

Father Involvement and Firstborn Adjustment to the Birth of a Sibling

by

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### Abstract

The relationship between fathers' involvement with child care and firstborns' adjustment to the birth of a sibling was examined in a sample of 225 families participating in a longitudinal investigation of changes following the birth of a second child. Firstborn adjustment was assessed using five scales: sleep problems, separation anxiety, opposition, emotional distress, and toileting accidents. Results revealed significant increases from prenatal to 1 month for opposition and emotional distress for mothers and fathers, and decreases in separation anxiety for mothers and toileting accidents for fathers. Parents reported more opposition for boys and more separation anxiety for girls. Father involvement had an effect on firstborns' separation anxiety and emotional distress. These results highlight the importance of fathers' involvement in firstborns' adjustment in protecting against problematic emotional adjustment during the transition to siblinghood.

**Key Words:** Father, Involvement, Firstborn, Adjustment, Birth, Sibling, Transition, Siblinghood

### Father Involvement and Firstborn Adjustment to the Birth of a Sibling

The transition to siblinghood has been perceived as a traumatic experience for firstborn children. As nearly 80% of children experience the transition to siblinghood (Volling, 2012) it is necessary to examine whether this is a period of stress and upheaval for firstborn children, and how this normative life event affects children's adjustment. Forms of distress such as bed wetting, increased clinging, withdrawal, sleep problems, and aggressive behavior have been reported (Dunn, Kendrick, & MacNamee, 1981; Legg, Sherick, & Wadland, 1974; Vernon, Schulman, & Foley, 1966). Murphy (1993) reported that many researchers only focus on negative aspects of firstborn adjustment to the birth of a sibling, failing to acknowledge the wide variation in firstborns' responses to a new baby. Others suggest that firstborn children may actually gain a sense of independence and mastery, engage in cooperation and negotiation skills, and acquire affective knowledge in response to the birth of a sibling (Dunn & Kendrick, 1982; Legg et al., 1974; Nadelman & Begun, 1982).

In order to examine firstborn children's adjustment thoroughly, one must consider the many simultaneous changes that take place along with the birth of a baby sibling, such as moving to a new home (Legg et al., 1974). Changes in the family system to incorporate the baby sibling (Kreppner, 1988), normative developmental changes in the firstborn (Baydar, Greek, & Brooks-Dunn, 1997a, 1997b), and changes in maternal support with the birth of a second child (Gottlieb & Mendelson, 1990, 1995) are additional stressors that may lead to negative, rather than positive, adjustment of firstborn children. These stressors may contribute to adjustment on varying levels, with the change in firstborns' parental support being seen as pertinent to healthy adjustment (Dunn, 1982; Gottlieb & Medelson, 1990, 1995). Gottlieb and Medelson (1990) stated that regardless of the amount of support (low versus high) firstborn children received in

response to the birth of a second child, receiving the amount of parental support that the firstborn child demanded was more directly related to healthy adjustment. Therefore, the purpose of this paper was to examine how parental support influences firstborns' adjustment to the birth of a sibling.

### **The Evidence of Firstborn Adjustment**

Many researchers report negative behavioral changes in firstborn children in response to the birth of a baby sibling. In a descriptive study by Griffen & De La Torre (1985), anxiety due to sibling jealousy increased and resulted in increased regressive and hostile behaviors. However, other researchers have found little to no negative change in firstborns' behaviors (Legg et al., 1974; Nadelman & Begun, 1982). In a qualitative study by Legg et al. (1974), they reported that the most significant problem that was reported was the regression back to the use of a bottle and pacifier and interruptions in toilet training. Legg et al. (1974) also reported advancements in behavior for the firstborn child in the areas of ego functioning and situation mastery. Descriptive studies report both positive and negative firstborn behaviors, but we need to look at change over time as well.

Stewart, Mobley, Van Tuyl, & Salvador (1987) reported that younger children experienced an increase in post-birth problems with toilet training, needing a security object, and demanding a bottle at night. Additionally, they reported an increase in clinging behavior, a change in parenting behavior towards the firstborn, and mothers reporting an overall negative shift in adjustment post-birth. Dunn et al. (1981) found that firstborns displayed an increase in withdrawal, sleeping problems, clinging, and negative behavior from pre-birth to post-birth. Moreover, mothers decreased their attention and play with the firstborn after the infant sibling's birth and confrontation between mothers and firstborns increased post-birth (Dunn et al., 1981).

In a longitudinal study by Nadelman & Begun (1982), a control and experimental group were examined at two time points (Time 1 “pre-birth” and Time 2 “post-birth”). The experimental group included 53 families that were expecting the birth of a second child, whereas the control group included 17 matched families that were not expecting a second child. Results indicated that firstborns were rated low on behavioral distress overall (Nadelman & Begun, 1982). Firstborn children did not show many negative behavior changes to the birth of a baby sibling. Only the distress behaviors of “temper tantrums or crying, following mother, and trying hard to get mother’s attention” were rated as occurring frequently (Nadelman & Begun, 1982). In general, the experimental group only showed significant changes over the transition period on 4 of the 26 behavioral items that mothers completed (less easy to get child to talk to you, enjoy hearing talk about babies and siblings less, play well with other children less frequently, and less alert and interested) (Nadelman & Begun, 1982). At Time 2 (post-birth), the only behavior that was different between the experimental and control group was how frequently firstborns talked about babies (Nadelman & Begun, 1982). These findings suggest that most children do not show negative changes in behavior as might be widely believed (Volling, 2012).

Even though there may be variability in how children react to the infant sibling’s birth and that many children may not exhibit significant distress or behavioral problems, the birth of a second child into the family system can be a time of adjustment for the firstborn children. Therefore, a critical question is to understand the variation (i.e., individual differences) in firstborn adjustment and what accounts for this variation. In the current study, we will take the perspective that firstborns’ adjustment is variable across the transition to siblinghood and plan to focus on individual differences in children’s behavioral adjustment from the prenatal to 1 month

postnatal time points. Therefore, the first aim was to examine changes in firstborn adjustment from prenatal to 1 month, as well as stability in individual differences over time.

### **Gender Differences in Adjustment**

Gender differences in firstborn adjustment have been reported in some studies, with others claiming there are no gender differences. Gender differences are important to examine, because girls and boys may respond differently to the birth of a baby sibling. Others have examined whether there are differences in firstborn behavior based on whether siblings are the same or opposite sex. Therefore, we plan to examine some existing trends in the transition to siblinghood that are related to gender to determine whether firstborn girls or boys experience more negative behavior and if behavior is different between same-sex and opposite-sex pairs.

When gender differences have been found, firstborn girls become more dependent and boys become more withdrawn (Gottlieb & Mendelson, 1990). Dunn & Kendrick (1982) and Dunn et al. (1981) found that males were more withdrawn than females at the 8 month post-birth time point. Nadelman & Begun (1982) examined differences in male and female firstborns, where males spent more time sitting or lying around doing nothing and not being as easy to talk with. Females fussed more about going to bed at night, less frequently played well with other children, and enjoyed talking and hearing about babies less (Nadelman & Begun, 1982). These findings suggest that there are differences that need to be examined between firstborn girls and boys.

In a qualitative study by Legg et al. (1974), same and opposite sex dyads were examined and they found that firstborn boys had more difficulty with the birth of a sister. Whereas same-sex siblings are more accepted by the firstborn at first, there may be more competition between siblings eventually (Legg et al., 1974). Gender difference between the quality of sibling

interaction between same-sex and opposite-sex dyads was observed by Stewart et al. (1987), who reported that same-gender dyads had more regressive behavior problems at the 1 and 8 month postpartum time points than opposite-gender dyads. Stewart (1990) reported that boys had more negative responses to the birth of a male baby sibling than girls. Furthermore, the birth of a male baby sibling was associated with greater change in the mother-child relationship for firstborn girls (Stewart 1990). These findings suggest that the gender of the firstborn and second born child evoke many varied responses that interrelate with adjustment.

Based on these findings, we expected that firstborn boys would have more adjustment difficulty than girls overall. Also, we expected that firstborn boys would have more adjustment difficulties than girls, particularly with respect to withdrawal behaviors, whereas firstborn girls would have more adjustment difficulties with dependency and anxiety behaviors. Based on same-sex and opposite-sex findings, we expect to find that sibling pairs with a firstborn girl and a boy infant sibling will show the most positive adjustment than any other combination.

### **Father's Support in Adjustment**

In addition to gender differences in the firstborns' adjustment, parents' level of support is often viewed as a way to buffer against adjustment difficulties (Gottlieb & Mendelson, 1990; Kreppner, 1988; Legg et al, 1974). With increased responsibilities on a mother due to the care a second child requires, the firstborn child's place in the family system may be threatened as the mother-child relationship changes (Baydar et al., 1997a). To firstborn children this may threaten their sense of felt-security. In turn, adverse side effects, such as negative feelings toward the infant sibling and the development of sibling rivalry, may result if the children lack parental support. Fathers have the opportunity to take up more responsibilities with firstborn children during this time, hence compensating for the decline in the maternal support in the form of time

and affection. Therefore, fathers' level of involvement may act as a protective factor against firstborn children's adjustment difficulties in the face of decreased maternal support.

Many researchers suggest that changes in the family environment take place after the birth of a baby sibling with the father-firstborn relationship changing as well as the mother-firstborn relationship (Baydar et al., 1997a, 1997b; Cox & Paley, 2003; Kreppner, 1988; Lynch, 1982). Yet, few studies actually include fathers, so change in the father-firstborn relationship cannot be examined in detail. Only Gottlieb & Mendelson (1990), Kreppner (1988), Legg et al. (1974), and Stewart et al. (1987, 1990) designed studies to deliberately include fathers and their role in the firstborns' transition to siblinghood. Results of these studies indicate that the father-firstborn relationship does not change in the same manner as the mother-firstborn relationship (Stewart et al., 1987), but does make significant contributions to firstborns' adjustment in relation to the change in the mother-firstborn relationship.

In a longitudinal descriptive study, Legg et al. (1974) suggested that fathers can help children through separation anxiety while the mother is at the hospital. Also, they suggested that a secure relationship with the father helped to ease the pain of displacement when the baby sibling was being cared for by the mother. Kreppner's (1988) findings agreed that fathers compensate in giving attention to the firstborn when the mother is caring for the infant sibling. These findings suggest that there are significant contributions that fathers can make in promoting firstborn adjustment.

Dunn & Kendrick (1982) focused on how patterns of interaction changed, based on maternal reports after the baby sibling was born, in regards to father-firstborn and father-baby sibling relations. Dunn & Kendrick (1982) state that when firstborn children have an intense and close relationship with their father, the levels of conflict and confrontation with the mother and



the decrease in joint attention were much less obvious after the birth of a baby sibling. This could be because firstborn children had another parent to care for and distract them from the increased mother-baby sibling interaction (Dunn & Kendrick, 1982). Also, perhaps the firstborn children with a close father-firstborn relationship were just less upset by the mother caring for the new baby (Dunn & Kendrick, 1982).

In a longitudinal 5 time point study (1 month pre-birth, 1, 4, 8, and 12 months post-birth), Stewart et al. (1987) stated that firstborns altered their strategies for retaining parental involvement from pre-birth to post-birth by interacting more with the father when the mother was caring for the baby sibling. Stewart et al.'s (1987) results indicated firstborn children directed more overall behavior to their fathers than to their mother, such as "talking, showing, exploration, refusing, prescriptive command, and proscriptive command" (p. 350) after the birth of the baby sibling. Stewart et al. (1987) also suggested that "fathers increased their relative contribution to the total amount of interaction involving firstborns" (p.354) from pre-birth to post-birth, whether they recognized the decrease in maternal attention and time to the firstborn or not. These results indicated that fathers may promote firstborn adjustment through increasing their interactions with the firstborn, particularly when the mother is busy caring for the infant.

Gottlieb & Mendelson (1990) examined how parental support provided to firstborns before and after the birth of a second child was related to firstborn distress and involvement with the infant. They found that firstborns' levels of prenatal distress interacted with mothers' levels of prenatal support in predicting mothers' postnatal support. Additionally, prenatally high distressed firstborns who received low postnatal support from their fathers were the most distressed postnatally, in comparison to prenatally low distressed firstborns receiving high

paternal support. These findings suggest that fathers' involvement and support of the firstborn may explain the individual differences seen in firstborn adjustment.

The involvement of fathers can help to insure that firstborn children maintain secure attachments to all members of their family. With fathers becoming more involved, children will have less negative experiences during the transition to siblinghood by having an additional source of security, comfort, and attention. The current study examined the positive effects that father involvement can have on firstborn adjustment to the birth of a sibling by employing a pre-/post- birth design to assess change in adjustment and then examined if father involvement explained individual differences in adjustment.

In summary, we anticipate that fathers' level of involvement will protect firstborn children from potential adjustment difficulties across the transition to siblinghood. Therefore, the following questions were examined (1) Does firstborn children's adjustment change prenatally to 1 month after the birth of a baby sibling? (2) Does adjustment vary with the gender of the firstborn child? (3) Do firstborns with more father support show less adjustment difficulty after the birth of a sibling?

## **Method**

### **Participants**

Participants in the study were 241 families (mothers, fathers, firstborns) from a small Midwestern city, who were expecting the birth of a second child. Families were recruited from obstetric clinics, local hospitals, day cares, and through advertisements in local media. Mothers were recruited during pregnancy and the first home visit occurred during the third trimester of their second pregnancy. The mean ages of the mother and father at the start of the study were 31.6 years for mothers and 33.2 years for fathers. Most mothers had a Bachelors Degree or

higher (83.9%), as well as the fathers (72.9%). Employment rates of fathers at the beginning of the study were 2.9% unemployed, 92.1% employed full time, 3.7% employed part time, 1.2% stayed home with the baby full time. The employment rate of mothers was 1.7% unemployed, 35.7% employed full time, 29.9% employed part time, 32.8% stayed home with the baby full time. The household income for the families ranged from \$5,000-\$29,999 (8.3%), \$30,000-\$54,999 (16.6%), \$55,000-\$79,999 (23.3%), \$80,000-\$99,999 (19.1%), and over \$100,000 (32.8%), which could be classified as middle-upper class. Most mothers were married (97.9%) to the fathers of the firstborn children.

The firstborn children consisted of 131 girls and 110 boys. The age of firstborns ranged from 12-67 months at the time of the infant's birth, with a mean age of 30.04 months. Of second born children, 101 were girls and 124 were boys. Data was missing for 16 families due to attrition.

### **Procedures**

Families participated in a longitudinal study where assessments were given during the third trimester of the mother's pregnancy and at 1, 4, 8, and 12 months after the birth. Many methods were used including interviews, questionnaires, and video observations of family interaction. Time points consisted of a home visit, an interview with the parents, an interview with the older child (prenatal, 4, and 12 month), and questionnaires. At the 12 month time point 2 laboratory visits were scheduled for videotaped assessment of the second born child and the parent-infant interaction. This report will focus on the questionnaires given at pre-birth (Time 1) and 1 month post-birth (Time 2).

**Children's adjustment.** The Sibling Adjustment Measure was used which consists of 36 behavioral items, including 'wets the bed at night', 'needs help to fall asleep', and 'tries hard to

get mother's attention'. Mother and father reports were used to determine the child's behavior on a 5-point scale which ranged from (1)= Never to (5)= Almost always.

The Sibling Adjustment Measure was analyzed using a principal components analysis which resulted in five factors (see Table 1). The five factors were derived by summing the items and grouping them based on the highest item loadings. The five subscales included (a) *Sleep Problems* which consisted of four items: wakes frequently at night, needs help to fall asleep, makes a fuss or cries when going to bed at night, and has bad dreams or wakes at night crying; (b) *Separation Anxiety* which consisted of four items: follows mother around the house, wants to spend time with mother, tries hard to get mother's attention, fears mother leaving him/her; (c) *Opposition* which consisted of five items: confrontations with mother involving hitting, slapping, biting, or other inappropriate physical acts, breaks toys or other objects, challenges mother when she requests child to do something, withdraws from social interaction with mother, is naughty or does things child knows he/she should not do; (d) *Emotional Distress* which consisted of three items: cries/is weepy or tearful, has temper tantrums, whines a lot. (e) *Toileting Accidents* which consisted of two items: wets the bed at night and has daytime toileting accidents.

Reliability was calculated using Cronbach's alpha. Internal consistency was: Sleep problems ( $\alpha = .783$ ); Separation anxiety ( $\alpha = .691$ ); Opposition ( $\alpha = .649$ ), Emotional distress ( $\alpha = .669$ ); Toileting accidents ( $\alpha = .771$ ).

**Father involvement.** Father involvement was measured using Child Care measures that examined the extent to which each parent contributed to child care tasks for the older child. The measure consisted of 11 items that are rated on a scale of (1) almost always wife to (5) almost always husband, with (3) being equal. Items included were things such as making a snack for older child, supervising older child's morning routine, and special time with the older child at

bedtime. Parents participated in a couple interview and had to agree jointly on the scale rating for all 11 items. The mean score was calculated across the 11 items.

### **Results**

Correlations were used to examine associations between children's behaviors and to assess the stability of firstborn's adjustment from prenatal to 1 month. In order to address if firstborns' adjustment changed from prenatal to 1 month after the birth of a sibling and differently based on children's gender, 2(Time: Prenatal, 1 month) x 2(gender: boy, girl) repeated measures ANOVAS were performed. Time was used as the repeated measure. Multiple regression analyses were performed to address whether father support predicted firstborn adjustment uniquely above and beyond children's age, gender, and prenatal adjustment.

#### **Preliminary Analysis**

Correlations were performed in order to determine the relationships between the factors of firstborn adjustment based on mother and father reports (See Tables 2 & 3). Table 2 displays significant correlations between all factors except toileting accidents at the prenatal time point. For mothers, toileting accidents were correlated with opposition, emotional distress, and father's reports of toileting. For fathers, toileting was only correlated with mother's reports of toileting. Table 3 shows correlations of mother and father reports on firstborn adjustment at the 1 month time point. Again, significant correlations were found for all factors except toileting accidents, which were correlated with the same factors as the prenatal results indicated. We also examined stability in parent reports of firstborn adjustment from prenatal to 1 month and these are found in Table 4. All behaviors were moderately stable over time.

### **Repeated Measures ANOVA for Time and Gender**

In order to assess changes in firstborns' adjustment from prenatal to 1 month after the birth of a sibling as a function of the gender of the firstborn, a repeated measures ANOVA was conducted. Table 5 presents the significant main effects of time and children's gender for mothers and fathers. For mothers, significant time effects for separation anxiety, opposition, and emotional distress were revealed. Results indicated that firstborn separation anxiety decreased, opposition increased, and emotional distress increased over time. Significant gender effects for separation anxiety and opposition indicated that female firstborn children had more reported separation anxiety than male children, and male firstborn children had more reported opposition than female children.

For fathers, significant time effects for opposition, emotional distress, and toileting were revealed (see Table 5). Results indicated that firstborn opposition increased, emotional distress increased, and toileting difficulties decreased. Significant gender effects for opposition indicated that male firstborn children had more reported opposition than female children (see Table 5).

### **Regressions for Father Support**

The third goal of this study was to examine the unique contribution of father involvement to the prediction of firstborn adjustment difficulties. Hierarchical regressions were performed with 1 month behaviors as the dependent variables and predictors added in the following steps: Step 1: prenatal behavioral indicator; Step 2: age, gender; Step 3: father involvement. Because the central question was focused on the role of fathers' support in reducing children's difficulties across the transition to siblinghood, we report findings revealing significance for Step 3. Only 2 regressions revealed an effect of father involvement. The first was predicting mother's reports of anxiety and the second mother's emotional distress. Fathers' prenatal support was negatively

related to firstborn children's 1 month anxiety and emotional distress (see Table 6 & 7), which means that with higher father support, reports of firstborn anxiety and emotional distress decreased from the prenatal to the 1 month time point.

### **Discussion**

This study focused on the effect that fathers' involvement in child care has on firstborns' adjustment to the birth of a sibling. We examined to what extent firstborns' adjustment changed from the prenatal to the 1 month time point and the effect of gender on adjustment. We also examined the relationship between father involvement and firstborn adjustment. Comparable to others, we were able to reduce firstborns' behaviors into five scales for assessing firstborn adjustment: sleep problems, separation anxiety, opposition, emotional distress, and toileting accidents (Nadelman & Begun, 1982; Stewart et al., 1987; Vernon et al., 1966).

#### **Change Over Time in Firstborns' Behaviors**

As expected, there were significant changes in firstborns' behavior from the prenatal to the 1 month time point. Similar to other studies, we found changes in separation anxiety, emotional distress, and opposition as reported by mothers and changes in emotional distress, opposition, and toileting accidents as reported by fathers. In a longitudinal study Stewart et al. (1987) reported changes in confrontations with the mother and anxiety behaviors, which was similar to our finding of changes in separation anxiety and opposition for mothers.

A possible explanation for why separation anxiety decreased while emotional distress, opposition, and toileting accidents increased could have to do with the time points that we examined. Nadelman & Begun (1982) reported that it was possible that late pregnancy may be as stressful as the time point immediately following the birth of the baby sibling. Additionally, separation anxiety could have been higher at the prenatal time point due to the firstborns'

anticipation of the separation from the mother during her stay at the hospital for the birth.

Therefore, it is possible that the return of the mother from the hospital could have decreased firstborn separation anxiety at the 1 month time point.

As for the increase in emotional distress and opposition from prenatal to 1 month, these findings are also commonly reported. Nadelman & Begun (1982) reported that distress behaviors (e.g., temper tantrums or crying) were rated as happening most often by the mothers. Increases in confrontation and negative behavior towards the mother were found by Dunn et al. (1981) and Stewart et al. (1987), which is reflective of our findings of an increase in firstborn opposition.

It is possible that the reason that emotional distress and opposition increased was because of the mother's stress levels in now caring for two young children. Kendrick & Dunn (1980) found that when the mother was busy caring for the baby sibling, there was an increase in confrontation between the mother and firstborn child. Additionally, they reported that the mother's attention to the firstborn decreased after the birth of the sibling regardless of her preoccupation (Kendrick & Dunn, 1980). The mother's increase in stress and the decrease in attention could be a possible cause for an increase in firstborn opposition and emotional distress.

Our findings on toileting accidents decreasing only based on father reports is reflective of the current debate within the literature of firstborn regressive behaviors, self-efficacy, and mastery. It is possible that the decrease in toileting accidents is due to parents pushing to prepare firstborn children for toileting in order to avoid having two children in diapers (Volling, 2012). On the other hand, this situation may reflect maturation and growth, with firstborns accomplishing a significant developmental milestone with respect to toilet training.



### **Gender Differences**

Our findings indicated that mothers reported that female firstborn children had more reported separation anxiety than male children, and male firstborn children had more reported opposition than female children. However, fathers only reported that male firstborn children had more opposition than female children. These findings are similar to reports by Dunn & Kendrick (1982) who found that girls initiated more instances of being close to the mother, while boys were deliberately naughty more often than girls.

One reason for the gender effect pertaining to mothers' reports of separation anxiety, is that the change in the relationship between the mother and the firstborn girl may be more noticeable to the mother, because girls seek more attention from the mother. Baydar et al. (1997b) also suggested mothers' expectations for girls' behavior following the birth of a sibling increase, which may lead to more "conflict, frustration, and punitive behavior towards girls" (p. 962). This conflict could have led to a change in the mother-daughter relationship increasing separation anxiety, and allowing for the change to be more noticeable by mothers than fathers. All Time x Gender interactions were nonsignificant, indicating that firstborn girls and boys experienced the same adjustment changes over time.

### **Father Involvement**

Our findings indicated that more father involvement in child care tasks was related to a decrease in separation anxiety and emotional distress over time. All other factors did not reveal any significant effects, which could mean that father involvement may have the most effect on firstborn emotional adjustment rather than behavioral adjustment after the birth of a sibling. As discussed earlier, mother's attention shifts during the transition to the birth of a sibling from the firstborn to the infant. As firstborn children most often first seek attention from the mother than

the father (Kreppner, 1988), it is likely that the shift in attention may lead to more emotional rather than behavioral difficulties in firstborn children. Therefore, fathers who are more involved in child care tasks may become an additional source of attention and emotional support for firstborn children to satisfy their emotional needs (Dunn & Kendrick, 1982; Gottlieb & Mendelson, 1990; Kreppner, 1988; Legg et al, 1974; Stewart et al., 1987). These findings suggest that more father involvement in child care tasks will help to reduce temper tantrums, clinging, and whiny behavior in firstborn children during the transition to siblinghood.

### **Limitations and Future Research**

There are some limitations of this study that need to be observed. First, our sample consisted of two parent, well functioning, upper-middle class, low risk, primarily Caucasian families. This limits the generalizability of our finding to families of other backgrounds. We may have had different findings if our sample was more diverse. Second, it is important to note that the objective of this research was to examine normative transitions after the birth of a sibling. Therefore, high-risk families (e.g., extreme poverty, maternal psychopathology, prematurity, developmental disabilities) where additional child or contextual factors might play a central role in determining children's developmental outcomes were not included. Future research should explore these effects further. Third, our results could have been significantly different if we were to examine more time points, for a longer duration. Even though there were changes noted for some firstborn behaviors, additional follow-ups would allow us to determine if these changes were short- or long- term.

Future research is needed to assess the importance of father involvement in other aspects of the family system like parent-child attachment. Next, studies designed for high risk samples and family transitions of other ethnic backgrounds and cultures need to be explored. Last, longer

pre- and post- birth designs with time points are necessary for examining sibling transitions throughout the lifespan. This research will help to explore the complex relationships within the family system and their importance in the transition to siblinghood.

### **Conclusion**

This study examined the role of father involvement in protecting against adjustment difficulties of firstborn children during the transition to siblinghood. Childhood relationships build the foundation for relationships throughout the lifespan. Furthering this research will help to examine the use of existing resources within the family by promoting father participation in order to ensure healthy adjustment for normative life events, cohesive family systems and the transition to siblinghood-one of the first and most important transitions of a child's life.

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Table 1

*Principal Components Matrix of Mother and Father Responses on Sibling Adjustment Scale for Firstborns' Behavior with Mother*

	Sleep Problems	Separation Anxiety	Opposition	Emotional Distress	Toileting Accidents
1. Wakes frequently at night	.806	-	-	-	-
2. Needs help to fall asleep	.78	-	-	-	-
3. Makes a fuss or cries when going to bed at night	.759	-	-	-	-
4. Has bad dreams or wakes at night crying	.72	-	-	-	-
5. Follows mother around the house	-	.73	-	-	-
6. Wants to spend time with mother	-	.69	-	-	-
7. Tries hard to get mother's attention	-	.68	-	-	-
8. Fears mother leaving him/her	-	.67	-	-	-
9. Confrontations with mother involving hitting, slapping, biting, or other inappropriate physical acts	-	-	.70	-	-
10. Breaks toys or other objects	-	-	.63	-	-
11. Challenges mother when she requests child to do something	-	-	.61	-	-
12. Withdraws from social interaction with mother	-	-	.59	-	-
13. Is naughty or does things child knows he/she should not do	-	-	.57	-	-
14. Cries; is weepy or tearful	-	-	-	.78	-
15. Has temper tantrums	-	-	-	.70	-
16. Whines a lot	-	-	-	.68	-
17. Wets the bed at night	-	-	-	-	.90
18. Has daytime toileting accidents	-	-	-	-	.87



Table 2

*Intercorrelations of Firstborns' Adjustment at Prenatal Time Point*

Variable	Sleep	Anxiety	Opposition	Emotional Distress	Toileting
Sleep Problems	<u>.68**</u>	.32**	.17**	.25**	.09
Separation Anxiety	.33**	<u>.21**</u>	.15*	.32**	.10
Opposition	.31**	.29**	<u>.38**</u>	.37**	.17*
Emotional Distress	.21**	.30**	.53**	<u>.31**</u>	.17*
Toileting Accidents	.02	.14	.13	.12	<u>.43**</u>

Note: Mother correlations above diagonal, Father correlations below diagonal. Cross parent correlations in the diagonal. \* $p < .05$ . \*\* $p < .01$

Table 3

*Intercorrelations of Firstborns' Adjustment at 1 Month Time Point*

Variable	Sleep	Anxiety	Opposition	Emotional Distress	Toileting
Sleep Problems	<u>.60**</u>	.37**	.33**	.23**	.07
Separation Anxiety	.37**	<u>.44**</u>	.34**	.36**	.13
Opposition	.32**	.27**	<u>.47**</u>	.48**	.31**
Emotional Distress	.26**	.35**	.45**	<u>.40**</u>	.25**
Toileting Accidents	.11	.09	.11	.08	<u>.39**</u>

Note: Mother correlations above diagonal, Father correlations below diagonal. Cross parent correlations in the diagonal. \* $p < .05$ . \*\* $p < .01$

Table 4

*Correlation of the Stability of Firstborns' Adjustment from Prenatal to 1 Month*

Prenatal	1 Month
<u>Mother</u>	
Sleep Problems	.57**
Separation Anxiety	.57**
Opposition	.57**
Emotional Distress	.55**
Toileting Accidents	.65**
<u>Father</u>	
Sleep Problems	.64**
Separation Anxiety	.58**
Opposition	.58**
Emotional Distress	.54**
Toileting Accidents	.67**

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Note: \* $p < .05$ . \*\* $p < .01$

Table 5

*Means of Firstborn Adjustment from Time X Gender Repeated Measures ANOVA*

Variables	Time		F	Gender		F	Time X Gender
	<u>Prenatal</u>	<u>1 Month</u>		<u>Boy</u>	<u>Girl</u>		
<u>Mother</u>							
Sleep Problems	2.26	2.21	NS	2.31	2.15	NS	NS
Separation Anxiety	3.11	2.92	3.97**	2.94	3.08	2.88*	NS
Opposition	1.86	1.97	3.14*	2.00	1.84	6.81**	NS
Emotional Distress	2.26	2.44	13.04**	2.33	2.38	NS	NS
Toileting Accidents	1.92	1.71	NS	1.79	1.84	NS	NS
<u>Father</u>							
Sleep Problems	2.24	2.18	NS	2.27	2.15	NS	NS
Separation Anxiety	3.15	2.95	NS	3.00	3.10	NS	NS
Opposition	1.88	1.93	3.09*	1.98	1.83	5.70**	NS
Emotional Distress	2.23	2.31	4.71**	2.26	2.28	NS	NS
Toileting Accidents	1.89	1.75	4.57**	1.82	1.82	NS	NS

Note: Both mothers and fathers completed questions in reference to firstborn child's behaviors

with mother. NS= not significant. \* $p < .05$ . \*\* $p < .01$

Table 6

*Results of Multiple Regression for Anxiety*

	Standardized $\beta$	$t$	Adjusted $R^2$	$F\Delta$
Constant	1.78***	5.980		
1. Prenatal Anxiety	.54***	9.821	.323	$F(1, 216)=$ 104.739, $p<.001$
2. Gender	-.06	-.976	.323	$F(2, 214)=.975,$ NS
3. Age	.01	.138	.323	$F(2, 214)=.975,$ NS
4. Prenatal Father Involvement	-.18***	-3.326	.354	$F(1, 213)=11.063,$ $p<.001$

Notes: NS= not significant. \* $p< .05$ . \*\* $p< .01$ . \*\*\* $p<.001$ .

Table 7

*Results of Multiple Regression for Emotional Distress*

	Standardized $\beta$	$t$	Adjusted $R^2$	$F\Delta$
Constant	1.75*	5.780		
1. Prenatal Emotional Distress	.56***	9.922	.298	$F(1, 216)=93.194$ $p<.001$
2. Gender	.01	.104	.309	$F(2, 214)=2.659$ $p<.10$
3. Age	-.13*	-2.266	.309	$F(2, 214)=2.659$ $p<.10$
4. Prenatal Father Involvement	-.10 †	-1.744	.315	$F(1, 213)=3.042$ $p<.10$

Notes: \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . † $p < .10$