessity, independent of either parent's attitudes concerning father involvement. Therefore, individual attitudes would not be expected to be a significant predictor of father involvement in these families. Future research is needed to explore which factors predict father involvement among specific family contexts such as dual-earner, working class families.

Although broad perspectives are useful in challenging family scholars to examine how social contexts may affect family processes, like father involvement, middle range theories are needed to formulate specific hypotheses that can be tested directly. Four such middle range theories were summarized by Deutsch et al. (1993) who explored the evidence for these different models that have been posited to predict fathers' participation in child care tasks. The four models Deutsch et al. (1993) tested were as follows: (1) relative economic resource, (2) structural or demand-response, (3) family systems, and (4) sex-role attitudes.

The Relative Economic Resource Model

The relative economic resource model suggests that the greater the discrepancy between husbands' and wives' financial contributions to the family, the less involved fathers will be. There are at least two main arguments for why the relative economic resource model is important. First, it could be that the distribution of labor within the home is the result of a power struggle between spouses. In families in which the father's relative income is higher than the mother's it is suggested that his greater power will allow him freedom from domestic

responsibility. Another possibility is that fathers' greater income potential leads men to devote more time and energy to paid labor in the interest of the family, thus reducing their contributions to domestic labor.

Deutsch et al. (1993) found that differences between spouses in terms of income and occupational prestige were significant predictors of how much housework men performed. However, the same study failed to show that income and status differences between spouses were predictive of fathers' involvement in child care tasks. Despite the lack of empirical evidence supporting the relative economic resource model as a determinant of father involvement, many scholars in the field of family studies continue to consider this model a potentially important variable (Lewis, 1986).

The Structural/Demand-Response Model

The structural, or demand-response, model suggests that structural variables within the family which influence the need for child care and the availability of fathers will affect the degree of father involvement. The structural model is similar to Coverman's demand-response capability hypothesis (Coverman, 1985) which suggests that the greater the domestic demands on a father and the greater his capacity to respond to them, the greater his participation in domestic labor will be. A number of structural variables which may influence father involvement according to this model include employment characteristics, shift-work, the age of the parents, the length of the couple's relationship, whether the mother is breastfeeding the baby, the type of birth (vaginal or cesarean), length of maternity and paternity leaves, and child characteristics such as gender and temperament.

Support for this theory has been offered by a number of studies which found that fathers are more involved when both parents are employed, compared to men whose wives were not working (Bailey, 1994; Barnett & Baruch, 1987). Bonney et al. (1999) found that, in a sample of middle class, dual-earner families, fathers who worked relatively more hours were less involved in child care, indicating that employment variables may, in fact, act as a barrier to father involvement. On the other hand, another study failed to find significance for fathers' work hours as a predictor of father involvement, although mothers' greater work hours did predict more father involvement (Deutsch et al., 1993).

Maternal employment characteristics have also been found to influence father involvement. Mothers' employment schedule (Brayfield, 1995) and the number of hours per week they work have been found to impact father involvement (Bailey, 1994; Barnett & Baruch, 1987). Specifically, the more hours that wives in dual-earner, middle class families worked, the more fathers participated in child care (Bonney et al., 1999).

Besides number of hours worked, researchers have begun to explore whether the time of day of employment, or "shift" worked, has implications for father involvement. Prior research indicates that the time of day that partners are employed, as well as the overlap in when they are working, influences family outcomes (Presser, 2000). Presser (1988) found that fathers were more involved in providing care to their children when mothers worked non-day shifts as compared to men whose partners worked during the day. Another study found that the only employment variable which predicted father involvement was the time of day of his work hours:

fathers were more likely to be the primary caregiver for their preschool-aged child when they worked evenings or nights (Brayfield, 1995). Pierce, Tobin and Meteyer (2003) found that working class fathers who worked opposite shifts from their partners were significantly more involved in child care, again suggesting that shift-work is a crucial variable in determining father involvement.

Other important structural variables which may influence father involvement are the ages of the parents and children, and the length of the couple's relationship prior to becoming parents. Specifically, mothers of younger children reported greater father involvement (De Luccie, 1995). In addition, research suggests that when mothers and fathers were younger, fathers participated more in child care, although the same study found that older fathers were more sensitive in playing with their children (NICHD Early Child Care Research Network, 2000). Findings with respect to fathers' age are mixed, however, and some studies failed to demonstrate a relationship between fathers' age and the frequency of participation in or division of responsibility for childrearing (Sanderson & Thompson, 2002). At least one study found, however, that older fathers were more responsive, stimulating and affectionate with their infants (Volling & Belsky, 1991).

The length of the couple's relationship is expected to be related to father involvement in that couples in longer relationships may be more stable and thus have more involved fathers. Little research has explored this variable with respect to father involvement, however, and one study failed to find any impact of number of years married on father involvement (Sanderson & Thompson, 2002).

Prior research has explored the relationship between breastfeeding and father involvement. Beitel and Parke (1998) found that fathers participated less in child care overall, not just in feeding the infant, when the mothers were breastfeeding, and that father involvement remained lower so long as mothers continue to nurse their infants.

Fathers are expected to be more active in caring for an infant when the birth is cesarean rather than vaginal (Parke, 1996), as a result of mothers' increased recovery time and lengthened hospital stay. Consistent with this notion, Parke and Tinsley (1981) found that fathers were, in fact, more involved following a cesarean birth than a vaginal birth.

Some research has explored whether the lengths of maternity and paternity leaves influence later father involvement. Studies indicate that about 50% or more of U.S. fathers take at least some time off from work following the birth of a baby (Seward, Yeatts, & Zottarelli, 2002). Pleck (1993) found that fathers who took longer leaves were more involved in caregiving initially following the birth and continued to be more involved when their children were older. In addition, some family scholars have suggested that when mothers take shorter maternity leaves, the need for fathers to help out increases, leading to greater father involvement. However, more longitudinal studies are needed to determine how the lengths of parental leaves influence father involvement over time.

Finally, research indicates that child variables such as gender and temperament may be important predictors of father involvement. For example, studies suggest that fathers spend more time interacting with their sons than with their daughters among infants and toddlers (NICHD Early Child Care Research Network,

2000) and school-aged children (Barnett & Baruch, 1987). However, other researchers have found that father involvement did not differ by child gender when the children were age five or younger (e.g., Bailey, 1994; Sanderson & Thompson, 2002). One study found that fathers were more *available* to provide care with their infant sons than with daughters, but did not actually perform more child care tasks with sons than daughters (Manlove & Vernon-Feagans, 2002). Thus, additional research is needed to clarify the relationship between child gender and father involvement.

In addition, researchers have explored whether child temperament influences father involvement. Among single-earner families, some research indicates that fathers are more involved with infants who have difficult temperaments (Pleck, 1997; Volling & Belsky, 1991). However, there is also evidence that fathers may be *less* involved with difficult babies. One study found that fathers were more involved with their infant sons when they were easily soothed compared to sons who were more difficult to comfort (Manlove & Vernon-Feagans, 2002). The same relationship did not occur for fathers' involvement with their infant daughters, however (Manlove & Vernon-Feagans, 2002).

The Family Systems Model

Whereas the relative economic resource and structural models link father involvement to concrete behaviors and characteristics of the parents and child, the family systems model argues that the quality and dynamics within the family and the marriage are the central determinants of father involvement. Thus, according to the family systems model whether a couple is married or cohabiting, partners'

perceptions of fathers' skill at child care, mothers' gatekeeping attitudes, and marital love and conflict ratings from husbands and wives are expected to be key determinants of father involvement.

Research indicates that whether a couple is married or cohabiting influences family dynamics and that cohabitation is an increasingly common family structure (for a review, see Seltzer, 2000). Given these findings, future research should consider how cohabitation, as compared to marriage, influences father involvement. Evidence suggests that cohabiting relationships are less stable than marriages (Seltzer, 2000). One possible consequence of the relative instability of cohabiting unions could be that cohabiting fathers may be less involved in child care, although research is needed to test this hypothesis directly.

In addition to the influence of marriage versus cohabitation on father involvement, many researchers have explored whether parents' beliefs about men's competence at child care are predictive of their involvement. Beitel and Parke (1998) found that wives' perceptions of their husbands' skill as fathers were related to husbands' involvement with their infants. Wives who believed their husbands were more skilled at child care tasks had husbands who were more involved (Beitel & Parke, 1998). In addition, several studies have demonstrated that men who see themselves as more skilled at child care report higher levels of involvement (e.g., Sanderson & Thompson; Beitel & Parke, 1998). However, Crouter et al. (1987) found that fathers' perceptions of greater skill at child care were related to higher levels of father involvement only among single-earner families, and not in dual-earner

families, highlighting the importance of context in determining patterns of father involvement.

The concept of maternal gatekeeping has been offered as another factor that could account for the disparity between mothers' and fathers' participation in child care. Allen and Hawkins (1999) define maternal gatekeeping as "a collection of beliefs and behaviors that ultimately inhibit a collaborative effort between men and women in family work by limiting men's opportunities for learning and growing through caring for home and children." Defined as such, gatekeeping may provide another possible explanation for why fathers continue to be less involved in child care tasks than mothers.

Allen and Hawkins (1999) utilized cluster analysis to classify a group of 622 women in dual-earner families as high, intermediate or low on gatekeeping. They found that gatekeeping attitudes were associated with behavioral differences: gatekeeping mothers did 5 hours more of family work per week and had a less equal division of labor with their partners than women who scored low or in the intermediate range on gatekeeping. Overall, women high on gatekeeping had an 8 hour larger discrepancy in time spent on family work relative to their husbands than women who were lower on gatekeeping.

In another study of maternal gatekeeping, Fagan and Barnett (2003) found that mothers who were high on gatekeeping had partners who were less involved in child care. In addition, gatekeeping was related to mothers' perceptions of fathers' competence as parents. Mothers who rated fathers as being more skilled at child care engaged in less gatekeeping while those who felt fathers were less skilled were higher

on gatekeeping (Fagan & Barnett, 2003). Paternal competence, in turn, was positively predictive of father involvement (Fagan & Barnett, 2003). Thus, gatekeeping acted as a mediator in the relationship between father skill and involvement (Fagan & Barnett, 2003).

Beitel and Parke (1998) have suggested that among families in which low gatekeeping mothers encourage fathers to be more involved, individual differences in fathers and structural variables like employment schedules may be more influential in shaping father involvement. On the other hand, for families in which mothers endorse gatekeeping attitudes and thus restrict father involvement, differences in family structure and father characteristics may play a relatively minor role in determining involvement.

In addition to maternal gatekeeping, the family systems model argues that marital factors are predictive of father involvement. Frequency of marital communication (Belsky, 1984) and marital intimacy (NICHD Early Child Care Research Network, 2000), have both been found to be predictive of father involvement. Besides influencing the quantity of father involvement, marital characteristics may play an important role in shaping the quality of fathers' interactions with their children. In one study, Volling and Belsky (1991) observed one-hour naturalistic interactions between fathers and their infants in the home. They found that, in addition to characteristics of the father and the infant, marital variables predicted the quality of fathers' interactions with their infants. Specifically, fathers' who prenatally reported loving their wives more and attempted to enrich their relationships more were more affectionate and stimulating fathers 6 months later.

Although prior studies have explored marital satisfaction, few have directly addressed whether specific components of marital quality, such as husbands' and wives' reports of marital love and conflict are important predictors of father involvement. Given the results of other studies which found that marital characteristics like communication and intimacy were associated with father involvement, there is every indication that love and conflict reports will affect involvement as well. Marital and other family dynamics may play an especially influential role in shaping men's participation in fatherhood across the transition to parenthood when parenting practices and routines are first established.

The Sex-Role Attitudes Model

The sex-role attitudes model posits that men's and women's attitudes about gender determine fathers' level of involvement. Previous research in support of this model has found a link between gender role ideology (Bonney et al., 1999), beliefs about men's competence with children (Crouter et al., 1987), and father involvement.

According to the sex-role attitudes model, fathers' individual beliefs and attitudes about gender roles may have important implications for fathers' participation in child care. In support of this premise, research indicates that men who had a greater belief in biological differences between the sexes and who placed a higher value on their role as fathers were more involved (Beitel & Parkc, 1998). Another study found that men with less traditional gender ideology reported more liberal beliefs about the role of the father, which in turn led to greater father involvement (Bonney et al., 1999).

Mothers' values and beliefs about gender ideology have also been found to be important factors in how involved their husbands were in child care tasks in a number of studies (e.g., Barnett & Baruch, 1987; Beitel & Parke, 1998). Barnett and Baruch (1987) demonstrated that the mother's attitude toward the male role was a significant predictor of father involvement, and that the relationship was moderated by the number of hours the woman was employed outside the home. Specifically, the more hours wives worked and the more nontraditional their attitudes toward the male role, the more fathers were involved (Barnett & Baruch, 1987). Even after controlling for a variety of factors including maternal employment, breastfeeding, father participation in birth preparation classes and family history, mothers' greater endorsement of innate sex differences was associated with less father involvement (Beitel & Parke, 1998).

In testing the four models described above, Deutsch et al. (1993) found that the number of hours mothers worked and fathers' endorsement of nontraditional sex-role attitudes explained 31% of the variance in paternal involvement in the care of their infants, supporting the sex-role attitudes model and the structural model. In contrast, the relative economic resource and family systems models received less support as predictors of father involvement in child care (Deutsch et al., 1993). Thus the models are not necessarily mutually exclusive, and a combination of factors may offer the most accurate prediction of father involvement.

Maternal Versus Paternal Report

In addition to various characteristics of the parents and child, who reports on fathers' participation is an important consideration in studying father involvement.

Prior studies have found that husbands tend to over-report their involvement, while wives may under-report their husbands' contributions (Barnett & Baruch, 1987). However, most research has found that husbands' and wives' reports of paternal involvement are highly correlated nonetheless (e.g., Bonney et al., 1999; $r = 0.63$). For the purposes of the present study, the decision was made to include separate reports of father involvement from both partners.

The Current Study

The influence of multiple factors on father involvement has been explored in several recent studies; however, mixed findings and methodological limitations have left the nature of the relationship unclear as yet. In addition, almost no studies have explored the ability of multiple models to predict father involvement among dual-earner, working class families experiencing the transition to parenthood and few studies have included a measure of father involvement from both partners.

The time immediately prior to and following the birth of a first baby is thought to be a critical period for establishing parenting routines that will shape how mothers and fathers interact with their child for many years. Given that mothers have traditionally been the primary caregivers of newborns, they may play a crucial role in structuring fathers' participation in child care, which could have important implications for subsequent father involvement. Furthermore, as discussed above, father involvement may be an economic necessity among working class families, regardless of partners' attitudes concerning father involvement. If this is the case then individual attitudes would not be expected to be a significant predictor of father involvement among working class families.

The present study will use hierarchical linear modeling (HLM; Raudenbush & Bryk, 1992) to assess levels of father involvement, as well as rates of change in involvement, among families as they have their first child and during the first year of parenthood. In addition, various factors in the prenatal and immediate postnatal period will be explored as possible predictors of levels of father involvement one year later and changes in involvement during the first year. This relationship will be studied among a sample of working class, dual-earner couples experiencing the transition to parenthood for the first time.

Few studies have examined how a combination of variables in the perinatal period affects levels and rates of change in father involvement during the first year of parenthood. By examining individual change trajectories in father involvement over time, as well as average reports of father involvement, we can explore predictors of level of involvement as well as individual patterns of change in involvement across the formative period of early parenthood. HLM is uniquely suited for dealing with dyadic data in that both partners' reports of father involvement can be taken into account in determining what predicts father involvement.

Research Questions/Hypotheses

The proposed study will explore three main research questions. First, does father involvement in child care change over the first year of life and, if so, what predicts changes in father involvement? The first question will also explore whether there is variability among fathers with respect to their levels of involvement. Second, what factors predict levels of fathers' involvement with their one-year old children? Each of the four models of father involvement will be tested individually to determine

which models offer the best predictors of both level of involvement and rates of change in involvement in the first year. Finally, the third research question will address which predictors from each model will have the most predictive power when other predictors are taken into account. To address this question, significant predictors from each model will be combined into final models to determine which factors emerge as the most significant predictors of father involvement.

Prior to testing predictive models, issues of multicollinearity will be examined. Specifically, a number of predictors within a given model may be highly correlated. For example, in the structural model the length of couples' relationships and fathers' age are likely to be correlated, such that younger fathers will tend to be in relationships of shorter duration. Thus, for each model, correlational analyses will be used to determine which variables are highly related. In the event that variables are significantly correlated, a decision will be made to exclude predictors.

The four models and the specific hypotheses predicted by each are as follows:

- a) The relative economic resource model predicts that the greater the discrepancy in partners' income (favoring men's income over women's), the less involved fathers will be.
- b) The structural/demand-response model suggests that the fewer the hours the father works, and the greater the hours his partner works, the more he will participate in child care. In addition, couples who work opposite shifts will have more involved fathers. Fathers who are older are expected to be more involved parents. Also, the longer the duration of the couple's relationship, the more fathers are expected to be involved in

both married and cohabiting couples. The structural model predicts that fathers will be more involved when the birth was cesarean, and less involved when mothers breastfeed the baby. In addition, fathers are expected to be more involved the shorter the length of the mothers' maternity leave and the longer the length of their paternity leave. Finally, it is predicted that fathers will be more involved when their infants are more difficult, and when they have sons.

- c) In the family systems model it is hypothesized that maternal gatekeeping will decrease father involvement, while greater marital love and lower conflict will increase fathers' participation in child care. Also, it is expected that the higher both partners rate the father's skill at child care, the more involved the father will be. Furthermore, marital status of a couple is expected to be an important variable in determining father involvement in that married fathers are expected to be more invested in parenting, and thus more involved, than cohabiting fathers.
- d) The sex-role attitudes model predicts that couples' more traditional gender role ideologies will lead to less father involvement.

Finally, analyses will explore which combination of the four models can account for the most variance in levels and change in father involvement with their newborns over the first year of life.

Analytic Strategy

Data will be analyzed using two-level hierarchical linear modeling (Raudenbush & Bryk, 1992). As a first step, the Level-1 model examines whether

there is a significant degree of average change in father involvement over time and then tests to see if there is a significant amount of variability in rates of change for individual fathers. The Level-1 model defines two parameters which characterize fathers' trajectories of involvement over time: 1) the mean level of father involvement among all participants; and 2) the average linear rate of change in father involvement during the period of study. If Level-1 tests indicate that there is a significant variability in rates of change to be explained in father involvement, then a Level-2 model is employed in which individuals' change trajectories become the dependent variable and the set of independent variables are used as Time 1 predictors of this change.

CHAPTER 2

METHOD

Sample and Procedure

The data for these analyses were obtained from the Work and Family Transitions Project, a longitudinal study focusing on the transition to parenthood among a sample of dual-earner, working class, predominantly White families conducted at the University of Massachusetts, Amherst. In the study, 153 couples participated in five interviews during a one year period, including a third trimester interview (Time 1), a one-month postpartum interview (Time 2), an interview within four weeks of the mothers' return to work (Time 3), a six-month postpartum mail interview (Time 4), and a one-year postpartum interview (Time 5). All interviews, excluding the six-month postpartum interview, were conducted in person within the family's home. Men and women were interviewed separately by trained interviewers.

Participants were recruited through prenatal education classes throughout Western Massachusetts and included married or cohabiting heterosexual couples. Selected couples met the following criteria: (1) both partners were expecting their first child; (2) both partners were employed full-time (35 hours or more per week) before the birth of the baby; (3) mothers planned to return to work within six months following the birth of the baby; and (4) both partners were classified as "working-class" (defined by the educational attainment of an Associate's Degree or less). Twelve families were excluded from the analyses because they dropped out of the study after Time 1 or were missing data from both the Time 2 and Time 3 interviews.

One additional family was excluded because they had twins. Data from the remaining 140 families were included in the analyses.

For the purposes of the current study, the major variables which will be explored as predictors of father involvement will be drawn from the two initial interviews, Time 1 and Time 2, the first one just prior to the birth and one approximately four weeks after the birth. Only two predictors, mothers' work hours and the proportion of family income earned by fathers will be assessed at Time 3. Prior research indicates that major life changes such as the transition to parenthood are crucial time periods when patterns are established which have a lasting impact on family functioning. Thus, the current study will focus on factors in the immediate pre- and post-natal period as predictors of levels and changes in father involvement.

Measures and Variables

Father Involvement

Father involvement was assessed via a measure which lists 15 common child care tasks such as feeding, soothing, and putting a baby to sleep (Barnett & Baruch, 1987) (see Appendix A.1). Fathers and mothers indicated the percentage of time that fathers engaged in each task on a 5-point Likert scale (1 = 0-20% done by my spouse/partner; 5 = 80-100% done by me). Each partner's independent rating of father involvement will be included in the model. Alpha coefficients for fathers' reports of their involvement at Time 2, 3 and 5 are as follows: .77, .79, and .78. Alpha coefficients for mothers' reports of father involvement at Time 2, 3 and 5 are as follows: .89, .86, and .87.

Father involvement will be assessed in two ways. Levels of father involvement at Time 5, as well as change over time in father involvement data from Time 2, Time 3 and Time 5, will be explored. For the purposes of this analysis, the time point for which level of father involvement was of greatest interest was Time 5, thus the data were centered at Time 5 to allow the intercepts in the HLM models to reflect levels of involvement at one year postpartum.

Relative Economic Resource Model

To test the relative economic resource model, women and men reported their individual gross annual incomes independently during the third interview, following the mother's return to work after the baby was born. A ratio score was obtained by dividing men's annual income by the total family income (sum of both partners' gross income). The average proportion of family income earned by fathers in the sample was .60 (standard deviation = .14). It was decided to use income data from Time 3 rather than Time 1 to estimate fathers' economic contributions since mothers' work hours often decreased by Time 3, and, as a result, Time 3 income data are thought to be a more accurate reflection of families' financial situation during the first year of parenthood.

Structural/Demand-Response Model

A number of structural variables thought to influence either fathers' availability to provide care or the demand for fathers' participation were included in the demand-response model, discussed below.

Work Hours

Participants reported their weekly work hours for all paid employment. Fathers reported their hours worked each week at Time 1. On average, fathers worked 48.00 hours per week (standard deviation = 8.05) and their work hours remained relatively stable during the period of study. Mothers' reports of their weekly work hours at Time 3, following their return to work, will be used in the current analyses rather than their Time 1 work hours since many mothers reduced their work hours after their baby was born. On average, at Time 3, mothers in the sample worked 34.6 hours (standard deviation = 12.52).

Shift Work Status

Mothers and fathers reported their individual weekly work schedules for all jobs. A dichotomous variable was created indicating whether a couple worked alternating work shifts (1) or the same work shift (0). Approximately 67% of the couples in the sample were classified as working the same shift, while 33% were opposite shift workers, at Time 1.

Length of the Relationship

For both married and cohabiting couples, partners reported how long they had been in a relationship, in years, which was used to create a variable indicating the length of the relationship. The mean length of the marital/cohabiting relationship in the sample was 2.65 years (SD = 2.64) at Time 1.

Nursing

Mothers indicated whether they were nursing in the immediate postnatal interview. In this sample, 60.7% of mothers were nursing at Time 2, while the other 39.3% were not.

Type of Birth

Mothers reported on the type of birth which was dummy coded (0 = vaginal, 1 = cesarean). In this sample, 80.7% of mothers delivered their babies vaginally, while 19.3% reported having a cesarean section.

Father Present at Birth

Although it was intended that fathers' presence (or absence) at the birth would be entered as a predictor, descriptive analyses found that all but three fathers in this sample were present for the birth of their first child. Consequently, this variable was dropped from the analyses due to its low variability.

Length of Parental Leave

Mothers' length of maternity leave was measured by mothers' report of how long, in weeks, they stayed at home following the birth of the baby. The average length of maternity leave was 12.08 weeks ($SD = 5.79$). Similarly, fathers' leave was assessed by self-report of the number of days fathers took off from work for the birth, with fathers taking an average of 8.29 days off ($SD = 7.46$).

Age of Parents

Each participant indicated their age at Time 1. Due to high collinearity between the ages of mothers and fathers ($r = .77$), only fathers' ages will be included in the models for analysis. On average, mothers were 27.06 years old ($SD = 4.87$;

range 17.65 to 40.81), while fathers were 28.95 years old ($SD = 4.96$; range 18.61 to 41.27) at the first interview.

Infant Gender and Temperament

Mothers indicated the gender of the baby at the postnatal interview (Time 2). Approximately 44% of the babies in the sample were male, the other 56% were female. The Infant Behavior Questionnaire (IBQ) was used to assess child temperament at Time 2 (Rothbart, 1978) (see Appendix A.2, items 31-37). The IBQ is a 94-item scale which instructs parents to rate the frequency of particular behaviors displayed by their infant within the past week. For the purposes of the current study, the 7-item Soothability subscale will be used to assess how difficult the infant was to comfort. The decision was made to use only the Soothability subscale for the current analysis because the number of predictors that can be included in each model is constrained by the sample size. Preliminary analyses indicated that only this subscale was related to father involvement, thus the other subscales derived from the IBQ were excluded from further analysis.

The Soothability scale asks parents to rate how effective various soothing techniques (i.e., rocking, holding) were in calming their baby during the last two weeks. Techniques were rated on a 7-point Likert scale ranging from “never” to “always” effective at soothing their baby. For soothability items, the alpha coefficients for men and women were .78 and .76, respectively. Fathers’ and mothers’ reports on this subscale will be used in the analyses.

Family Systems Model

Marital Status

A dummy variable indicating whether the couple was married or cohabiting at Time 1 was created to reflect marital status (1 = married, 0 = cohabiting). In this sample, 80% of couples were married, while the other 20% were classified as cohabiting.

Fathers' Skill

Fathers' skill at child care tasks was reported by both fathers and mothers in a 15-item scale which asked respondents to indicate how skilled the father was at performing common child care tasks such as feeding a baby, changing a baby's diaper, and playing with a baby (Crouter et al., 1987) (see Appendix A.3). Responses were indicated on a 4-point scale in which higher values indicated more perceived skill. Fathers' reported on their skill at childcare tasks before the baby was born at Time 1, with an alpha coefficient of .93. Mothers' reported their partners' skill at Time 2 (Time 1 data not available), just after the birth of the baby. The alpha coefficient for mothers' reports was .88

Gatekeeping

The gatekeeping scale was adapted from a measure by Allen and Hawkins (1999) (see Appendix A.4) and included 16 items. Sample items for women included: "I like to be in charge when it comes to caring for the baby;" and "I have higher standards than my husband/partner about how the baby should be cared for." Sample items for men included: "My wife/partner likes to be in charge when it comes to caring for the baby;" and "My wife/partner has higher standards than me about

how the baby should be cared for.” Mothers and father indicated their agreement with each item on a 5-point Likert scale, with higher scores indicating women’s greater gatekeeping attitudes. Mothers and fathers reported on maternal gatekeeping at Time 2, both with alpha coefficients of .85. The gatekeeping measure was added to the protocol after the study began and, as a result, data on gatekeeping was not collected for the first 28 families. Any models including gatekeeping as a predictor, therefore, have lower sample sizes ($N = 128$, instead of $N = 140$).

Marital Love and Conflict

Couples’ marital love and conflict was assessed at Time 1 using two subscales from the Personal Relationship Scale developed by Braiker and Kelley (PRS; 1979) (see Appendix A.5). Conflict was measured by 5 items comprising the Conflict-Negativity subscale which assessed the amount of conflict in the relationship. An example of a sample item from this subscale was: “How often do you and your partner argue with each other?” Subjects responded on a 9-point Likert scale ranging from 1 (very infrequently) to 9 (frequently). Alpha coefficients for men’s and women’s conflict were .53 and .64, respectively. Love was assessed via a 10-item Love subscale which reflects individuals’ feelings of closeness or belonging with their partners. A sample item was: “How close do you feel toward your partner?” Subjects responded on a 9-point Likert scale ranging from 1 (not at all close) to 9 (extremely close). Alpha coefficients for partners’ love were .73 for men and .61 for women.

Gender Ideology

Gender ideology of men and women was determined via the Men's and Women's Roles Scale (Brogan & Kutner, 1976) (see Appendix A.6) which was administered at Time 1. This scale assesses how "traditional" or "liberal" individuals are regarding their views of the roles of men and women in the home and the workplace. The 39 items contain a 6-point scale on which respondents indicate their opinions of acceptable behavior and treatment for men and women. Sample items included: "The old saying that 'a woman's place is in the home' is still basically true and should remain true;" and, "It is not a good idea for a husband to stay home and care for the children while his wife is employed full-time outside the home." Higher scores indicate endorsement of more egalitarian views. Alpha coefficients were .90 for men and .86 for women.

CHAPTER 3

RESULTS

Prior to addressing the main research questions, descriptive statistics on the independent and dependent variables were calculated for both partners. Means and standard deviations are reported in Tables B.1 and B.2.

The first research question addressed whether father involvement changed during the first year of parenthood. Also of question was the degree to which fathers varied around the respective population average trajectories. Significant variability around average levels of father involvement was expected to emerge. These hypotheses were tested by examining the fixed effects and variance components of the baseline models for fathers, with father involvement treated as the outcome variable. HLM offers particular advantages for dealing with the dependency of dyadic data in that both partners' reports can be entered simultaneously into the model, and differing predictors of each can be determined, while taking the spouse's data into account.

The Level-1 model defines two parameters that characterize participants' average trajectories: 1) the mean level of father involvement for participants at Time 5 and 2) the instantaneous rate of change in father involvement at Time 5:

$$Y_{ij} = \beta_{m1j}(\text{mother}) + \beta_{m2j}(\text{mother linear})_{ij} + \beta_{f4j}(\text{father}) + \beta_{f5j}(\text{father linear})_{ij} + e_{ij}$$

where Y_{ij} is father involvement score i for couple j , with $i = 2, 3, 5$ data points and $j = 1, \dots, 140$ couples. The variables "mother" and "father" are dummy coded variables to indicate which partner a particular score belongs to. Thus, β_{m1j} and β_{f4j} represent the true score reported by the mother and father, respectively, in couple j . β_{m2j}

represents the rate of change for the mother's report of father involvement in couple j and β_{fj} represents the same for father's report of his own involvement. The errors are represented by the e 's— e_{m1j} , and e_{m2j} , for the mother's scores, and e_{f4j} , and e_{f5j} for the father's scores—and are assumed to have a constant variance, σ^2 .

In the case of the baseline analysis, the Level-2 model is particularly simple:

$$\beta_{1j} = \gamma_{10} + u_{1j} \quad \beta_{2j} = \gamma_{20} + u_{2j} \quad \beta_{3j} = \gamma_{30} + u_{3j} \quad \beta_{4j} = \gamma_{40} + u_{4j}$$

Thus, according to the baseline model every β is equal to a grand mean plus a random effect.

The fixed effects results provide information about the means of the change parameters (i.e., the β 's in the above equations) for mothers and fathers. The variance components results provide information about individual differences in change. Baseline results are reported here.

It is useful to first examine the Tau matrix to gain a sense of the correlated nature of mothers' and fathers' reports of father involvement. Correlations between mothers' and fathers' reports of father involvement were high ($r = .82$), as were the correlations between mothers' intercepts and fathers' slopes ($r = .60$) and vice versa ($r = .52$). Mothers' and fathers' rates of change in involvement were also highly related ($r = .99$). Mothers' reports of father involvement at Time 5 were moderately positively correlated with the slope of the trajectory ($r = .54$), revealing that higher reports of father involvement were associated with steeper increases in involvement over time. A similar association between the intercept and slope emerged for fathers ($r = .53$). Because of the high degree of correlation between parents' scores, subsequent analyses control for the dependence of couples' data.

Baseline analyses revealed a slightly positive rate of change for mothers' reports of father involvement; that is, mothers' average reports of father involvement showed a significantly positive linear rate of change ($t = 2.13, p = .04$). The average trajectory for mothers was estimated to be: $\text{Father Involvement}_{mij} = 2.32 + .008_{mij}$. Examination of the variance components indicated significant intersubject variation in intercepts for mothers ($\chi^2 = 540.13, p < .001$), meaning that mothers varied significantly in their reports of levels of father involvement at Time 5. In addition, a significant variance component for the slope ($\chi^2 = 252.81, p < .001$) illustrated that mothers varied significantly in their reports of rates of change of father involvement; specifically, these results imply that some mothers reported an increase in their partner's involvement, some reported no change, and others reported a decrease in father involvement.

For fathers, the average trajectory was estimated to be: $\text{Father Involvement}_{fij} = 2.61 + .013_{fij}$, indicating a significantly positive linear rate of change ($t = 4.09, p < .001$). This implies that, during the one year transition to parenthood, fathers' perceptions of their involvement increases. Examination of the variance components revealed significant intersubject scatter around fathers' involvement means at Time 5 ($\chi^2 = 308.66, p < .001$). Unlike mothers' reports, the variability in fathers' reports of the change in their involvement over time did not achieve statistical significance by conventional standards ($\chi^2 = 146.79, p = .29, ns$). Inspection of a random sample of fathers' reports of their involvement, however, suggests that some fathers in the sample showed an increase in involvement, some showed a decrease, and some remained the same (see Figure C.1). In addition, subsequent analyses indicated that

many variables emerged as significant predictors of change in father involvement based on father report, despite the low variability in change in involvement among fathers. Moreover, the inclusion of father reports of involvement in the current study was of particular importance, given the paucity of father report data in the literature to date. For these reasons, it was decided to test the predictive models for change in father involvement based on father report as well as mother report.

Individual Models of Father Involvement

Having determined that there is variability, for the most part, in levels of father involvement at one year and rates of change in involvement among fathers across the first year of parenthood, we turn next to exploring the four models for what predicts levels and rates of change in involvement. Mothers' and fathers' reports of involvement will be treated as separate outcome variables, and the predictors of involvement based on both partners' data will be considered separately. In each instance results will be presented for fathers' reports first, including predictors of both level of involvement at one year postpartum, and predictors of rates of change of involvement during the first year. Then, results for mothers' reports will be presented, again beginning with predictors of level of father involvement at one year, and finally turning to predictors of rates of change of father involvement during the first year.

Model 1: The Relative Economic Resource Model

The relative economic resource model suggests that fathers' relative economic contributions to the family will predict their involvement in that fathers who earn a

greater proportion of the total family income will be less involved in caring for their children. This model received only limited support in the current analyses.

Considering father involvement based on father report first, as shown in Table B.3, the relative economic contribution of fathers was not a significant predictor of the level of father involvement with their one-year old children. Nor were fathers' relative economic contributions a significant predictor of change over time in involvement either, based on fathers' report of involvement.

However, the results were somewhat different when mothers' reports of involvement were used as the outcome measure. In this case, fathers' relative economic contribution was a significant predictor of the level of father involvement when their babies were one year old ($\gamma = -0.865$, $p = 0.012$), suggesting that the greater the economic contributions of fathers, the less they participated in child care. Similar to the results for fathers' reports, fathers' relative economic contribution was not a significant predictor of change over time in father involvement based on mothers' reports.

Model 2: The Demand-Response Model

According to the demand-response model, factors which influence fathers' availability to provide care such as fathers' work hours, shift work and length of paternity leave, as well as factors which affect the amount of care needed including mothers' work hours, length of maternity leave, child temperament, and type of birth (vaginal or cesarean) will determine father involvement.

In accordance with the demand-response/structural model, a number of factors emerged as significant predictors of father involvement in this model, and patterns

varied slightly for fathers' and mothers' reports (see Tables B.4 and B.5).

Considering fathers' reports first, consistent with hypotheses, results indicate that working opposite shifts from their partners ($\gamma = 0.167$, $p = 0.014$), their partners working more hours ($\gamma = 0.004$, $p = 0.079$), and having sons rather than daughters ($\gamma = -0.201$, $p = 0.002$) predicted greater father involvement when their babies were one-year old. One unexpected finding emerged in that fathers' reported higher levels of involvement when they had been married/cohabiting a shorter time ($\gamma = -0.045$, $p = 0.006$). Contrary to predictions, father age, type of birth (vaginal or cesarean), whether the mother was breastfeeding at Time 2, child soothability, father work hours, length of paternity leave and length of maternity leave were not significant predictors of level of involvement based on father report.

In terms of change over time, as expected by the demand-response model, older fathers increased their involvement more over time than younger fathers ($\gamma = 0.002$, $p = 0.004$; see Table B.5). Contrary to hypotheses, fathers reported a greater increase in father involvement over time when they had been married/cohabiting a shorter time ($\gamma = -0.004$, $p < 0.001$) and when their partners rated their baby as easier to soothe ($\gamma = 0.006$, $p = 0.037$). Working opposite shifts, the baby's gender, type of birth, whether the mother was breastfeeding, length of maternity or paternity leave, and fathers' and mothers' work hours were not significant predictors of change over time in involvement, based on father report.

For mothers' reports a slightly different pattern emerged (see Table B.4). Similar to fathers' report, when mothers reported on father involvement it was found that working opposite shifts ($\gamma = 0.231$ $p = 0.008$) and mothers' longer work hours (γ

= 0.011, $p = 0.003$) were also predictive of greater father involvement with their babies. However, in additional support of the demand-response model, mothers' shorter maternity leaves ($\gamma = -0.017$, $p = 0.019$) and fathers' older age ($\gamma = 0.022$, $p = 0.011$) were also significant predictors of greater father involvement with their one-year olds when mothers reported on father involvement. For mothers' reports of level of father involvement, the length of marriage/cohabitation, baby soothability, whether she was breastfeeding, baby gender, fathers' work hours, type of birth and the length of paternity leave did not emerge as significant predictors.

Considering change over time in mothers' reports of father involvement it appeared that, as hypothesized, older fathers ($\gamma = 0.001$, $p = 0.046$), having sons rather than daughters ($\gamma = -0.014$, $p = 0.062$), and shorter maternity leaves ($\gamma = -0.001$, $p = 0.040$) predicted a greater increase in father involvement over time (see Table B.5). Three unexpected findings also emerged in that mothers reported a less sharp increase in father involvement over time when mothers' rated their infants as easier to soothe ($\gamma = 0.008$, $p = 0.035$), had a vaginal delivery over caesarean ($\gamma = -0.016$, $p = 0.080$), and when fathers took shorter paternity leaves ($\gamma = -0.001$, $p = 0.001$). On the other hand, working opposite shifts, the duration of marriage/cohabitation, whether mothers were breastfeeding, and fathers' and mothers' work hours did not predict mothers' reports of change over time in father involvement.

One finding which was contrary to expectation was the fact that fathers' reported higher levels of involvement at Time 5 and a greater increase over time in involvement when they had been married or cohabiting a shorter time (see Figure

C.2). Although little research on father involvement to date has explored the length of the couple relationship as a predictor of father involvement, it was hypothesized that fathers in longer relationships would be more involved in child care tasks due to the greater relationship stability gained over time. However, exploratory correlational analyses indicated that the length of the relationship was unrelated to other relationship characteristics such as love and conflict in the current sample, suggesting that length of relationship may not have been a proxy for quality of relationship variables, as anticipated. Still unexplained, though, is the reason why fathers in shorter relationships would report higher levels of involvement and a greater increase in involvement over time.

Correlational analyses indicated that fathers' reports of involvement were not related to length of the couple relationship at Time 2 ($r = .009$, ns) or at Time 3 ($r = -.092$, ns), although shorter relationships were associated with greater father involvement at Time 5 ($r = -.234$, $p = .007$). Of note is the fact that mothers' reports did not suggest a connection between the length of the couple relationship and father involvement. Clearly something is going on for fathers in shorter relationships between Time 3 and Time 5, after mothers return to work.

Further exploratory analyses were conducted to determine what factors during the first year of parenthood might be contributing to the increase in father reports of involvement demonstrated by fathers in shorter relationships. Correlational analyses indicated that, surprisingly, shorter couple relationships were associated with a number of factors that are hypothesized to be related to lower father involvement, despite the fact that shorter relationships were linked to higher father involvement in

this sample. Specifically, fathers in shorter relationships were younger ($r = .433, p < .001$), less likely to be married ($r = .234, p = .005$), had shorter paternity leaves ($r = .171, p = .043$), earned a greater proportion of family income ($r = -.178, p = .035$) and had partners who worked fewer hours ($r = .193, p = .022$).

On the other hand, shorter relationships were also associated with two factors which have been found to be related to higher levels of father involvement, including greater self-reported skill at child care tasks ($r = -.308, p < .001$) and having partners who are less likely to breastfeed their babies ($r = .223, p = .008$). Since bottle feeding and greater father skill have been linked with higher father involvement in previous studies, one possibility is that the associations between length of relationship and breastfeeding and/or skill are partially responsible for the finding that fathers in shorter relationships are more involved with caring for their one-year old children.

However, exploratory regression analyses failed to find significance for the interaction of length of relationship and fathers' skill as a predictor of father involvement at Time 2 ($\beta = .001, ns$), Time 3 ($\beta = .001, ns$), or Time 5 ($\beta = .001, ns$). In addition, a new continuous variable was computed to reflect the number of total weeks that mothers in the sample breastfed their babies. Then, an interaction term was created for the continuous measure of breastfeeding and the length of the couple relationship. Exploratory regression analyses indicated that the interaction of duration of breastfeeding and length of relationship was not a significant predictor of father involvement at Time 2 ($\beta = -.000, ns$), Time 3 ($\beta = .000, ns$), or Time 5 ($\beta = .00, ns$). Thus, the associations between length of relationship and fathers' skill at child care, and between length of relationship and breastfeeding did not account for

the fact that fathers in shorter relationships reported more involvement. Clearly, further research is needed to explore the connection between length of relationship and father reports of involvement.

Further exploratory analyses also investigated the unexpected finding that mothers' reported a greater increase in father involvement when they delivered their babies vaginally rather than by cesarean section. Figure C.3 illustrates that mothers' reports of father involvement were not linear following caesarean deliveries, thus violating one of the major assumptions of HLM. On the other hand, Figure C.4 illustrates the linear relationship between fathers' reports of father involvement and type of birth. Inspection of Figure C.3 indicates that mothers' reported a sharp increase in father involvement immediately after caesarean deliveries, followed by a decline in involvement in subsequent months.

Exploratory regression analyses found that cesarean deliveries were not predictive of higher levels of mother-reported father involvement at Time 2 ($b = .154$, *ns*), or at Time 3 ($b = .001$, *ns*), in contrast to other studies which have found that fathers were more involved following cesarean births (Parke & Tinsley, 1981). Perhaps the working class fathers in this sample were limited in their ability to take longer paternity leaves relative to other samples of middle class fathers, and as a result, were unavailable to help out more following cesarean deliveries.

Also unexpected was the finding that shorter paternity leaves predicted a greater increase in maternal report of father involvement over time (see Figure C.5). Exploratory correlational analyses indicated that shorter paternity leaves were associated with lower levels of mother-reported father involvement at Time 2 ($r = .29$,

$p = .001$). Thus, one possibility is that fathers' lower initial levels of involvement triggered other changes, such as marital discord or displeasure in their partners, which may have encouraged them to increase their involvement more over time.

Model 3: The Family Systems Model

The family systems model predicts that variables which affect the quality of family dynamics will have the greatest impact on father involvement. As expected, several predictors emerged as significant in this model (see Tables B.6 and B.7). Results for fathers and mothers again differed and will be discussed separately.

For fathers' reports of involvement, as predicted fathers who felt that their partners were lower on gatekeeping ($\gamma = -0.180, p = 0.026$) and who rated themselves as more skilled at child care tasks ($\gamma = 0.159, p = 0.012$) were more involved in caring for their babies after one year. Contrary to hypotheses, marital status (married or cohabiting), partners' report of love or conflict in the relationship, and mothers' reports of their gatekeeping and their partners' skill at child care were not significant predictors of level of involvement based on father report.

In determining rates of change in involvement over the first year, consistent with hypotheses, fathers who reported less relationship conflict with their partners before the baby was born increased their involvement more, relative to other fathers ($\gamma = -0.006, p = 0.018$). On the other hand, factors including marital status, love in the relationship, mothers' reports of relationship conflict, and both partners' ratings of fathers' skill at child care and mothers' gatekeeping were not significant predictors of changes in involvement from father report.

Turning to predictors of mothers' reports of father involvement, as hypothesized, less self-reported maternal gatekeeping ($\gamma = -0.187, p = 0.042$), and less partner-reported gatekeeping ($\gamma = -0.170, p = 0.088$) predicted higher maternal reports of level of father involvement. Contrary to expectation, however, marital status, partners' reports of love or conflict, and partners' reports of fathers' skill were not predictive of levels of father involvement after one year of parenthood.

One unexpected result was obtained in that mothers who reported that their partners were *less* skilled at child care tasks in the first weeks after the birth reported that father involvement increased the most over time ($\gamma = -0.031, p = 0.001$). As was the case for fathers' reports of change over time, marital status, partners' love and conflict and mothers' gatekeeping, and fathers' self-report of skill were not significant predictors of change in father involvement over time based on mothers' report.

Graphical analysis was conducted to help elucidate the unanticipated finding that mothers reported a greater increase in father involvement when they rated their partners as less skilled at child care tasks. As shown in Figure C.6, it appears that fathers who had lower levels of skill were less involved immediately following the birth, and thus demonstrated a greater increase in father involvement over time. Exploratory regression analyses confirmed that mothers' reports of higher father involvement at Time 2 were linked to perceptions of greater father skill at child care tasks ($\underline{b} = .605, \text{s.e.} = .064, p < .001$). The finding suggests that fathers who are not as skilled initially are able to "catch up" to other fathers who have higher skill levels

early on. As discussed above, there were no differences in mothers' report of level of father involvement based on fathers' skill after one year.

Model 4: The Sex-Role Attitudes Model

The sex-role attitudes model suggests that partners' gender ideologies will be the most significant predictors of father involvement. This model proved to have some predictive ability for fathers' reports of their involvement (see Table B.8). Fathers who had more egalitarian views on gender roles reported higher levels of involvement with their babies after one year ($\gamma = 0.125$, $p = 0.027$). Over time, however, fathers tended to increase their involvement more when their partners were more egalitarian, although this was significant only at the trend level ($\gamma = 0.011$, $p = 0.062$).

However, contrary to hypotheses, partners' gender role ideologies were not a significant predictor of mothers' reports father involvement. Neither their own, nor their partners' gender ideologies were significant predictors of level or change in involvement based on maternal report.

Final Models of Father Involvement

After exploring each of the four models discussed above separately, significant predictors of father involvement were combined into final models to determine which factors would have the most predictive power. Separate models were explored for level and change in involvement based on father report, and for level and change in involvement based on mother report, yielding four final models in total.

When father reports of father involvement were used, a number of variables were significant in predicting levels of father involvement (see Table B.9). As predicted, fathers who worked opposite shifts from their partners ($\gamma = 0.177$, $p = 0.003$), who had sons rather than daughters ($\gamma = -0.165$, $p < 0.001$), who rated their partners lower on gatekeeping ($\gamma = -0.092$, $p = 0.052$), and who rated themselves as more skilled at child care tasks ($\gamma = 0.096$, $p = 0.003$) were more involved with their one-year old babies. Unexpectedly, the finding that fathers who were in relationships of shorter duration reported higher levels of involvement remained significant in the final model ($\gamma = -0.030$, $p = 0.003$). Although fathers' gender ideology and their partners' work hours were significant predictors of level of father involvement based on father report in their respective individual models, these variables did not emerge as significant in the final model. Overall, the final model explained 40% of the variance in fathers' reports of their level of involvement.

When fathers' reports of their involvement were used to predict their change in involvement over the first year, all the predictors that were significant in individual models remained significant (see Table B.10). Thus, consistent with hypotheses, older fathers ($\gamma = 0.001$, $p = 0.036$), fathers with more egalitarian partners ($\gamma = 0.009$, $p = 0.063$), and fathers who reported less conflict with their partners ($\gamma = -0.006$, $p = 0.008$), demonstrated a greater increase in father involvement over time based on father report. Contrary to prediction, however, shorter relationships ($\gamma = -0.004$, $p < 0.001$), partners' ratings of their baby as easier to soothe ($\gamma = 0.008$, $p = 0.002$), and partners' lower ratings of fathers' skill at child care tasks ($\gamma = -0.012$, $p = 0.006$) were also all associated with a greater increase in father-reported involvement over time.

The final model explained 46% of the variance in fathers' reports of change in father involvement during the first year.

Turning now to predictors of level of father involvement based on mothers' report, final models were again calculated. Although mothers' ratings of the baby soothability, the length of paternity leave and mothers' ratings of fathers' skill were not significant predictors of level of involvement in individual models, it was decided to include them in the final model test for two reasons. First, preliminary exploration of earlier models indicated that these factors were significant predictors of father involvement in prior models (not reported), despite the fact that they did not achieve significance in the individual models discussed here. Also, both factors were significant predictors of mothers' reports of change in father involvement. For these reasons, it was decided to allow baby soothability, length of paternity leave and mothers' ratings of fathers' skill at child care to remain in the model for final testing.

Numerous variables emerged as significant predictors of mothers' reports of fathers' level of involvement with their one-year old children (see Table B.11). As predicted, fathers' older age ($\gamma = 0.018$, $p = 0.050$), working opposite shifts ($\gamma = 0.201$, $p = 0.005$), higher partner ratings of fathers' skill at child care tasks ($\gamma = 0.214$, $p = 0.006$), both mothers' ($\gamma = -0.108$, $p = 0.017$) and fathers' ($\gamma = -0.154$, $p = 0.007$) lower ratings of mothers' gatekeeping, and mothers' longer work hours ($\gamma = 0.006$, $p = 0.022$) were all predictive of higher levels of father involvement with their babies after one year. Unexpectedly, shorter paternity leaves were also predictive of higher mother-reported levels of father involvement ($\gamma = -0.014$, $p < 0.001$). Although significant in their individual models, the length of maternity leave and the relative

economic contributions of fathers were not significant predictors of level of father involvement in the final model. Nor did baby soothability emerge as a significant predictor of mothers' reports of level of father involvement. Overall, the model explained 32% of the variance in mothers' reports of levels of father involvement with their children after one year.

In the final model, fathers' proportional contribution to family income was not a significant predictor of father involvement. Previous literature on the importance of fathers' relative income has been mixed, with some studies failing to show any impact of fathers' economic contributions on father involvement (Deutsch et al., 1993). One possible explanation for the failure to find significance could be due to a lack of variability in the proportion of family income contributed by fathers among the dual-earners in this sample. However, descriptive analyses indicated that fathers' proportion of contributions to the family income ranged from .31 to 1.00 in the sample.

Another explanation is supported by exploratory correlational analyses which indicated a highly negative association between mothers' work hours and fathers' proportion of family income ($r = -.634, p < 0.01$). When combined in the final model, shared variance between mothers' work hours and fathers' economic contributions might have resulted in the failure of fathers' income to predict levels of father involvement.

When mothers' ratings of father involvement were used to predict change in father involvement during the first year, several factors achieved significance as predictors in the final model (see Table B.12). As expected, shorter maternity leaves

predicted a greater increase in father involvement in the first year of parenthood ($\gamma = -0.001$, $p = 0.056$). However, contrary to predictions, mothers' higher ratings of babies' soothability ($\gamma = 0.010$, $p = 0.021$), shorter paternity leaves ($\gamma = -0.001$, $p < 0.001$), and mothers' lower ratings of fathers' skill at child care tasks ($\gamma = -0.022$, $p = 0.003$) were also associated with a greater increase in mother report of father involvement over time. Father age, baby gender, and the type of birth were not significant predictors of change over time in father involvement in the final model, despite being significant in individual models. Taken together, the model accounted for 25% of the variance in change of father involvement over time, based on mother report.

CHAPTER 4

DISCUSSION

In this study, predictors of father involvement during the first year of parenthood were explored to determine what perinatal factors would influence levels of father involvement with their one-year old children, and also what factors would predict changes in involvement during the first year. Four different theoretical models were tested to determine which variables from each would be the best predictors of level and change in father involvement.

Overall, the relative economic-resource model did not receive much support as a predictor of either level of father involvement or change over time in involvement in the current study. The fact that the relative economic resource model was not a powerful predictor of father involvement in this sample is perhaps not surprising given that a previous study found that fathers' economic contributions were associated with father involvement in housework, but not with child care (Deutsch et al., 1993).

Although fathers' relative economic contribution was a significant predictor of mothers' report of change over time in father involvement when considered in the individual model, it did not achieve significance when combined with other predictors in the final model. One possibility is that mothers' work hours, a significant predictor of change over time in involvement, may have overshadowed the impact of fathers' economic contribution when both factors were included in final models due to shared variability between the two.

One study which did find that fathers were more involved in child care when they contributed a lower proportion of family income used a sample which included mothers who were not working at all (approximately 24%), mothers who were working part time (23%) and mothers who were employed full time (53%; NICHD Early Child Care Research Network, 2000). Perhaps fathers' economic contributions are most influential in determining father involvement when mothers are not employed. Only 6 mothers in the current sample were not working at Time 3, nearly 85% were working at least 20 hours per week, over 62% were employed at least 35 hours per week and approximately 25% were working more than 40 hours per week.

As predicted, a number of variables from the demand-response model emerged as significant predictors of greater father involvement including working opposite shifts, having sons rather than daughters, fathers' older age, mothers' longer work hours and shorter maternity leaves. The one variable from the demand-response model that emerged as a predictor of higher levels of father involvement based on both parents' reports was when partners worked opposite shifts.

Approximately one-third of the couples in this sample worked alternating shifts. As expected, working opposite shifts was associated with higher levels of father involvement, based on both parents' reports of involvement, but was not associated with change over time in involvement. Findings support prior research which has also found that shift work was a strong predictor of levels of father involvement (e.g., Presser, 1988; Brayfield, 1995).

Also consistent with the demand-response model was the finding that mothers' longer work hours were associated with higher levels of father involvement.

The link between mothers' work hours and father involvement has been well established in previous literature (e.g., Brayfield, 1995; Bailey, 1994; Barnett & Baruch, 1987; Bonney et al., 1999) and was confirmed in the present sample of working class families as well.

Fathers' work hours did not predict levels or change in father involvement in the working class sample used in the present study. Although some prior research has found that fathers were more involved in child care when they worked fewer hours among middle class families (Bonney et al., 1999), other researchers have found that mothers', but not fathers', work hours predicted father involvement (Deutsch et al., 1993). Taken together, findings from the current study suggest that employment variables such as shift work and mothers' work hours are more central determinants of father involvement than the number of hours fathers work.

Also in accordance with hypotheses generated from the demand-response model, older fathers were more involved in caring for their babies, based on maternal reports. Findings concerning the relationship between fathers' age and involvement in child care in the literature are mixed, with some studies failing to demonstrate a relationship (Sanderson & Thompson, 2002), and others suggesting that younger fathers are more involved (NICHD Early Child Care Research Network, 2000). Age was confounded with partners' work hours in the latter study, however, making results difficult to interpret.

Researchers have begun to address the question of how fathers' age might influence the quality, and not just the quantity, of father-child interactions. Findings support the claim that older fathers demonstrate a higher quality of caregiving than

younger fathers (Volling & Belsky, 1991). Further research concerning fathers' age and father involvement is needed before any definitive conclusions about fathers' age as a predictor of father involvement can be reached.

In addition, as expected, fathers reported higher levels of involvement when they had sons rather than daughters. However, mothers' reports of father involvement were not predicted by their baby's gender. The evidence for a link between having sons and greater father involvement is mixed, with some studies suggesting that fathers spend more time with sons than with daughters among infants and toddlers in families from a range of socioeconomic classes (NICHD Early Child Care Research Network, 2000) and school-aged children (Barnett & Baruch, 1987), while other studies have found that father involvement did not differ by child gender when the children were age five or younger among a middle class sample (Bailey, 1994).

It has been well-established in the literature that working class men, in particular, tend to have more traditional gender beliefs. This raises the possibility that the mixed findings concerning whether fathers are more involved in caring for sons are due to differences in socioeconomic class and related ideology between the samples used in these studies. Future research should test this hypothesis directly by determining if social class moderates the relationship between father involvement and child gender, and whether that relationship can be explained, in part, by differences in gender ideology between classes.

Another explanation could be methodological in nature: perhaps child gender effects are linked to paternal, rather than maternal reports, of father involvement.

One major study which found that fathers were more involved with sons relied on paternal report (NICHD Early Child Care Research Network, 2000), while another study which used a diary reporting technique failed to find any effect of child gender (Bailey, 1994). The current analysis found that child gender was, in fact, only related to fathers' reports of involvement, and was not a significant predictor based on mothers' reports. Thus results from the present analysis, by including separate reports from mothers and fathers of father involvement, suggest one possible explanation for the inconsistency in the literature to date concerning the relationship between child gender and father involvement.

One intriguing finding was that, as expected, shorter maternity leaves were predictive of greater increases in mother-reported father involvement. Fathers whose partners had longer maternity leaves demonstrated a lesser increase in involvement with their children over time. Longer maternity leaves may therefore contribute to the establishment of early patterns of low father involvement which may prove relatively intractable to change.

Surprisingly, length of paternity leave has not received a lot of attention as a predictor of father involvement. One study that did explore length of paternity leave found that longer leaves were associated with higher father involvement (Pleck, 1993). Consistent with prior research, exploratory analyses in the current study found that fathers with longer paternity leaves were more involved in child care at Time 2, but by Time 5 this association was reversed and fathers who took shorter paternity leaves had higher levels of mother-reported involvement. One possible explanation for this unexpected finding could be that fathers' lower initial levels of involvement

prompted other changes, such as marital discord or displeasure in their partners, which may have encouraged them to increase their involvement more over time and “catch up” to other fathers. Clearly, the findings that shorter paternity leaves predicted higher levels of involvement after one year, and were also associated with a greater increase over time in father involvement, bears further exploration.

Although a number of structural variables were significant predictors of father involvement in the sample, some of the effects were observed to be in the opposite direction from what was expected. Specifically, fathers who took shorter paternity leaves, who were in shorter relationships, and who had easier to soothe babies were all more involved in child care, contrary to hypotheses.

Almost no prior research has explored the length of the couple relationship as a predictor of father involvement, and one study that did failed to find any effect of length of relationship on father involvement (Sanderson & Thompson, 2002). The current study, somewhat unexpectedly, found that fathers in shorter relationships reported higher levels of involvement with their one-year old children and a greater increase in involvement than fathers in longer relationships. It is unclear exactly why longer relationships limit father involvement, although it could be speculated that a bias in reporting could, in part, explain the effect. Perhaps fathers in shorter relationships felt more pressure to present themselves as more involved fathers since a similar finding did not emerge from mothers’ reports. Future research should explore this interesting result further to determine whether it would prove true in other family contexts.

One finding that was consistently in the opposite direction from expected was the fact that both mothers' and fathers' reported a steeper increase over time in father involvement when mothers rated their babies as easier to soothe. This finding is in contrast to the demand-response model which suggests that fathers will be more involved when the demand for their participation is greater, as in the case of a difficult baby. However, the opposite appears to be true: men are likely to increase their involvement more when their partners' perceive their babies as easier to soothe. Perhaps when mothers feel their babies are especially difficult to manage they may assume a more central role in child care, thus reducing their partners' involvement.

Interestingly, only maternal, and not paternal, report of baby soothability emerged as a significant predictor of change in father involvement. Thus, fathers' perceptions of their babies' soothability did not play a role in predicting change over time in their involvement. This again lends support to the argument that mothers may be responsible for the lower father involvement among couples with more challenging babies.

Prior research has found that fathers were more involved after cesarean births (Parke & Tinsley, 1981). However, the current study failed to find any impact of type of birth on father involvement. Results suggest, however, that there was a nonlinear relationship between type of birth and father involvement. Mothers who experienced a cesarean birth reported a sharp increase in father involvement between Time 2 and Time 3 (after mothers returned to work), and then reported an even greater decline in father involvement between Time 3 and Time 5. Future research should explore in

greater depth the experiences of parents following cesarean births as mothers are returning to work.

Taken together, results lend support to the importance of the demand-response model in predicting both levels of father involvement and change in involvement over time in early parenthood. However, the high number of findings in the opposite from expected direction also indicates that processes which shape father involvement may be operating in very different ways among this sample of dual-earner, working class families, than what has been found in prior studies of mostly middle class families.

Considering the family systems model, several significant predictors of both level of father involvement and change over time in involvement emerged in the final models. Fathers' ratings of their partners' greater gatekeeping and their self-ratings of more skill at child care predicted fathers' reports of higher levels of involvement. Both partners' ratings of mothers' greater gatekeeping and mothers' higher ratings of fathers' skill were significant predictors of mothers' report of a higher level of father involvement. Thus, fathers' skill and mothers' gatekeeping predicted both parents' reports of father involvement.

The relationship between gatekeeping and father involvement was such that men whose partners were lower on gatekeeping in the immediate postnatal period were more involved in caring for their children after one year. As expected, fathers' reports of their skill at child care tasks significantly predicted level of father involvement; fathers reported higher levels of involvement in caring for their one-year old children when they felt they were more skilled at child care tasks prenatally. A similar pattern emerged for mothers' reports of father involvement and their

partners' skill at child care tasks; mothers' reports of father involvement were higher when they rated their partners as more skilled at child care tasks in the first few weeks of parenthood. Thus it appears that fathers' skill at child care tasks is a reliable predictor of the level of father involvement one year later and could potentially be a fruitful area for interventions aimed at increasing father involvement.

However, one surprising finding concerning father involvement and skill at child care tasks emerged from mothers' reports of their partners' skill. Mothers' lower ratings of fathers' skill at child care tasks at Time 2 predicted a greater increase in father involvement. One explanation of this somewhat unexpected finding could be that men who were initially more skilled at child care tended to be more involved with their children from an early age, thus limiting their "room for improvement" relative to other men who were less skilled at child care in their babies' early infancy. Equally likely is the possibility that fathers' skill improves with time, such that early ratings of skill become less important determinants of involvement as fathers gain experience in caregiving tasks.

Another possibility is that skill at child care tasks becomes crucial to father involvement as babies get older and are less difficult to care for. Consistent with this explanation is the finding in previous research that fathers spend more time playing with their children than performing routine caregiving tasks (Bailey, 1994). As infants get older, more typical forms of father involvement such as play which require less skill at formal caregiving tasks may become more developmentally feasible and thus frequent. Future research would do well to explore types of involvement at different phases of children's development.

Finally, as hypothesized, fathers' perceptions of the degree of conflict in their relationships with their partners predicted change over time in involvement in that lower prenatal conflict was linked to a greater increase in father involvement over time. This finding suggests that prenatal marital characteristics such as level of conflict may have important implications for family processes, including father involvement, up to a year later. As a result, interventions aimed at strengthening couple relationships may have a positive impact on children via increases in father involvement.

One predictor of father involvement in the current study that almost no prior research has explored was the marital status of couples. Approximately 20% of the sample was cohabiting, while the other 80% were married. Contrary to prediction, marital status in and of itself was not a significant determinant of father involvement when other family systems variables were taken into account. However, further research should explore marital status as a potential moderator of the relationship between other variables and father involvement. One might speculate that relationship conflict, for example, could have a very different impact on father involvement among cohabiting couples who may perceive their relationship as less stable or committed than married couples.

All in all, the findings provide convincing evidence in support of the family systems model for predicting both level and change in father involvement. Although some researchers (e.g., Beitel & Parke, 1998) have argued that individuals' beliefs and attitudes may play less of a role in shaping father involvement among lower income families in which mothers must work and cannot afford alternative child care,

results from this analysis suggest that parents' perceptions and attitudes do have important implications for father involvement.

The sex-role attitudes model received some support in the current analysis as a predictor of father involvement. Although men's gender role ideology was a significant predictor of level of father involvement in the individual model, it did not remain significant in the final models. Another prior study which explored both gender role identity and fathers' perceptions of skill at child care also found that once skill was taken into account, gender identity failed to remain significant (Sanderson & Thompson, 2002).

However, fathers' reports of their change over time in involvement were predicted by their partners' gender ideology. Men whose partners were more egalitarian increased their involvement more over time than men with more traditional partners. Men's own gender ideology was not a significant predictor of level of involvement or change over time in involvement in any of the final models, however, suggesting that women's ideology may play a more influential role in shaping men's involvement in child care.

In testing the four theoretical models described in the introduction, Deutsch et al. (1993) found that mothers' greater work hours and fathers' more egalitarian gender ideologies were the strongest predictors of father involvement. The current study found that mothers' work hours were only significant as a predictor of mother-reported levels of father involvement, while fathers' gender role ideologies were not supported as a predictor of father involvement in any of the final models. In addition, many other variables emerged as significant predictors of father involvement in the present

analysis. There were several differences from the earlier paper that could help account for these discrepant findings.

First, Deutsch et al. (1993) employed an average of both parents' reports whereas the current study used both parents' reports of father involvement separately. Results suggest that different predictors of father involvement emerge when mothers' and fathers' reports are used. In addition, in the earlier study data were collected sometime between the 3rd to 8th month postpartum, whereas the study described here extended the length to one year postpartum. Findings from the present analysis suggest that several of the predictors had a nonlinear relationship with respect to father involvement, and that oftentimes major changes were observed to occur between the Time 3 and Time 5 interviews, corresponding roughly to the period from 3-12 months postpartum.

Furthermore, Deutsch et al, (1993) employed a more socioeconomically diverse sample in which mothers' work hours varied considerably. By design the current study focused on processes surrounding father involvement among dual-earner, working class families, a relatively restricted sample. Another importance difference was the addition of several predictors not explored in the prior study, including shift work, maternal gatekeeping, and fathers' skill at child care tasks. As discussed above, the inclusion of various combinations of predictors within the models resulted in different patterns of results. As a consequence of the many differences between the current study and Deutsch et al. (1993), it is not surprising that the results varied as much as they did.

One important goal of the present study was to explore predictors of father involvement based on separate reports from each parent. Considering the overall

pattern of results in the final models, it appears that although parents overlap in some of their predictors, they also diverge substantially. Both parents reported that shift work, fathers' age, baby soothability, fathers' skill at child care tasks and maternal gatekeeping predicted father involvement. However, in addition, only fathers' reports of their involvement were predicted by baby gender, their partners' gender role ideology, the length of the couple relationship and relationship conflict. Thus it appears that father-reported involvement is predicted by family systems variables to a greater extent than mother-reported father involvement. On the other hand, only mothers' reports of father involvement were predicted by the length of maternity and paternity leaves, and by mothers' work hours, suggesting that structural variables predicted mother-reported involvement to a greater extent than father-reported involvement.

The finding that results differed depending on which parent reported on father involvement has interesting research and clinical implications. First, parental reporting differences may help explain, in part, the discrepancies apparent in the father involvement literature. Moreover, the differences obtained underscore the importance of taking perceptual bias on the part of either parent in reporting father involvement into account, and highlight the need for more objective measures of father involvement.

Clinically, results suggest that mothers and fathers may experience parenthood very differently, especially during the acute period of the transition to parenthood. It could be that structural variables like parental leave and the demands of their work hours are more salient to mothers, given their traditional role as primary caretakers. Fathers, whose role is arguably less prescribed and often less central than mothers, are

perhaps more sensitive to the different dynamics within families in establishing their role as parents.

Results from the current study also suggest that there were some differences, across both parents' reports, in terms of what predicted levels of father involvement and what predicted change in father involvement. Factors which predicted only level, and not change, with respect to father involvement included working opposite shifts, baby gender, mothers' work hours, fathers' self-ratings of skill and maternal gatekeeping. On the other hand, baby soothability, length of maternity leave, mothers' ratings of fathers' skill at child care, fathers' reports of marital conflict and mothers' gender ideologies predicted only change in involvement over time, and not levels of involvement.

Taken together, the findings from the current analysis lend support to the argument that factors which influence father involvement in one type of family cannot be assumed to operate similarly in other types of families. Although the current study did not directly compare our sample of dual-earner, working class White families to other family types, earlier studies of father involvement among various family structures and types provide strong evidence that important differences in antecedents of father involvement exist. However, in addition to the differences between the findings reported here and those of earlier studies of mostly middle class families, it is important to keep in mind that there are also many similarities in terms of what predicts father involvement among different family types.

Another important conclusion that is supported by the present study is the fact that even within the relatively constrained dual-earner, working class White families in

this sample there was considerable variability both in term of levels of father involvement and in change over time in involvement. Thus, it should be emphasized that the results describe the sample on average, and do not necessarily reflect the circumstances in any one individual family.

Although some family researchers and the popular press tend to present father involvement as something that fathers must be pressured into, there is also reason to view involvement as limited by factors that are outside of fathers' control in many instances. Some researchers have even referred to the relatively slow changes in fathers' caregiving as the "stalled revolution" (Milkie, Bianchi, Mattingly, & Robinson, 2002). However, it is important to keep in mind that considerable barriers to father involvement may exist – especially among working class families in which fathers often assume the responsibility of main breadwinner, a tendency which is further heightened by parenthood. A number of recent books and articles have focused on fathers who do make every effort to split child care more equitably (e.g., Deutsch, 1999). In depth accounts of individual fathers' experiences in caregiving can aid our understanding of barriers experienced by fathers who would prefer to be more involved.

Clinical Implications and Interventions

Prior research strongly supports the claim that greater father involvement has a positive effect on children and families. Father involvement has been linked to social and cognitive developmental benefits in children (Parke, 1996) including increased cognitive competence, increased empathy, less sex-stereotyped beliefs, and a more internal locus of control (Pleck, 1997). Research suggests that greater

involvement has a positive impact on fathers as well. Fathers who are more involved in child care report higher marital satisfaction and greater generativity at midlife (Snarey, 1993), as well as increased life satisfaction and a sense of fulfillment (Lamb, Pleck & Levine, 1985).

However, there is also a growing awareness of the fact that father involvement may have unintended negative consequences in some instances. For example, in a recent paper Goldberg and Perry-Jenkins (2004) found that women's violated expectations about the division of child care tasks were associated with higher levels of distress postnatally. Thus subsequent research should address the conditions under which father involvement has positive effects on children and parents.

The current findings that numerous variables influence both level of involvement and changes in involvement suggest that interventions aimed at increasing father involvement may have significant impact on families. Specifically, interventions targeting fathers' skill at child care tasks early on could have dramatic implications for how early patterns of father involvement are established. Parenting classes for expectant couples could focus both on helping men increase their skill and comfort in caring for infants, which could prove to be an effective way of increasing father involvement.

The results also indicate that mothers are influential in their partners' involvement in child care, especially via their gatekeeping attitudes and behaviors. Interventions for new mothers could serve to educate women about the role that they play in father involvement, and suggest strategies for how they can encourage their

partners to be more active parents, rather than limiting father involvement by acting as gatekeepers.

The findings concerning the length of parental leave have interesting, and perhaps controversial, implications for leave policies. It suggests that longer maternity leaves may not be the best way to help working families, if they have the unintended side effect of limiting father involvement. Moreover, the fact that shorter paternity leaves were associated with greater levels of involvement and greater increases in involvement suggests that longer paternity leaves are not necessarily the answer either. Perhaps the optimal solution would be to offer more flexibility in parental leave time for both mothers and fathers so that each couple can make their own decision about what is best for their family.

Limitations/Future Directions

The results of the study should not be interpreted without consideration of its limitations. One drawback of the current study design was the fact that father involvement was measured proportionally rather than in absolute terms. The differences that were found between mothers' and fathers' reports of father involvement suggest that a perceptual bias may be at work. Future research should employ more objective, behavioral measures of father involvement, such as diary reporting techniques.

In addition, many researchers and theorists have argued that father involvement is not a unitary construct, viewing father involvement instead as complex and multi-faceted (e.g., Lamb, 1987; Lamb, Pleck, Charnov, & Levine, 1987). The measure of father involvement used in the current study does not reflect

the multidimensional constructions of fatherhood that have recently emerged. Future research should draw on the three dimensions of father involvement proposed by Lamb (1987), which include the concepts of interaction/engagement, accessibility, and responsibility as different dimensions of possible father involvement. Studies which have utilized this conceptualization have found that fathers do differ in their levels of these types of involvement (Lamb, 1997). Future research should explore the various dimensions of father involvement among working class, dual-earner families in more depth.

Although an important advantage of the current study was its longitudinal design, the period of study was relatively brief – only one year. It is likely that different factors may influence father involvement with older children. A follow-up study is currently underway which will address this limitation by collecting further data from the sample five years later.

Another major limitation concerns the generalizability of the findings. By design, this study focused on dual-earner, working class couples. While an important contribution was to highlight this understudied group, the within-group design limits the populations the findings can be extended to. Predictors of father involvement might be very different among families in different socioeconomic classes, and for parents in different family structures, such as single parent families. One significant drawback of the study was the lack of ethnic and racial diversity among the sample. Further research already underway seeks to address the lack of diversity by including a sample of Black and Latino families, including both single mothers and couples.

In addition, the current research offers many possible future directions, including research to address the connections between father involvement and parents' mental health. Although it is often assumed that father involvement has only positive consequences, some studies have indicated that mothers' mental health may suffer as an unintended side effect of fathers' increased involvement (Goldberg & Perry-Jenkins, 2004). Also, additional research is needed to expand our understanding of how increased father involvement impacts children in dual-earner, working class families.

Despite the limitations, the current study extends our understanding of predictors of father involvement. One important contribution is the inclusion of both parents' reports of the dependent and independent variables. Further, analyses explored both predictors of levels of father involvement, and perhaps more importantly, what factors predict *changes* in father involvement over time. Overall, findings suggest that father involvement does change over time and, in fact, increases for most fathers.

The role of fathers is clearly changing. As more and more women resume full-time employment after becoming mothers, an additional burden is placed on families to fill the void formerly occupied by the stay at home mother. In response, many fathers are assuming a greater responsibility for caregiving. Increased father involvement, in and of itself, is not necessarily the best or only way to improve outcomes for families, however. What is needed is a greater understanding of the conditions under which father involvement has a positive impact on children and families. The challenge for future research is to increase our understanding of the

processes which lead to the most optimal outcomes for families as they navigate difficult transitions and what can be done to assist them.

APPENDIX A

MEASURES

- A.1 Who Does What
- A.2 Infant Behavior Questionnaire
- A.3 Caring for a Baby
- A.4 Child Care and Chores
- A.5 Relationship Questionnaire
- A.6 Men's and Women's Roles Scale

Appendix A.1: WHO DOES WHAT?

In your family, who usually performs the household chores and certain family activities? Please circle the number which represents the percentage of YOUR OWN contribution to each of the following tasks since the baby was born. If an item is Not Applicable, please write "NA" in the margin.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
0-20%	20-40%	40-60%	60-80%	80-100%
Mostly or always my spouse/partner	More likely my spouse/partner	Shared about equally	More likely me	Mostly or always me

- | | | | | | |
|---|---|---|---|---|---|
| 1. Make beds or change bed linens | 1 | 2 | 3 | 4 | 5 |
| 2. Cleaning (vacuum, clean bathrooms, sweep floors) | 1 | 2 | 3 | 4 | 5 |
| 3. Food preparation (cook, set table, prepare meal or snack) | 1 | 2 | 3 | 4 | 5 |
| 4. Dish-washing | 1 | 2 | 3 | 4 | 5 |
| 5. Take out garbage, recycling | 1 | 2 | 3 | 4 | 5 |
| 6. Outdoor work (yard work, rake, mow, shovel snow, garden) | 1 | 2 | 3 | 4 | 5 |
| 7. Care for pet (feed, walk, put out) | 1 | 2 | 3 | 4 | 5 |
| 8. Laundry (wash, iron, fold clothes) | 1 | 2 | 3 | 4 | 5 |
| 9. Run errands outside of home including grocery shopping | 1 | 2 | 3 | 4 | 5 |
| 10. Upkeep of car including repairs, washing and vacuuming | 1 | 2 | 3 | 4 | 5 |
| 11. Small repairs around the house | 1 | 2 | 3 | 4 | 5 |
| 12. Taking care of financial matters (write-out bills, figure out budget) | 1 | 2 | 3 | 4 | 5 |
| 13. Prepare for events and activities, like birthdays or anniversaries | 1 | 2 | 3 | 4 | 5 |
| 14. Buys presents, and/or makes calls to acknowledge important events for family, friends or co-workers | 1 | 2 | 3 | 4 | 5 |

Appendix A.2: INFANT BEHAVIOR QUESTIONNAIRE

(Rothbart, 1978)

INSTRUCTIONS: Please read carefully before answering:

As you read each description of the baby's behavior below, please indicate how often the baby did this during the LAST WEEK (the past seven days) by circling one of the numbers in the right column. These numbers indicate how often you observed the behavior described during the last week.

1	2	3	4	5	6	7	9
Never	Very rarely	Less than half the time	About half the time	More than half the time	Almost always	Always	Does not apply

IMPORTANT NOTE: The "Does Not Apply" (9) column is used when you did not see the baby in the situation described during the last week. For example, if the situation mentions the baby having to wait for food or liquids and there was no time during the last week when the baby had to wait, circle the (9) column. "Does Not Apply" is different from "Never" (1). "Never" is used when you saw the baby in the situation but the baby never engaged in the behavior listed during the last week. For example, if the baby did have to wait for food or liquids at least once but never cried loudly while waiting, circle the (1) column.

Please be sure to circle a number for every item.

Feeding

When having to wait for food or liquids during the last week, how often did the baby:

- | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|
| 1. seem not bothered? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| 2. show mild fussing? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| 3. cry loudly? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

During feeding, how often did the baby:

- | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|
| 4. lie or sit quietly? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| 5. squirm or kick? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

During feeding, how often did the baby:

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6. wave arms? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| 7. fuss or cry when s/he had enough to eat? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

INFANT BEHAVIOR QUESTIONNAIRE (Continued)

1	2	3	4	5	6	7	9
Never	Very rarely	Less than half the time	About half the time	More than half the time	Almost always	Always	Does not apply

Sleeping

Before falling asleep at night during the last week, how often did the baby:

8 show no fussing or crying? 1 2 3 4 5 6 7 9

During sleep, how often did the baby:

9 toss about in the crib? 1 2 3 4 5 6 7 9

10 sleep in one position only? 1 2 3 4 5 6 7 9

After sleeping, how often did the baby:

11 fuss or cry immediately? 1 2 3 4 5 6 7 9

12. cry if someone doesn't come within a few minutes? 1 2 3 4 5 6 7 9

How often did the baby:

13. seem angry (crying and fussing) when you left him/her in the crib? 1 2 3 4 5 6 7 9

14. seem content when left in the crib? 1 2 3 4 5 6 7 9

15. cry or fuss before going to sleep for naps? 1 2 3 4 5 6 7 9

Bathing and Dressing

When being dressed or undressed during the last week, how often did the baby:

16. wave his/her arms and kick? 1 2 3 4 5 6 7 9

17. squirm and/or try to roll away? 1 2 3 4 5 6 7 9

When face was washed, how often did the baby:

18. fuss or cry? 1 2 3 4 5 6 7 9

When hair was washed, how often did the baby:

19. fuss or cry? 1 2 3 4 5 6 7 9

Daily Activities

How often during the last week did the baby:

20. protest being put in a confining place (infant seat, play pen, car seat, etc.)? 1 2 3 4 5 6 7 9

21. cry after startling? 1 2 3 4 5 6 7 9

INFANT BEHAVIOR QUESTIONNAIRE (Continued)

1	2	3	4	5	6	7	9
Never	Very rarely	Less than half the time	About half the time	More than half the time	Almost always	Always	Does not apply

When being held, how often did the baby:

22. squirm, pull away or kick?

1 2 3 4 5 6 7 9

When placed on his/her back, how often did the baby:

23. fuss or protest?

1 2 3 4 5 6 7 9

24. lie quietly?

1 2 3 4 5 6 7 9

25. wave arms and kick?

1 2 3 4 5 6 7 9

26. squirm and/or turn body?

1 2 3 4 5 6 7 9

When placed in an infant seat or car seat, how often did the baby:

27. wave arms and kick?

1 2 3 4 5 6 7 9

28. squirm and turn body?

1 2 3 4 5 6 7 9

29. lie or sit quietly?

1 2 3 4 5 6 7 9

30. show distress at first; then quiet down?

1 2 3 4 5 6 7 9

Soothing Techniques

Have you tried any of the following soothing techniques in the last two weeks? If so, how often did the method soothe the baby? Circle (9) if you did not try the technique during the LAST TWO WEEKS.

31. rocking

1 2 3 4 5 6 7 9

32. holding

1 2 3 4 5 6 7 9

33. singing or talking

1 2 3 4 5 6 7 9

34. walking with the baby

1 2 3 4 5 6 7 9

35. patting or gently rubbing some part of the baby's body

1 2 3 4 5 6 7 9

36. offering food or liquid

1 2 3 4 5 6 7 9

37. other (please specify)_____

Appendix A.3: CARING FOR A BABY

(Crouter et al., 1987)

Imagine someone put a baby in your/the baby's fathers' arms right now. How skilled do you think you/he would be at the following tasks? [Even if he has never actually performed the task, how skilled do you think he would be?]

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Not skilled	Somewhat skilled	Skilled	Very skilled

1.	Feeding a baby	1	2	3	4
2.	Changing a baby's diaper	1	2	3	4
3.	Soothing a baby	1	2	3	4
4.	Getting up at night with a baby	1	2	3	4
5.	Putting a baby to sleep	1	2	3	4
6.	Giving a baby a bath	1	2	3	4
7.	Helping a baby learn new skills	1	2	3	4
8.	Dressing a baby	1	2	3	4
9.	Planning a baby's activities	1	2	3	4
10.	Picking up after a baby	1	2	3	4
11.	Playing with a baby	1	2	3	4
12.	Reading/singing to a baby	1	2	3	4
13.	Taking a baby on an outing	1	2	3	4
14.	Taking a baby to a doctor's appointment	1	2	3	4
15.	Taking care of a baby when he or she is sick	1	2	3	4

Appendix A.4: CHILD CARE AND CHORES

(Hawkins, 1993)

Please read each statement and circle the number that best describes the extent to which you agree or disagree, with regard to your feelings about other caregiver/baby's mother.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1	I [Baby's mother] like to be in charge when it comes to caring for the baby.			1 2 3 4 5
2	I [Baby's mother] like to be in charge when it comes to taking care of the house.			1 2 3 4 5
3	I [Baby's mother] frequently redo some household task that [other caregiver] has not done well.			1 2 3 4 5
4	I [Baby's mother] frequently redo some child care task (e.g. dressing the baby) that [other caregiver] has not done well.			1 2 3 4 5
5	(Other caregiver) doesn't [Baby's mother thinks I don't] really know how to do a lot of household chores, so it's just easier if I do [she does] them.			1 2 3 4 5
6	(Other caregiver) doesn't [Baby's mother thinks I don't] really know how to do a lot of child care tasks, so it's just easier if I do [she does] them.			1 2 3 4 5
7	I [Baby's mother] have higher standards than (other caregiver) about how well the house should be kept.			1 2 3 4 5
8	I [Baby's mother] have higher standards than (other caregiver) about how the baby should be cared for.			1 2 3 4 5
9	If visitors dropped in unexpectedly and the house was a mess, I [Baby's mother] would be embarrassed.			1 2 3 4 5
10	When my baby looks well groomed in public, I [Baby's mother] feel extra proud of him/her.			1 2 3 4 5
11	[Baby's mother thinks] People make judgments about me [her] based on how well the house is kept.			1 2 3 4 5
12	[Baby's mother] People make judgments about me [her] based on how well the baby is cared for.			1 2 3 4 5
13	Most women enjoy caring for their homes, but men just don't care about that stuff.			1 2 3 4 5
14	Most women enjoy caring for their children, but men don't enjoy it as much.			1 2 3 4 5
15	I [Baby's mother] feel like I [she] should be mostly responsible for taking care of the baby.			1 2 3 4 5
16	I [Baby's mother] feel like I [she] should be mostly responsible for taking care of the home.			1 2 3 4 5

Appendix A.5: RELATIONSHIP QUESTIONNAIRE

(Braiker & Kelly, 1979)

The following questions ask about certain aspects of your relationship with your partner/spouse. Please answer these questions for the present time in your romantic relationship. Circle the number which best represents your view of your relationship.

1.	To what extent do you have a sense of “belonging with your partner”?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
2.	How often do you and your partner argue with each other?	<u>1 2 3 4 5 6 7 8 9</u> Very Frequently Infrequently
3.	How much do you feel you “give” to the relationship?	<u>1 2 3 4 5 6 7 8 9</u> Very little Very much
4.	To what extent do you try to change things about your partner that bother you (e.g., behaviors, attitudes, etc.)?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
5.	To what extent do you love your partner at this stage?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
6.	To what extent do you feel that things that happen to your partner also affect or are important to you?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
7.	How often do you feel angry or resentful toward your partner?	<u>1 2 3 4 5 6 7 8 9</u> Never Very often
8.	To what extent do you feel that your relationship is somewhat unique compared to others you’ve been in?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
9.	How committed do you feel toward your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Extremely
10.	How close do you feel toward your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all close Extremely close
11.	How much do you need your partner at this stage?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
12.	How sexually intimate are you with your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Extremely

RELATIONSHIP QUESTIONNAIRE (Continued)

13.	How attached do you feel to your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
14.	When you and your partner argue, how serious are the problems or arguments?	<u>1 2 3 4 5 6 7 8 9</u> Not serious at all Very serious
15.	To what extent do you communicate negative feelings toward your partner (e.g., anger, dissatisfaction, frustration, etc.)?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
16.	How confused are you about your feelings toward your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not confused at all Very confused
17.	To what extent do you reveal or disclose very intimate things about yourself or personal feelings to your partner?	<u>1 2 3 4 5 6 7 8 9</u> Very Frequently Infrequently
18.	How much do you think or worry about losing some of your independence by getting involved with your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
19.	How much time do you and your partner spend discussing and trying to work out problems between you?	<u>1 2 3 4 5 6 7 8 9</u> Not very much Very much
20.	How much time do you and your partner talk about the quality of your relationship -- for example, how good it is, how satisfying, how to improve it, etc.?	<u>1 2 3 4 5 6 7 8 9</u> Not very much Very much
21.	How ambivalent or unsure are you about continuing in the relationship with your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Extremely
22.	To what extent do you feel that your partner demands or requires too much of your time and attention?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
23.	To what extent do you try to change your behavior to help solve certain problems between you and your partner?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
24.	To what extent do you feel "trapped" or pressured to continue in the relationship?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much
25.	How much do you tell your partner what you want or need from the relationship?	<u>1 2 3 4 5 6 7 8 9</u> Not at all Very much

Appendix A.6: MEN'S AND WOMEN'S ROLES

(Brogran & Kutner, 1976)

The statements listed below describe attitudes which different people have toward the roles of men and women. There are no right or wrong answers, only opinions. Express your personal opinion about each statement (not the feelings that you think people in general may have) by circling the number that indicates your agreement.

1	2	3	4	5	6
Strongly agree	Moderately agree	Agree slightly more than disagree	Disagree slightly more than agree	Moderately disagree	Strongly disagree

1.	It is more important for a wife to help her husband's career than to have a career herself.	1	2	3	4	5	6
2.	The idea of young girls participating in Little League baseball competition is ridiculous.	1	2	3	4	5	6
3.	The amount of time and energy devoted to a career, home and family should be determined by one's personal desires and interests rather than by one's sex.	1	2	3	4	5	6
4.	It is more important for a woman to keep her figure and dress fashionably than it is for a man.	1	2	3	4	5	6
5.	The old saying that "a woman's place is in the home" is still basically true and should remain true.	1	2	3	4	5	6
6.	A woman should not be too competitive with men and should keep her peace rather than show a man he is wrong.	1	2	3	4	5	6
7.	A woman whose job involves contact with the public, e.g., salesperson or teacher, should not continue to work when she is noticeably pregnant.	1	2	3	4	5	6
8.	The husband should take primary responsibility for major family decisions, such as the purchase of a home or car.	1	2	3	4	5	6
9.	In groups that have both male and female members, the top leadership positions should be held by males.	1	2	3	4	5	6
10.	Married women who have school-aged children should not work outside the home unless it is economically necessary.	1	2	3	4	5	6

MEN'S AND WOMEN'S ROLES (Continued)

1	2	3	4	5	6
Strongly agree	Moderately agree	Agree slightly more than disagree	Disagree slightly more than agree	Moderately disagree	Strongly disagree
11.	If a man and a woman are being considered for the same job and the woman is slightly better qualified, the job should still go to the man because he is more likely to have a family to support.				
12.	Marriage is a partnership in which the wife and husband should share the economic responsibility of supporting the family.				
13.	A woman should not accept a career promotion if it would require her family to move and her husband to find another job.				
14.	A married woman who chooses not to have children because she prefers to pursue her career should not feel guilty.				
15.	Married women who have preschool-aged children should not work outside the home unless it is economically necessary.				
16.	It is generally better to have a man at the head of a department composed of both men and women employees.				
17.	A husband should feel uncomfortable if his wife earns a larger salary than he does.				
18.	It is alright for women to hold local political offices.				
19.	A male student and a female student are equally qualified for a certain scholarship; it should be awarded to the male student on the grounds that he has greater "career potential."				
20.	The use of profane or obscene language by a woman is more objectionable than the same usage by a man.				
21.	It is acceptable for boys, as well as girls, to play with dolls.				
22.	Girls should primarily be encouraged to enter "feminine" careers such as nursing, public school teaching, library science, etc.				
23.	Women should feel free to compete in any form of athletics.				
24.	Parents should encourage just as much independence in their daughters as in their sons.				

MEN'S AND WOMEN'S ROLES (Continued)

1	2	3	4	5	6
Strongly agree	Moderately agree	Agree slightly more than disagree	Disagree slightly more than agree	Moderately disagree	Strongly disagree

25.	Women should be able to compete with men for jobs that have traditionally belonged to men, such as telephone lineman.	1	2	3	4	5	6
26.	It is O.K. for a wife to keep her own last name, rather than take her husband's name.	1	2	3	4	5	6
27.	A woman should not be president of the United States.	1	2	3	4	5	6
28.	Career education for boys should have higher priority with parents and teachers than career education for girls.	1	2	3	4	5	6
29.	Even though a wife works outside the home, the husband should be the main breadwinner and the wife should have the responsibility for running the household.	1	2	3	4	5	6
30.	In elementary school, girls should wear dresses rather than pants or jeans to school.	1	2	3	4	5	6
31.	It is acceptable for a woman to be a member of the church clergy.	1	2	3	4	5	6
32.	It is acceptable for women to hold important elected political offices in state and national government.	1	2	3	4	5	6
33.	It is not a good idea for a husband to stay home and care for the children while his wife is employed full-time outside the home.	1	2	3	4	5	6
34.	The only reason girls need career education is that they may not marry or remain married.	1	2	3	4	5	6
35.	A man should always offer his seat to a woman who is standing on a crowded bus.	1	2	3	4	5	6
36.	Men should be able to compete with women for jobs that have traditionally belonged to women, such as telephone operator.	1	2	3	4	5	6
* 37.	It's important to raise a son so he will be able to hold down a good job when he's grown, but that's not as important with a daughter.	1	2	3	4	5	6
* 38.	It's okay for children to help around the house, but I would not ask a son to dust or set the table.	1	2	3	4	5	6
* 39.	Education is important for both sons and daughters but is more important for a son.	1	2	3	4	5	6

APPENDIX B

TABLES

- B.1 Descriptive Statistics for Independent Variables
- B.2 Descriptive Statistics for Father Involvement at Time 2, 3 and 5
- B.3 Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 1: the Relative Economic Resource Model
- B.4 Final Estimation of Fixed Effects Model for Level of Father Involvement at Time 5 Using Full Maximum Likelihood Model with Robust Standard Errors for Model 2: the Demand-Response Model
- B.5 Final Estimation of Fixed Effects Model for Change in Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 2: the Demand-Response Model
- B.6 Final Estimation of Fixed Effects Model for Level of Father Involvement at Time 5 Using Full Maximum Likelihood Model with Robust Standard Errors for Model 3: the Family Systems Model
- B.7 Final Estimation of Fixed Effects Model for Change in Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 3: the Family Systems Model
- B.8 Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 4: the Sex-Role Attitudes Model
- B.9 Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Father's Level of Involvement at Time 5, based on Father Report of Father Involvement
- B.10 Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Change in Father Involvement, based on Father Report of Father Involvement
- B.11 Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Father's Level of Involvement at Time 5, based on Mother Report of Father Involvement

B.12 Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Change in Father Involvement, based on Mother Report of Father Involvement

Table B.1

Descriptive Statistics for Independent Variables

	Fathers' report (N = 112)		Mothers' report (N = 112)	
	Mean	Standard Deviation	Mean	Standard Deviation
Child Soothability	5.42	.79	5.41	.86
Work hours	48.00	8.05	34.59	12.52
Love	7.96	.74	8.11	.58
Conflict	3.33	1.07	3.60	1.11
Fathers' skill at child care	2.40	.65	2.88	.51
Mothers' gatekeeping	2.77	.55	2.99	.59
Gender Ideology	4.90	.60	5.29	.48

Table B.2

Descriptive Statistics for Father Involvement at Time 2, 3 and 5

	Fathers' report (N = 112)		Mothers' report (N = 112)	
	Mean	Standard Deviation	Mean	Standard Deviation
Father Involvement at Time 2	2.44	.35	2.19	.49
Father Involvement at Time 3	2.54	.39	2.33	.48
Father Involvement at Time 5	2.61	.39	2.31	.53

Table B.3

Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 1: the Relative Economic Resource Model.

Predictor of level	Fathers' report of father involvement (N = 140)		Mothers' report of father involvement (N = 140)	
	Coefficient	SE	Coefficient	SE
Fathers' economic contribution	-0.207	0.237	-0.865*	0.337
Predictor of slope				
Fathers' economic contribution	0.005	0.018	-0.012	0.030

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.4

Final Estimation of Fixed Effects Model for Level of Father Involvement at Time 5 Using Full Maximum Likelihood Model with Robust Standard Errors for Model 2: the Demand-Response Model.

Predictor of level	Fathers' report of father involvement (N = 140)		Mothers' report of father involvement (N = 140)	
	Coefficient	SE	Coefficient	SE
Fathers' age	0.008	0.006	0.022*	0.008
Work shift	0.167*	0.067	0.231**	0.085
Years married/cohabiting	-0.045**	0.016	-0.029	0.021
Baby's gender	-0.201**	0.060	-0.096	0.085
Mother report-baby soothability	-0.0157	0.032	0.080	0.049
Father report-baby soothability	0.045	0.036	-0.018	0.049
Type of birth	-0.039	0.091	-0.030	0.113
Nursing (Time 2)	-0.032	0.065	-0.043	0.088
Length of paternity leave	0.004	0.004	-0.004	0.005
Length of maternity leave	-0.002	0.005	-0.017*	0.007
Fathers' work hours (Time 1)	0.005	0.004	0.002	0.005
Mothers' work hours (Time 3)	0.004+	0.002	0.011**	0.003

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.5

Final Estimation of Fixed Effects Model for Change in Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 2: the Demand-Response Model.

Predictor of Change	Fathers' report of father involvement (N = 140)		Mothers' report of father involvement (N = 140)	
	Coefficient	SE	Coefficient	SE
Fathers' age	0.002**	0.001	0.001*	0.001
Work shift	0.003	0.006	0.007	0.007
Years married/cohabiting	-0.004**	0.001	-0.002	0.001
Baby's gender	-0.007	0.005	-0.014+	0.007
Mother report-baby soothability	0.006*	0.003	0.008*	0.004
Father report-baby soothability	-0.003	0.003	-0.005	0.004
Type of birth	-0.008	0.008	-0.016+	0.009
Nursing (Time 2)	0.006	0.006	0.003	0.008
Length of paternity leave	-0.000	0.000	-0.001**	0.000
Length of maternity leave	-0.000	0.000	-0.001*	0.001
Fathers' work hours (Time 1)	-0.000	0.000	-0.000	0.000
Mothers' work hours (Time 3)	0.000	0.000	0.000	0.000

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.6

Final Estimation of Fixed Effects Model for Level of Father Involvement at Time 5 Using Full Maximum Likelihood Model with Robust Standard Errors for Model 3: the Family Systems Model.

Predictor of level	Fathers' report of father involvement (N = 112)		Mothers' report of father involvement (N = 112)	
	Coefficient	SE	Coefficient	SE
Marital status	-0.058	0.091	0.091	0.133
Mothers' love	0.033	0.069	0.099	0.096
Fathers' love	0.064	0.058	-0.021	0.065
Mothers' conflict	0.019	0.032	-0.028	0.046
Fathers' conflict	0.004	0.037	0.021	0.050
Mothers' rating of father skill	-0.035	0.081	0.091	0.123
Mothers' gatekeeping	-0.062	0.062	-0.187*	0.091
Fathers' rating of mother gatekeeping	-0.180*	0.080	-0.170+	0.099
Fathers' skill	0.159*	0.062	0.036	0.073

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.7

Final Estimation of Fixed Effects Model for Change in Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 3: the Family Systems Model.

Predictor of change	Fathers' report of father involvement (N = 112)		Mothers' report of father involvement (N = 112)	
	Coefficient	SE	Coefficient	SE
Marital status	-0.008	0.007	0.005	0.012
Mothers' love	-0.007	0.005	0.005	0.008
Fathers' love	0.002	0.004	-0.008	0.006
Mothers' conflict	0.002	0.003	-0.006	0.004
Fathers' conflict	-0.006*	0.003	0.007	0.004
Mothers' rating of father skill	-0.009	0.006	-0.031**	0.009
Mothers' gatekeeping	-0.004	0.006	0.002	0.009
Fathers' rating of mother gatekeeping	-0.011	0.007	-0.005	0.008
Fathers' skill	0.005	0.004	-0.001	0.007

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.8

Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Model 4: the Sex-Role Attitudes Model.

Fathers' report of father involvement (N = 140)			Mothers' report of father involvement (N = 140)	
Predictor of level	Coefficient	SE	Coefficient	SE
Mothers' gender role ideology	0.030	0.074	0.114	0.096
Fathers' gender role ideology	0.125*	0.056	0.096	0.079
Predictor of slope				
Mothers' gender role ideology	0.011+	0.006	0.002	0.008
Fathers' gender role ideology	0.006	0.005	-0.003	0.006

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.9

Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Father's Level of Involvement at Time 5, based on Father Report of Father Involvement

Fathers' report of involvement (N = 112)		
Predictor of level	Coefficient	SE
Work shift	0.177**	0.057
Years married/cohabiting	-0.030**	0.009
Baby's gender	-0.165**	0.041
Mothers' work hours	0.003	0.002
Fathers' rating of mother gatekeeping	-0.092*	0.047
Fathers' skill	0.096**	0.031
Fathers' gender ideology	0.025	0.033

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.10

Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Change in Father Involvement, based on Father Report of Father Involvement

Fathers' report of involvement (N = 112)		
Predictor of change	Coefficient	SE
Fathers' age	0.001*	0.001
Years married/cohabiting	-0.004**	0.001
Mother report - baby soothability	0.008**	0.002
Fathers' report of conflict	-0.006**	0.002
Mothers' rating of father skill	-0.012**	0.004
Mothers' gender ideology	0.009+	0.005

* indicates $p \leq .05$

** indicates $p \leq .01$

+ indicates $p \leq .10$

Table B.11

Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Father's Level of Involvement at Time 5, based on Mother Report of Father Involvement

Mothers' report of father involvement (N = 112)		
Predictor of level	Coefficient	SE
Fathers' economic contribution	-0.124	0.231
Fathers' age	0.018*	0.009
Work shift	0.201**	0.070
Mother report - baby soothability	0.052	0.038
Length of paternity leave	-0.014**	0.003
Length of maternity leave	-0.007	0.005
Mothers' work hours	0.006*	0.003
Mothers' rating of father skill	0.214**	0.076
Mothers' rating of mother gatekeeping	-0.108*	0.045
Fathers' rating of mother gatekeeping	-0.154**	0.056

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

Table B.12

Final Estimation of Fixed Effects Model for Father Involvement Using Full Maximum Likelihood Model with Robust Standard Errors for Final Model: Predicting Change in Father Involvement, based on Mother Report of Father Involvement

Mothers' report of father involvement (N = 112)		
Predictor of change	Coefficient	SE
Fathers' age	0.001	0.001
Baby's gender	-0.001	0.005
Type of birth	-0.007	0.006
Mother report - baby soothability	0.010*	0.004
Length of paternity leave	-0.001**	0.000
Length of maternity leave	-0.001+	0.000
Mothers' rating of father skill	-0.022**	0.007

* $p \leq .05$

** $p \leq .01$

+ $p \leq .10$

APPENDIX C

FIGURES

- C.1 Random Sample of Father Involvement
- C.2 Father Involvement among Fathers in Short and Long Relationships
- C.3 Mothers' Report of Father Involvement and Type of Birth
- C.4 Fathers' Report of Father Involvement and Type of Birth
- C.5 Mothers' Report of Father Involvement and Length of Paternity Leave
- C.6 Mothers' Report of Father Involvement and Fathers' Skill at Child Care Tasks

Figure C.1

Random Sample of Father Involvement

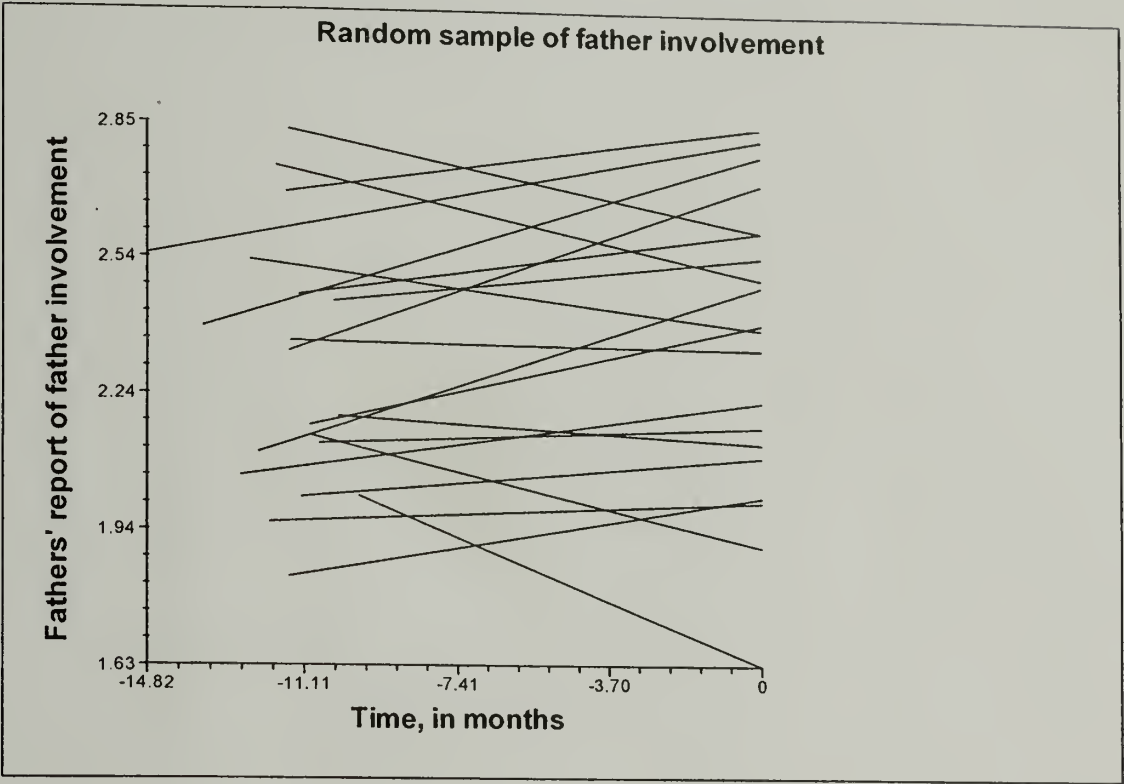


Figure C.2

Father Involvement among Fathers in Short and Long Relationships

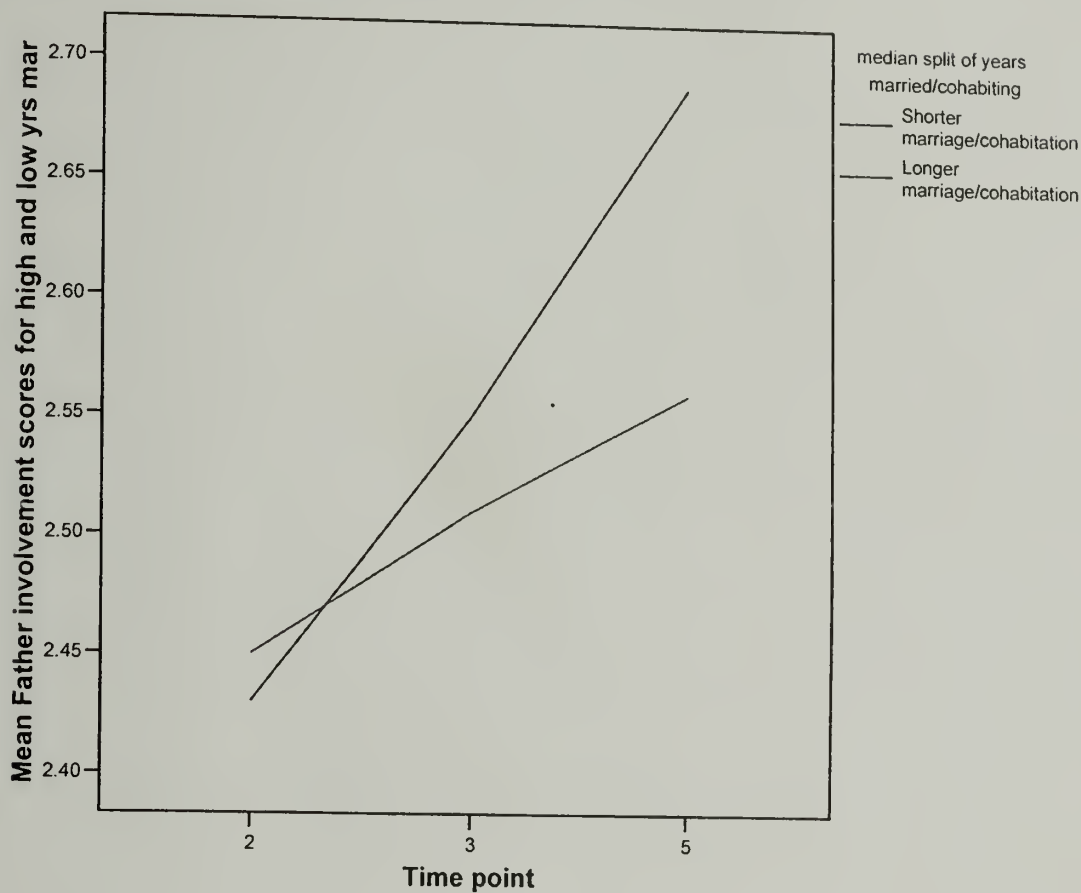


Figure C.3

Mothers' Report of Father Involvement and Type of Birth

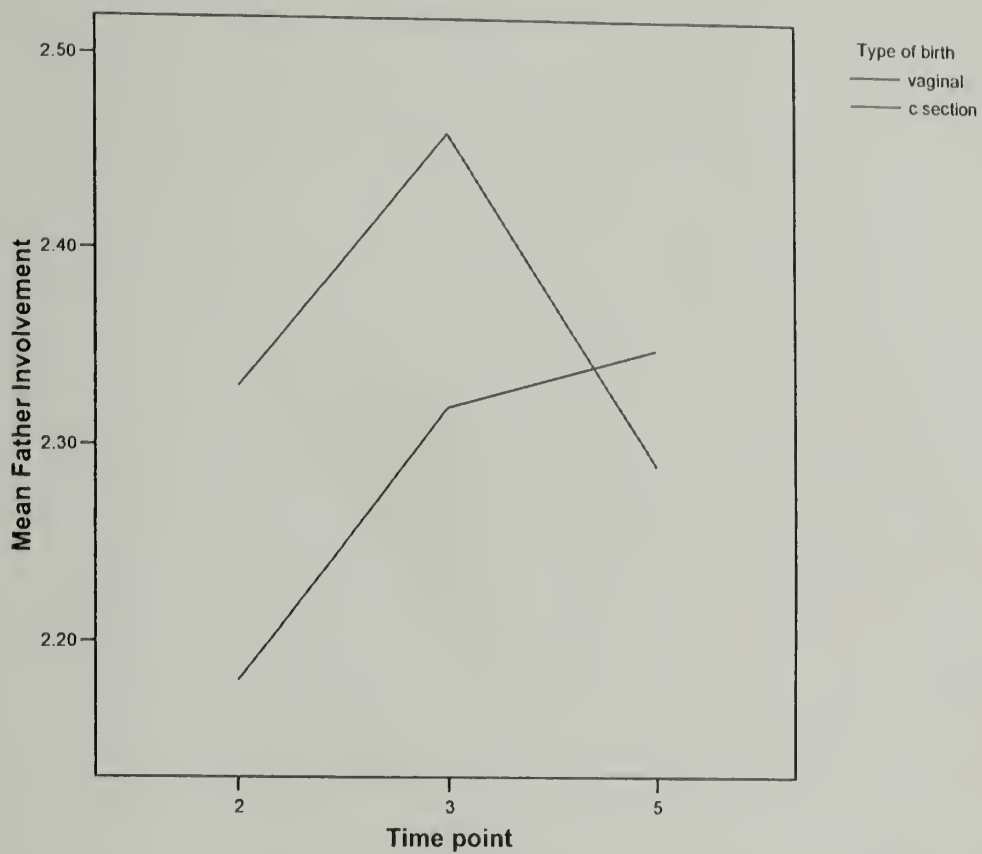


Figure C.4

Fathers' Report of Father Involvement and Type of Birth

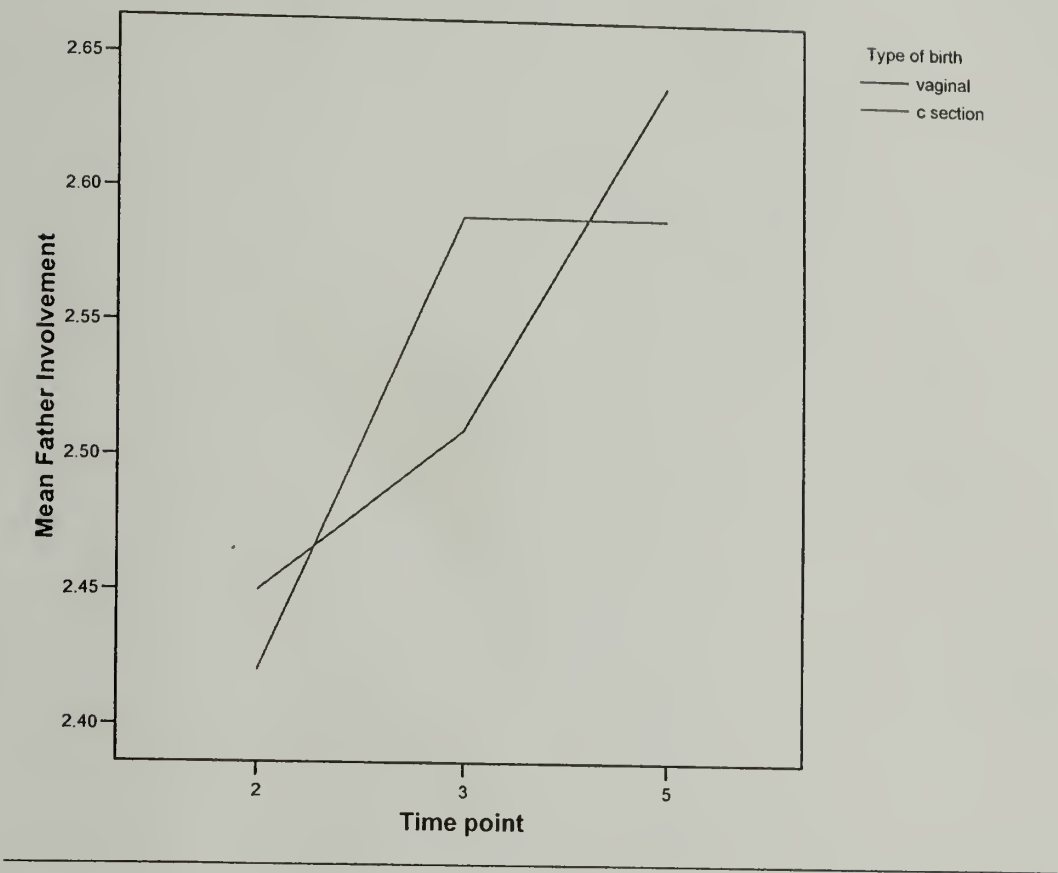


Figure C.5

Mothers' Report of Father Involvement and Length of Paternity Leave

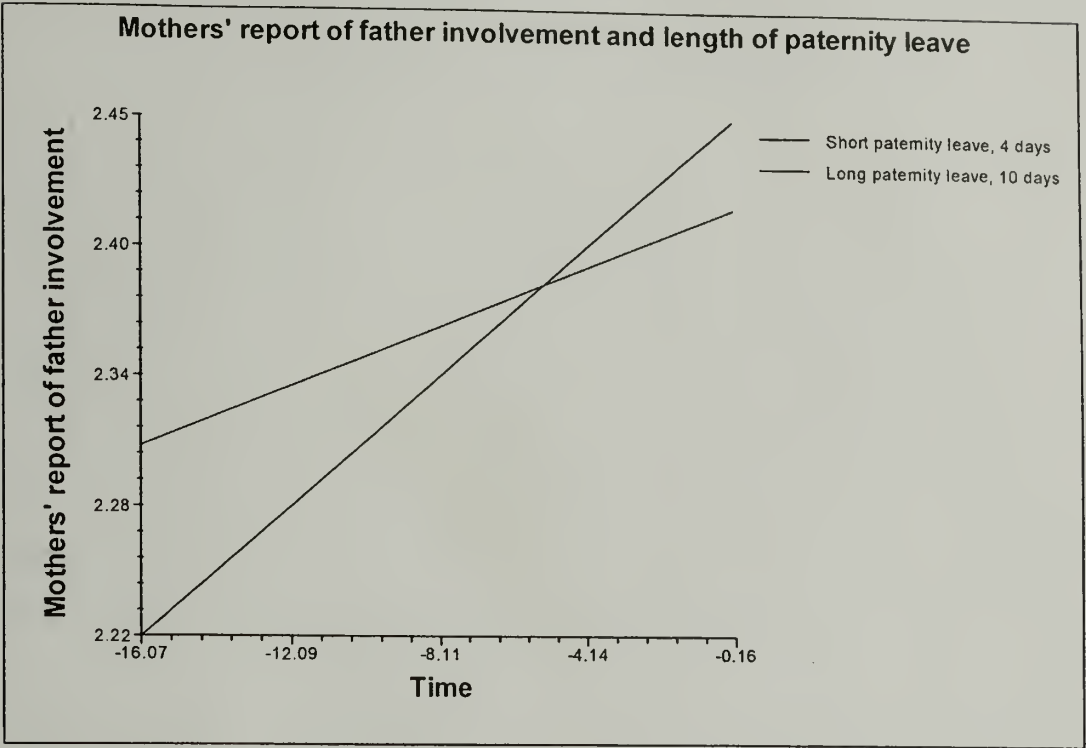
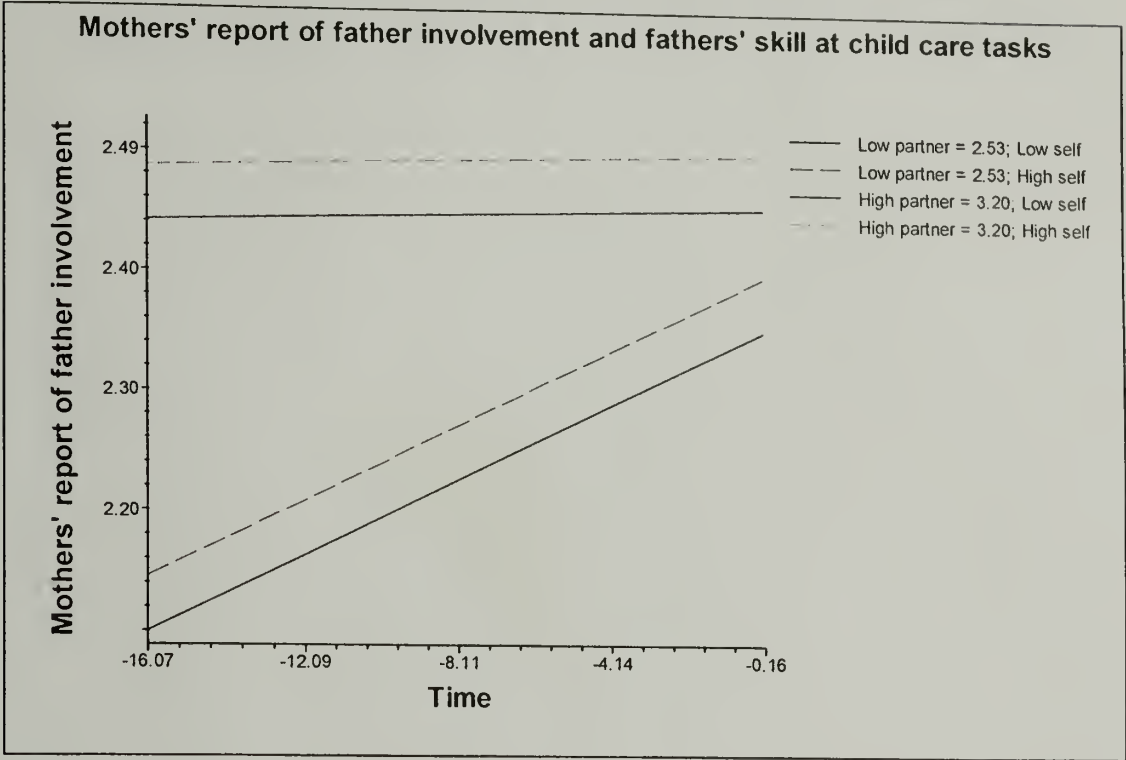


Figure C.6

Mothers' Report of Father Involvement and Fathers' Skill at Child Care Tasks



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