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## Gender role beliefs, work-family conflict, and father involvement after the birth of a second child

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### Abstract

A major task for parents during the transition to second-time parenthood is to help their firstborn adjust to their new roles as siblings. Increased father involvement has been theorized to be protective for firstborn adjustment. Fathers, however, are under increasing pressure to balance both work and family responsibilities. Here we evaluate fathers' relative involvement in two-child families as a function of family structure, gender role beliefs, and work-family conflict in 222 dual- and single-earner families from the Midwestern region of the United States after the birth of a second child. Couples reported on father involvement with firstborns and infants when the infants were 1, 4, 8, and 12 months old. On average, fathers increased their involvement with infants but decreased their involvement with firstborns. Dual-earner fathers were more involved with their children than single-earner fathers. Although mean levels of father involvement were different between dual- and single-earners, multi-group parallel process trajectory latent growth curve models revealed more similarities than differences between dual- and single-earners in processes guiding father involvement. Both dual- and single-earner fathers engaged in juggling childcare between children and both dual- and single-earner fathers' involvement with infants was constrained by work-family conflict. Gender role beliefs predicted child care involvement for dual-earner, but not single-earner fathers: more egalitarian gender roles predicted greater involvement with the firstborn immediately after the birth of the second child. Results underscore the need for greater workplace support for fathers' caregiving roles after the birth of an infant.

### Keywords

Fathers; Gender Roles; Work-Family Conflict; Second Child

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Attitudes about gender roles within families are changing. Modern fathers envision being actively involved in their children's lives, but workplace policies may limit men's abilities to be more involved at home (Pedulla & Thébaud, 2015). Given that most firstborn children are between two and three years of age when they become older siblings (Baydar, Hyle, & Brooks-Gunn, 1997), parents now must balance the sleepless nights caring for an infant while they meet the demands of an energetic toddler. Tensions between men's beliefs about

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active involvement and their abilities to be involved likely heighten after the birth of a second child as a result of managing childcare responsibilities. Although increasing father involvement is key to supporting a mother's adjustment and whether or not she has to "double her existence" for both children (Kreppner, Paulsen, & Schuetze, 1982; Stewart, 1990), fathers are often not given paternal leave or access to flexible work policies that enable their full involvement at home (Adema, Clarke, & Frey, 2015), despite the clear benefits of parental leave to men's parenting and engagement with (US Department of Labor, 2016). Further, father involvement in the infancy and early childhood years are beneficial for children's socioemotional development (Yogman et al., 2016). In this paper, we explored both changes in *mean levels* of father involvement and the *processes* (e.g., gender role beliefs, work-family conflict) predicting father involvement in both dual- and single-earner families after the birth of a second child.

### Developmental Changes in Families after the Birth of a Second Child

According to Family Systems Theory (Minuchin, 1985), family relationships and roles change during periods of transition, including the birth of a child. When couples experience the transition to first-time parenthood, their family roles evolve to include new coparenting responsibilities. Becoming a new parent is frequently described as overwhelming and tiring (Nyström & Öhrling, 2004), but childcare responsibility tends to fall greater on mothers than fathers (Yavorsky, Kamp Dush, & Schoppe-Sullivan, 2015). Men who subscribe to hegemonic masculinity are likely to overemphasize their breadwinner roles at the expense of participating in active childcare (McKelley & Rochlen, 2016), thus creating a gender-traditional (mother-caretaker, father-breadwinner) coparenting relationship. In contrast to adopting a completely new coparenting role during the transition to first-time parenthood, the transition to second-time parenthood encompasses an *adjustment* of the existing coparenting relationship between parents. This transition, however, is not without stress or strain. During the first few months after the birth of a second child, coparenting conflict increases between parents, whereas cooperation decreases (Kuo, Volling, & Gonzalez, 2017), but parents become more cooperative at the end of the year (Szabó, Dubas, & van Aken, 2012). On average, mothers report greater conflict and ambivalence in their marriages after the birth of a second child, but positive marital relations did not differ for mothers and fathers (Volling, Oh, Gonzalez, Kuo, & Yu, 2015).

Although parents are not taking on dramatically new family roles during the transition to second-time parenthood, their firstborn children are now older siblings. One of the major tasks for parents during this period is to help the firstborn adjust to their new role as an older sibling. Firstborns vary dramatically in their reactions to the birth of a baby sibling: some firstborns are jealous and aggressive towards the baby, others are excited and welcoming, but many are ambivalent toward the second child (Volling, 2005). According to the Developmental Ecological Systems Model, father involvement is hypothesized to be particularly important for firstborn adjustment during the transition to siblinghood because mothers are spending more time caring for the infant (Volling, 2005). Indeed, the birth of a second child appears to spur changes in father involvement. In one of the few studies focusing on the birth of a second child, Stewart (1990) found that fathers increased their childcare involvement with firstborn children from prepartum to 1 year later, such that the

care of the firstborn was more equally divided between spouses at 12 months, but infant care remained primarily the mother's responsibility. Fathers appeared to *specialize* in the care of their firstborn children after the birth of a second child while mothers were responsible for the infants. Hegemonic male gender roles emphasize aggression and power, and, in turn, fathers' roles as disciplinarians (McKelley & Rochlen, 2016). Because parental control and discipline become increasingly necessary during children's toddler and preschool years (Committee on Psychosocial Aspects of Child and Family Health, 1998), it is possible that fathers felt more comfortable 'specializing' in care of their firstborns. It is not clear whether a similar situation would describe today's families in which fathers are expected to take a more active caregiving role, even with infants (Lamb, 2000). More recently, Krieg (2007) compared first- and second-time mothers, and found that second-time mothers perceived their division of labor and childcare to be more gender-stereotyped than first-time mothers after the birth of their infants (e.g., mother cooked and fed baby, father took out trash and played with baby; Krieg, 2007), suggesting that fathers were less involved in infant care responsibilities. Because Krieg (2007) did not examine the division of childcare separately for firstborns and infants, it is not clear whether this withdrawal from infant care was associated with a corresponding increase in care of the firstborn, in line with a specialization hypothesis. Because the birth of a second child means there are now two children in the home, it is possible that parents may divide responsibilities between the two children. Perhaps fathers are equally involved with both children or they may specialize and assume more responsibility for the firstborn than the infant (Kreppner et al., 1982; Stewart, 1990). Because previous work has found that fathers are more involved with older children than infants (Pleck, 1997), we hypothesized that fathers would be more involved with firstborn children than infants after the birth of the second child.

Kreppner and colleagues (1982) described three different ways that couples organized child care after the birth of their second child: (1) fathers *withdrew* from childcare and focused more on housework; (2) fathers *specialized* in caring for the firstborn to allow mothers to bond with the infant; and (3) both parents *juggled* care between the two children; that is, both mothers and fathers were involved with and balanced the care of firstborns and infants. This early work demonstrated that in two-child families, parents potentially juggled childcare responsibilities not only between each other, but between the two children as well. Variation in men's adherence to masculine gender norms may have explained the appearance of these three typologies. Men who actively reject hegemonic masculinity may attempt to share childcare equitably, and thus *juggle* care between children and with their partners. Because boys and men are not socialized to be caregivers, men report having parenting skill deficits, even with basic tasks (McKelley & Rochlen, 2016). Hence, perhaps fathers who are less skilled with basic childcare would *withdraw* from childcare and focus instead on housework. Finally, men who emphasize the disciplinarian father role may be attracted to being more involved with their toddler and preschool-aged firstborns, whose socioemotional development depends on compliance and internalizing rules.

Despite the fact that childcare responsibilities may differ between children and between parents within families, most studies looking at the division of childcare focused either on a single child or aggregated childcare across children (Craig & Mullan, 2011; Evertsson, 2014; Krieg, 2007). Such approaches may underestimate fathers' childcare involvement if

fathers are primarily responsible for the care of the older children while mothers care for the infants. In the current study, we used a prospective longitudinal design to examine trajectories of father involvement in firstborn and infant care within families to examine whether fathers specialized in care of the firstborn. We also explored whether fathers juggled child care responsibilities across the year such that involvement with one child in the early months after birth predicted fathers' involvement with the other child over the year following the infant's birth.

## Family Structure, Gender, and Father Involvement

Men were especially impacted by the Great Recession of 2008, as roughly 75% of jobs lost in the recession were held by men (McKelley & Rochlen, 2016). Thus, in today's changing social landscape and in response to economic uncertainty, more U.S. mothers are working throughout their children's infancy and early childhood years, which may have repercussions for how couples manage childcare responsibilities (Wilcox & Dew, 2013). Indeed, both fathers and mothers are increasingly viewing childcare and financial provisioning as integral to their respective family roles (Maurer & Pleck, 2006). Although there are now more dual-earner families (65%) than single-earner families (30%) in the U.S. (Payne & Gibbs, 2013), employment trends paint a different picture in the perinatal period. Within a year of giving birth, 39% of married women were not in the labor force, 38% were working full-time, and 17% were working part-time (Cruz, 2013). Thus, the birth of an infant may result in greater numbers of father-headed single-earner families where mothers are primarily responsible for childcare and fathers assume the traditional "breadwinner" role. Although this single-earner family structure continues to subsist, current empirical research on the division of labor after the birth of an infant has focused predominantly on dual-earner families (Meteyer & Perry-Jenkins, 2010; Yavorsky et al., 2015). Naturally, the division of childcare after the birth of a second child is likely to be divided differently in single-earner versus dual-earner families. In dual-earner families, both mother and father have to balance childcare with work, whereas in father-headed single-earner families, roles are likely more traditional, with fathers providing financially and mothers assuming primary responsibility for children (Wilcox & Dew, 2013). Previous research has found that the more hours mothers worked outside the home, the more fathers were involved with children (Aldous, Mulligan, & Bjarnason, 1998). Thus, we expected that dual-earner fathers would be more involved with both children than single-earner fathers.

Beyond mean-level differences in father involvement between dual- and single-earner families, earlier studies suggested processes guiding father involvement differed across family ecologies (Crouter, Perry-Jenkins, Huston, & McHale, 1987; Volling & Belsky, 1991), further illuminating the unique predictors of father involvement within dual- and single-earner families. For example, Volling and Belsky (1991) argued that contextual characteristics such as work-family balance may be stronger predictors of father involvement in the time-poor environment of dual-earner couples. In contrast, personal attributes and intrapersonal beliefs (e.g., gender roles), may play a more prominent role in predicting father involvement in single-earner families, where involvement may be more a function of personal choice than necessity. Evidence for gender role beliefs as a predictor of father involvement has been mixed, however. In this regard, Barnett and Baruch (1987) found that

gender role beliefs predicted greater father involvement in dual-earner families but not single-earner families. Yet, Crouter et al. (1987) found that gender role beliefs did not predict father involvement in either type of family structure. Further, although egalitarian gender role beliefs have been associated with greater father involvement in child care tasks (Davis & Greenstein, 2009; Evertsson, 2014), this is not always the case (Crouter et al., 1987; Meteyer & Perry-Jenkins, 2010), and often, egalitarian beliefs do not predict egalitarian behavior (Lachance-Grzela & Bouchard, 2010). Indeed, in a large scale study of working men, fathers reported that although they believed in sharing childcare responsibilities equally, most did less than their female partners (Harrington, Van Deusen, & Fraone, 2013). Based on previous research, we hypothesized that if gender role beliefs predicted father involvement, then there would be stronger associations in dual-earner compared to single-earner families.

## Work-Family Interface and Father Involvement

Working men believe that both ‘breadwinning’ and ‘caregiving’ are integral to fathers’ roles (Harrington et al., 2013), and men’s increasing desires to have a fulfilling career and family life can create greater work-family conflict (Harrington, Fraone, Lee, & Levey, 2016). In dual-earner families with two working parents, social-contextual factors such as work-family conflict may have a more profound influence on how couples share and partake in child care. For instance, Stewart (1990) found that many men often increased their work hours after the birth of their second child in order to provide financially for their growing families. It is unclear if men today would also choose work over family after the birth of an infant and whether they feel pressured to work for economic security or due to a lack of parental leave. Although fathers are spending 3x more time with their children now than compared to 1965 (Pew Research Center, 2013) and believe in sharing equal responsibility with mothers, fathers continue to see themselves as secondary caregivers to mothers (Harrington et al., 2016).

Currently, the United States does not have public paid leave policies for mothers, let alone for fathers (Adema et al., 2015). As a result, most fathers take little to no time off after the birth of an infant. For example, in a large study of white-collar workers, 75% of men took 1 week or less off of work after the birth of an infant (Harrington, Van Deusen, & Humberd, 2011). However, when companies offered paternity leave, fathers often took advantage of leave policies (Harrington, Van Deusen, Fraone, Eddy, & Haas, 2014). Interestingly, even when men were offered four or more weeks paid time off, nearly 30 percent of men would take only two weeks off (Harrington et al., 2014). Thus, despite available family leave policies, gendered expectations in the workplace may dissuade men from becoming more involved at home. For example, fathers reported that their work culture was less supportive of their family lives than did mothers, and as a result, working fathers were more likely to invest time in paid work and less time in childcare (Hill, 2005). When men had greater workplace flexibility, they were more likely to be involved in daily childcare activities (Radcliffe & Cassell, 2015), but men experiencing greater work-family conflict reported less involvement with children (Hart & Kelley, 2006). Because both mothers and fathers in dual-earner couples have to manage work and childcare responsibilities, work-family conflict may be a bigger hurdle for dual-earner fathers than single-earner fathers. Indeed, dual-earner

parents reported more work-family conflict than single-earner parents (Elloy & Smith, 2003), and dual-earner fathers reported more work-family conflict than single-earner fathers (Harrington et al., 2013). In the current study, we hypothesized that work-family conflict would be predictive of father involvement after the birth of a second child, but exert a stronger effect on father involvement in dual-earner compared to single-earner families.

## The Current Study

Studies have increasingly focused on fathering, but the degree to which fathers are moving towards egalitarian roles is unknown (for a review, see McKelley & Rochlen, 2016). Part of the limitations of previous studies is an overreliance on cross-sectional designs or an exclusive focus on fathering only, without adequate consideration of mothers' involvement (McKellay & Rochlen, 2016). In this paper, we utilize a measure of father involvement that considers mothers' involvement. We use a prospective, longitudinal design that accounts for changes in fathers' involvement during a transition period that is especially important for firstborn children's adjustment. We utilize a dual trajectory latent growth curve model that not only accounts for fathers' involvement with one child, but also how that relative involvement influences involvement with the other child.

In the current study, we examined both *mean levels* of father involvement and *processes* underlying father involvement in dual- and single-earner families after the birth of a second child. The first aim of the current study examined whether mean levels of father involvement in the care of firstborns and infants differed over time. Because fathers are more involved with older children compared to infants (Pleck, 1997), we hypothesized fathers would "specialize" and be more involved with firstborns than infants in both types of families. Second, we were interested in whether levels of father involvement in both firstborn and infant care would differ across dual- and single-earner families, expecting that dual-earner fathers would be more involved in infant and firstborn care than single-earner fathers.

To address family processes explaining fathers' involvement in the care of two children over time, our third aim was to test the "juggling hypothesis" in which the level of care with one child immediately following the birth might predict the care of the other child within the following year. The juggling hypothesis tests whether fathers engage in a high level of involvement with both children, and whether high levels of involvement immediately after the birth of the second child would predict increases in involvement across the year. Specifically, high levels of initial involvement with the firstborn would predict increases in involvement with the infant over the year, and high levels of initial involvement with the infant would predict increases in involvement with the firstborn over the year. The idea behind juggling is that involved fathers would be motivated to be involved with both of their children, not only one. Because fathers may be required to engage in more childcare responsibilities in dual-earner as opposed to single-earner families, we hypothesized that dual-earner fathers would 'juggle' childcare between children more than single-earner fathers. Finally, we examined whether father involvement in the division of firstborn and infant care was predicted by fathers' gender role beliefs and work-family conflict, hypothesizing that fathers would be more involved when they held more egalitarian beliefs,

experienced less work-family conflict, and worked fewer hours, and that these associations would be stronger in dual-earner families.

## Method

### Family Transitions Study Design and Procedures

This study used data from the Family Transitions Study, a prospective longitudinal investigation designed to assess changes in firstborn children's adjustment and family relationship functioning following the birth of a second child (Volling et al., in press). Families (mothers pregnant with their second child, fathers, and firstborn children) were recruited through obstetric clinics, local newspaper advertisements, doctors' offices, childcare centers, and childbirth education classes in the Midwestern United States. The study included five timepoints: Prenatal (last trimester of pregnancy), 1, 4, 8 and 12 months after the birth. These time points (1–12 months) were chosen because they correspond with significant phases of family adjustment according to family stress/resilience theories and developmental milestones in infant development (see Volling et al., in press, for further details). Parents signed informed consent forms at the start of the prenatal home visit. Study and consent procedures were approved in accordance with the University of Michigan Medical School Institutional Review Board. Each time point consisted of at-home interviews and video-recorded observations of family interactions. Mothers and fathers were given paper questionnaires to assess multiple dimensions of child and family development at each timepoint and asked to return them to study personnel when completed. More detailed information about the study's recruitment procedures and design can be found at Volling et al., in press.

The Family Transitions Study was an excellent fit to answer questions about father involvement with two children in dual and single-earner families, gender roles, and work family conflict. First, we directly assessed family functioning, including changes in father involvement, after the birth of a second child. Second, information on father involvement in childcare was obtained from both parents to reduce the likelihood of single-reporter bias, which is often a problem with self-reports of childcare activities (Yavorsky et al., 2015). Because studies that do not control for mother involvement often overestimate the effects of father involvement (McKelley & Rochlen, 2016), we relied on couple-based interviews where both mothers and fathers had to agree on who did what for each childcare task, which limited bias and controlled for mothers' relative involvement. Data from the current paper included couple-reported division of childcare and couple-reported division of infant care from the home visits at 1, 4, 8, and 12 months, fathers' self-reported prenatal reports of gender role beliefs, and fathers' self-reported work-family conflict and work hours at 1 month.

### Participants

Participants were drawn from a sample of 241 families consisting of fathers, mothers, firstborn children, (54.4% were girls), and their secondborn infants (44.9% girls). Birth intervals between children ranged from 12 – 69 months,  $M = 31.17$ ,  $SD = 10.13$ . Parents were well-educated, and most mothers and fathers had earned a Bachelor's degree or higher,



83.9% of mothers; 79.2% of fathers. Families were predominantly middle to upper-middle class; the mode for annual household income was \$60,000 – \$99,999 (37.8%), with 32.8% of couples making greater than \$100,000. The majority of fathers were employed full-time (92.1%). As expected, mothers' employment varied considerably: 35.7% were employed full-time, 29.9% were employed part-time, and 34.5% were unemployed or stay-at-home parents at the prenatal timepoint. Fathers' average weekly work hours at the prenatal timepoint surpassed mothers' hours, fathers  $M = 44.31$ ,  $SD = 13.48$ ; mothers  $M = 19.75$ ,  $SD = 18.28$ ;  $t(240) = 16.01$ ,  $p < .001$ . Mothers and fathers were primarily European American, 85.9% of mothers; 86.3% of fathers, with 14.1% of mothers and 13.7% of fathers representing other racial and ethnic groups. The length of marriage ranged from .58 – 20 years,  $M = 5.77$ ,  $SD = 2.74$ .

Of the initial 241 families recruited, we focused on families in which fathers were working full-time ( $N = 222$ ) and excluded families in which fathers were not working full time ( $N = 19$ ; 7.9% of sample; 7 unemployed, 9 employed part-time, 3 stay-at-home fathers) based on information from the prenatal timepoint. This subset of families was then used to create our dual- and single-earner family groupings based on work status information collected at the prenatal timepoint and from prior studies defining earner status (e.g., Crouter et al., 1987; Volling & Belsky, 1991). Dual-earner families were defined as the father working full-time and the mother working at least 20 hours per week ( $N = 112$ ). Single-earner families were defined as the father working full time and the mother working less than 19.9 hours per week ( $N = 110$ ).

On average, dual-earner mothers worked 35.12 hours per week ( $SD = 10.32$ ), whereas mothers in single-earner families worked 2.42 hours per week ( $SD = 4.84$ ). About half, 50.5% ( $N = 112$ ), of mothers were breastfeeding exclusively at 1 month; 11.7% ( $N = 26$ ) families were bottle feeding exclusively, and 30.6% ( $N = 68$ ) of families were breastfeeding and bottle feeding. There were no significant differences in feeding method between dual- and single-earner families,  $p = .15$ . Thus, feeding status was not included as a covariate in our analyses. There were no significant differences between dual- and single-earner families on parent age, years of marriage, mothers' education, fathers' education, or fathers' work hours. Birth intervals were wider in dual-earner families,  $M = 32.83$  months,  $SD = 10.64$ , compared to single-earner families,  $M = 29.79$  months,  $SD = 9.42$ ,  $t(204) = 2.17$ ,  $p < .05$ , suggesting parents in dual-earner families waited longer to have their second child. There were significant differences in family income between dual-earners and single-earners,  $\chi^2(3) = 22.67$ ,  $p < .001$ . The modal income range for dual-earners was more than \$100,000 (47.32% of dual-earners), whereas the modal income for single-earners was \$60,000 – \$99,999 (47.27% of single-earners).

There were no significant changes in fathers' work status between the prenatal time points and 1, 4, 8, 12 months, all  $p$ 's  $> .12$ . Because most dual-earner mothers were on parental leave at 1 month after the birth, their work hours decreased significantly from pre-birth to 1 month; 83.5% of dual-earners mothers reported working zero hours per week. By 4 months, 83.2% of dual-earner mothers were working more than 20 hours per week, suggesting that most dual-earner mothers had returned to work by 4 months.

By the 12 month timepoint, 187 of the 222 families in this subsample remained in the study. Thirty-five families dropped from the study by 12 months for a variety of reasons (e.g., moving from area, not enough time). Families who remained were more highly educated, wives:  $\chi^2(2) = 8.94, p < .05$ ; husbands:  $\chi^2(3) = 11.97, p < .01$ , and had higher incomes,  $\chi^2(3) = 12.92, p < .01$ . Mothers in the remaining sample were older,  $t(41.80) = 2.12, p < .05$ . There were no significant differences between the remaining sample and the initial 222 families on mothers and fathers' race/ethnicity, fathers' age, firstborn age, firstborn or infant gender, or years of marriage.

## Measures

**Father involvement in firstborn and infant care**—During a joint-couple interview at each timepoint, both spouses were asked to agree on whether a series of child care tasks were performed by the wife, the husband, or both equally over the past month, on a scale from 1 = *Always Wife*, 2 = *Usually Wife*, 3 = *Both Equally*, 4 = *Usually Husband*, and 5 = *Always Husband*. *Father involvement in firstborn care* was assessed using 11 items (e.g., 'Making snack for older child', 'taking older child to the doctor') from the Childcare Checklist (Ehrenberg, Gearing-Small, Hunter, & Small, 2001) at 1, 4, 8, and 12 months in a couple interview ( $\alpha$  range = .68 – .77,  $M = .72$ ). Likewise, *Father involvement in infant care* was assessed using nine items (e.g., 'changing poopy diapers', 'feeding baby') from the Childcare Checklist (Belsky, Rovine, & Fish, 1989) at 1, 4, 8 and 12 months following the infant's birth ( $\alpha$  range = .77 – .84,  $M = .82$ ). Responses were averaged across items and could range from 1–5; higher scores reflected more father involvement in childcare tasks. The actual range was 1 – 4.75 ( $M = 2.38$ ) for firstborn care, and 1 – 3.89 ( $M = 2.00$ ) for infant care.

**Gender role beliefs**—Fathers' gender role beliefs were assessed via the 20-item gender role attitudes questionnaire (Bird, Bird, & Scruggs, 1984). The Gender Role Attitudes questionnaire specifically assesses beliefs about women's and men's roles with regard to family and work. The Gender Role Attitudes questionnaire was chosen because it dealt specifically with gender roles in the family and could be used with both women and men. Example items included "A wife should have equal authority with her husband in making family decisions," and "The husband should be the head of the family (reverse coded)." Each item was rated on a 7-point Likert scale from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. Responses were averaged across items such that higher scores indicated stronger endorsement of egalitarian gender ideology ( $\alpha = .85$ ). Dual-earner fathers reported significantly more egalitarian gender role beliefs,  $M = 5.56, SD = 0.61$ , than single-earner fathers,  $M = 5.11, SD = .73$ ,  $t(197) = 4.83, p < .001$ . Scores could range from 1 – 7; actual scores ranged from 3.15 – 7.

**Work-family conflict**—Fathers' perceptions of work-family conflict were measured using five items from the Work-Family Conflict scale (Kelloway, Gottlieb, & Barham, 1999). This measure specifically assessed spillover from work to family. Example items included "My job prevents me from attending appointments and special events for family members" and "Job responsibilities make it difficult for me to get family chores/errands done." Each item was rated on 4-point scale from 1 = *Never* to 4 = *Almost Always*. Responses were averaged

across items, higher scores indicated greater work-family conflict ( $\alpha = .81$ ). Scores could range from 1 – 4; actual range was 1 – 3.40. There were no significant differences between dual- and single-earner fathers on work-family conflict,  $p = .73$ , or number of hours worked per week,  $p = .31$ .

Table 1 provides descriptive statistics (means, standard deviations) and correlations among all study variables for dual-earner and single-earner families.

### Data Analysis Strategy

Analyses preceded in several steps. To test our hypotheses about *mean levels* of father involvement between (a) firstborns and infants and (b) dual- and single-earner families over time, we conducted a 2 (Earner) x 4 (Time) x 2 (Child) linear mixed model with an unstructured covariance matrix and full information maximum likelihood (FIML) estimation for missing data. Time was modeled as a repeated effect, and a random effect of intercept was included to account for between-family differences. Child effects were a direct test of the specialization hypothesis and whether fathers provided care for one child (e.g., firstborn) more than the other. Firstborn age was included as a continuous covariate. All two- and three-way interactions were modeled. A Bonferroni correction was applied for multiple comparisons.

To test our hypotheses about *processes* underlying father involvement in dual- and single-earner families (e.g., juggling), we conducted multi-group dual trajectory latent growth curves. We used Mplus Version 7.0 (Muthén & Muthén, 1998–2012) with full-information likelihood (FIML) estimation for missing data, resulting in 214 families for our final analyses. See Figure 1 for the hypothesized model, which was tested separately for dual- and single-earner families. The paths between the intercept of one child (e.g., involvement at 1 month with the firstborn) to the slope of the other child (e.g., increase in infant care over time) allowed us to test whether fathers “juggled” care of the two children over time. Fathers’ gender roles, work-family conflict, and work hours were also included as exogenous predictors of the intercepts and slopes for firstborn and infant care. Planned Wald comparisons tested the significance of the regression paths between dual- and single-earner families to determine whether gender role beliefs and work-family conflict predicted father involvement differently in dual- earner and single-earner families, and whether the cross-over paths addressing juggling differed for dual-earner and single-earner fathers.

## Results

### Are Fathers More involved with Firstborns or Infants and in Dual-Earner Versus Single-Earner Families?

Results from the 2 (Earner) x 4 (Time) x 2 (Child) linear mixed model (firstborn age as covariate) revealed significant fixed effects of earner status,  $F(1, 189.66) = 23.76, p < .001$ , time  $F(3, 385.97) = 12.08, p < .001$ , and child,  $F(1, 190.13) = 130.96, p < .001$ , which were further qualified by significant two-way interactions between earner with time,  $F(3, 385.97) = 13.00, p < .001$ , and time with child,  $F(3, 387.54) = 58.40, p < .001$ . See Figure 2 for a

graphical representation of trajectories of father involvement by child (child x time interaction) and by earner (earner x time interaction).

Planned *post hoc* pairwise comparisons of the time x child interaction revealed that changes in involvement over the year were different for firstborns than for infants (see Table 2). Whereas fathers had the highest levels of involvement with firstborns at 1 month, all following timepoints were significantly lower; father involvement with infants significantly increased across the year. *Post hoc* pairwise comparisons also revealed that fathers were significantly more involved with firstborns than infants at all timepoints, all  $p$ 's < .05. Thus, for both dual- and single-earner families, fathers were more involved with their firstborn children than with their infants over the entire time period, but increased in their involvement with infants over the year at the same time they decreased in their involvement with the firstborns. Our findings clearly indicate that fathers specialize in the care of firstborns early after the birth of a second child but increase their involvement with the infants over time.

Planned *post hoc* pairwise comparisons of the earner x time interaction revealed that dual-earner fathers were significantly more involved than single-earner fathers at all timepoints except for at 1 month, all  $p$ 's < .001. Further, dual-earner fathers significantly increased in their involvement from 4 months to 8 months with both children, in general, whereas single-earner fathers decreased their involvement in infant and firstborn care from 1 month to 4 months and then maintained stable levels (see Table 2). Dual-earner fathers were more involved than single-earner fathers in the care of both infants and firstborns, in general. It is important to note that both dual-earner and single-earner fathers were equally involved in the care of their children one month following the birth, but after this initial period of adjustment, dual-earner fathers increased their levels of involvement over time, whereas single-earner fathers began to decrease their involvement after the first month.

### **Analysis Plan to Test Juggling between Firstborns and Infants and Differences between Dual- and Single-Earner Families**

In order to examine the interrelations between the trajectories of fathers' involvement with firstborn children and their infant siblings, we conducted latent growth curve models with two parallel processes (i.e., dual-trajectory model). As recommended by Bollen & Curran (2006), the first step in fitting a dual trajectory model is to fit separate single latent growth curve trajectories for each individual process (i.e., father involvement with firstborns and father involvement with infants). Predictors and covariates of the latent intercepts and slopes were added once optimal-fitting models were estimated at each step (Bollen & Curran, 2006). We compared two preliminary models for each latent growth curve, one that estimated a linear slope using slope weights that corresponded to the time points of the study (1, 4, 8, 12) and set error variances to be equal across time points, and a second model, where error variances across time points freely varied. The first model that set equality constraints for error variances across time points fit poorly for both firstborns, RMSEA = .23, CFI = .81,  $\chi^2(8) = 94.40$ ,  $p < .05$ , and infants, RMSEA = .13, CFI = .94,  $\chi^2(8) = 36.71$ ,  $p < .05$ , in comparison to the model that allowed variances across timepoints to vary freely for firstborns, RMSEA = .12, CFI = .97,  $\chi^2(5) = 20.68$ ,  $p < .05$ ,  $\chi^2_{diff}(3) = 73.72$ ,  $p < .001$ , and

infants, RMSEA = .15, CFI = .95,  $\chi^2(5) = 27.81$ ,  $p < .05$ ,  $\chi^2_{\text{diff}}(3) = 8.9$ ,  $p < .05$ . These results indicated that variances for father involvement varied over time for both infants and firstborns, so we used these models for further model building of our dual trajectories.

Once the best fitting individual latent growth curve models were determined, we then set out to model dual trajectories through two parallel processes by allowing the latent intercepts, slopes, and error variances within time points between the firstborn and infant care trajectories to covary to model the dependence between firstborn and infant care within families (Bollen & Curran, 2006). The intercorrelations within timepoints between firstborn and infant care reflect covariation in reported father involvement within a given time point that was not accounted for by the growth factors. Figure 1 presents the two-parallel process model used to test the “juggling process,” showing how initial father involvement with the firstborn at 1 month (firstborn intercept) predicted change in father involvement with the infant over time (infant slope), by regressing the latent slope factor for firstborns onto the latent intercept for infants and the latent slope for infants onto the latent intercept for firstborns (Bollen & Curran, 2006). If the juggling process was present, we would see significant paths between the intercept for firstborn care to the slope of infant care, and vice versa.

Because we were interested in whether this juggling process differed for dual-earner and single-earner families, we estimated a multi-group model that imposed equality constraints on all model parameters across dual- and single-earner families and compared this model with a model that released all equality constraints between dual- and single-earner families, except on the error variances of each time point between groups. The chi-square difference test indicated that the model releasing equality constraints fit better than the one with equality constraints,  $\chi^2_{\text{diff}}(18) = 55.99$ ,  $p < .001$ , and the fit was acceptable: RMSEA = .10, CFI = .95,  $\chi^2(44) = 92.54$ ,  $p < .05$ , which indicated that there were differing processes in father involvement between dual- and single-earner families. Table 3 presents the means and variances of the intercepts and slopes for the latent growth curves of father involvement in firstborn and infant care<sup>1</sup>. The means (fixed effects) of the intercepts reflect the initial mean levels of father involvement at 1 month for children and infants whereas the means of the slopes reflect the average change over time in father involvement for children and infants. The variances (random effects) reflect whether there is significant variability around the intercepts and slopes suggesting there are individual differences in the growth parameters within families. On average, both dual- and single-earner fathers slightly decreased in their involvement with their firstborns over time (i.e., significant negative slopes), but there was no significant variance in the slopes for fathers' involvement in firstborn care over time for either single-earner or dual-earner families. Table 4 also reveals that father involvement in infant care significantly increased in both dual- and single-earner families over time, with significant variation for both families.

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<sup>1</sup>Because the inclusion of regression paths between growth factors changed the slopes to dependent variables, only the errors between latent factors could be correlated, instead of the latent factors themselves. As a result, we were not able to obtain the means and variances of the slope factors based on the hypothesized model. Thus, we estimated a version of the unconditional dual trajectory that removed the regression paths and replaced it with correlations, and model fit was identical to unconditional juggling model.

Our final model building step added predictors of intercepts and slopes to test whether gender role beliefs, work-family conflict, and work hours predicted father involvement. Firstborn age was added as a covariate. The model had adequate fit, RMSEA = .09, CFI = .93,  $\chi^2(76) = 143.18$ ,  $p < .05$ . Figure 3 presents the significant paths from the final model examining the manner in which parental gender roles predicted father involvement across two children in dual-earner and single-earner families. Note that because the means of the firstborn slope were negative for both dual- and single-earner fathers, positive regression coefficients with firstborn slope are interpreted as contributing to flatter decline over time (i.e., maintenance). In contrast, because the means for infant slope were positive, positive regression coefficients are interpreted as contributing to steeper increases over time.

### **Findings: Do Fathers Juggle Childcare between Children, Does it Differ by Family Structure?**

To confirm whether fathers juggled care between children over time, we evaluated whether the regression paths from firstborn intercept to infant slope and from infant intercept to firstborn slope were significant. In both types of families, the more fathers were involved with infants at 1 month, the more they remained involved in the care of firstborns over time. Wald tests of the regression path from infant intercept to firstborn slope revealed no significant difference between dual- and single-earner families,  $p = .96$ . The intercept of firstborn care though was not a significant predictor of the slope of infant care in either dual- or single-earner families. See Figure 2 for unstandardized and standardized estimates of significant paths. Put another way, in both dual- and single-earner families, it appears that even though initial father involvement in infant care predicted continued involvement with firstborns over time, fathers were not necessarily juggling child care across children as involvement with firstborns at 1 month was not predictive of involvement with infants over time. Thus, our juggling hypothesis was only partially supported. Dual-earner fathers did not engage in more juggling than single-earner fathers, and the juggling process appeared to only work one way (involvement with firstborn influencing involvement with infant). The reasons for this finding are not entirely clear, but two possibilities stand out. First, initial involvement with the firstborn was similar for both dual- and single-earner fathers suggesting that men were stepping in and caring for the firstborn while mothers were caring for the infant (specialization hypothesis) so the initial firstborn intercept value was more similar than different across families. Second, fathers in dual-earner and single-earner families then began to follow different paths over the year with dual-earners becoming more involved and single-earners less involved. Thus, what transpired in the first month (more similar than different) was not able to predict differing trajectories, one increasing and the other decreasing.

### **Do Gender Role Beliefs and Work-Family Conflict Shape Father Involvement with Firstborns and Infants? Are There Differences between Dual- and Single-Earner Families?**

To confirm whether father involvement was predicted by gender role beliefs and work factors, we interpreted whether regression paths from gender role beliefs, work-family conflict, and work hours to firstborn and infant intercepts and slopes were significant (see Figure 2). Dual-earner fathers were more involved in the care of the firstborns at 1 month (i.e., intercept) when fathers held more egalitarian gender roles before the birth. Gender role

beliefs did not emerge as a significant predictor of single-earner father involvement with firstborns at 1 month, and this difference between dual- and single-earners was significant,  $Wald z = -2.20, p < .05$ . Thus, our hypothesis that gender role beliefs would predict father involvement more strongly for dual-earner fathers compared to single-earner fathers was supported. Work hours did not emerge as a significant predictor of father involvement in either dual- or single-earner families. Both dual-earner and single-earner fathers' work-family conflict was negatively associated with father involvement with the infant at 1 month, and there was no significant difference between dual- and single-earners, supporting our hypothesis that greater work-family conflict would interfere with father involvement. Finally, when firstborns were older, fathers were more involved with infants at 1 month and maintained their involvement with infants over time (i.e., infant slope) in dual-earner families only.

Taken together, there was partial support for our hypothesis that gender role beliefs and work-family conflict would be better predictors of father involvement in dual-earner families than single-earner families. Gender role beliefs shaped involvement with firstborns at 1 month in dual-earners only, but work-family conflict predicted father involvement in infant care similarly for dual- and single-earner families. Interestingly, father involvement with infants at 1 month also appeared to mediate fathers' work-family conflict and involvement with the firstborns over the year in both types of families. The more conflict between work and family roles at 1 month, the less fathers were involved in the initial care of their infants and the less likely they were to remain involved in the care of the firstborn.

## Discussion

In this study, we examined mean levels of father involvement and processes underlying involvement after the birth of a second child in dual- and single-earner families. Overall, fathers were more involved with firstborns than they were with infants, but whereas involvement with infants steadily increased throughout the year, involvement with firstborns decreased after the first month. Dual-earner fathers were more involved than single-earner fathers at all timepoints except for the first month, when single-earner fathers were as involved as dual-earner fathers. Whereas dual-earner fathers increased their involvement across the transition after 1 month, single-earner fathers actually decreased their involvement over time. Although *mean levels* of involvement differed between dual- and single-earner families, we found more similarities than differences in *processes* between dual- and single-earner families. Both dual- and single-earner fathers' initial involvement with their infants was constrained by work-family conflict. Both dual- and single-earners exhibited some form of 'juggling' between children, as initial involvement with the infant predicted sustained involvement with the firstborn over the year. Initial involvement with the firstborn did not predict involvement with the infant over the year in either dual- or single-earner families. The only significant difference in processes between dual- and single-earner families was that more egalitarian gender role beliefs predicted dual-earner fathers' greater involvement with the firstborn in the month following the infant's birth.

## **Increases in Infant Care, Decreases in Firstborn Care, and Differences between Dual- and Single-Earner Fathers**

One of the unique aspects of the current study was to consider the mean level of fathers' involvement in child care across the transition from one child to two and how parents managed the care of two young children. Prior research either focused on one child (usually the infant) or averaged fathers' care across multiple children. Although our findings mirror previous work that fathers are more involved with older children than younger children (Pleck, 1997), the unique period surrounding the transition to second-time parenthood sheds light on why fathers may be more involved with older children in two-child families. Perhaps fathers' specialization in caring for the firstborn was a response to mothers' greater involvement with the newborn that also allowed mothers to bond with the infant in the early months. Further, fathers' specialization may also have been necessary as firstborns, around 2.5 years old, on average, required intense hands-on care at a time when mothers may have been busy with the feeding and caregiving demands of the infant. In any event, our results suggest that research that only focuses on infant care after the birth of a second child may seriously underestimate men's contributions to caregiving.

We were also interested in whether father involvement and family processes might differ for fathers in dual-earner and single-earner families given prior research suggesting this might be the case (Barnett & Baruch, 1987; Crouter et al., 1987; Volling & Belsky, 1991). No previous study has compared father involvement after the birth of a second child in dual- and single-earner families. Dual- and single-earner fathers were equally involved at 1 month after the infant's birth, but then diverged in their levels of involvement across the year. Given that mothers in both families were at home at 1 month, the two family ecologies appeared quite similar immediately after the transition, and all fathers may have been required to "step in" and take responsibility for the firstborn. As time progressed, the single-earner fathers stepped back from childcare responsibilities, in general, requiring that single-earner mothers 'double their existence' for both children as the year progressed (Kreppner et al., 1982). It is likely that men in these families were 'living' out their gender ideology, as single-earner fathers reported holding more traditional gender role beliefs and doing less care than dual-earner fathers. Adherence to rigid masculine gender roles can constrict men's interpersonal relationships and cause personal distress (Pleck, 1995), but it is less clear whether adherence to traditional family gender roles emphasizing men's breadwinner roles would be distressing for men, given that men still see economic provisioning as integral to being a good father (Harrington et al., 2013). Previous work on the transition to motherhood has found that women with traditional gender role beliefs were only distressed when their husbands did more childcare than expected (Goldberg & Perry-Jenkins, 2004). Although outside the scope of the current study, future research could address whether the mismatch between desired involvement and actual involvement has consequences for men's adjustment and family functioning after the birth of a child.

### **'Juggling' Childcare at Different Levels in Dual- and Single-Earner Families**

Although it was not surprising to find that dual-earner fathers were engaged in greater levels of childcare than single-earner fathers (e.g., Aldous et al., 1998, Wilcox & Dew, 2013), it was surprising to find that fathers in both dual- and single-earner families engaged in the



same juggling process between children over time. Specifically, fathers' initial involvement with the infant predicted sustained involvement with the firstborn over the year. These results suggested that there are individual differences and that some fathers are more involved with their children than others, even though mean levels of involvement differed across first and second children, and across family earner structure. Although fathers' initial involvement with the infant predicted their continued involvement with the firstborn in the following year, we did not find evidence for the other half of the juggling process; that is, fathers' involvement with the firstborn after the birth did not predict their involvement with the infant over the year. Perhaps the fathers were already at their 'maximum' level of involvement with the firstborns. Indeed, today's working fathers frequently define conceptualize their roles as 'helper' or 'secondary caregiver,' (Harrington et al., 2016) and these attitudes align with their actual levels of involvement (couples in the current study reported that childcare was "usually" the mother's responsibility). Future research is needed to determine whether our findings extend to other contexts outside of the transition to second-time parenthood and how best to model the juggling process.

### **I Should, but I Can't: Gender Role Beliefs and Work-Family Conflict**

Based on previous research, we hypothesized that egalitarian gender role beliefs would predict greater father involvement (Davis & Greenstein, 2009; Evertsson, 2014), but also, that gender role beliefs may play a stronger role in predicting individual differences in fathers' involvement within dual-earner families compared to single-earner families (Barnett & Baruch, 1987). Our hypothesis was partially supported. Dual-earner fathers with more egalitarian beliefs were more engaged in the care of their firstborns at 1 month, whereas gender role beliefs did not predict single-earner fathers' involvement in firstborn care. Gender role beliefs played no part in predicting fathers' involvement with infants, most likely because most of the infant care was being done by mothers for the first four months. Our findings parallel other work that men's beliefs about shared caregiving responsibilities often do not align with actual behavior (Harrington et al., 2016; Harrington et al., 2011), possibly because fathers view other aspects of fatherhood (providing love and emotional support, being a teacher/coach, playing, and being present) as more important than being involved in day-to-day childcare tasks (Harrington et al., 2011). However, the importance of involvement in daily tasks is not to be understated. One of the key tasks of parenting during infancy is to scaffold early emotional regulation skills (Hofer, 1994; Sameroff, 2010) by soothing infants when distressed, engaging in physically and stimulating play and readying an infant for sleep, and not as a mentor or coach. Yet, fathers do recognize that parenting during infancy means 'spending time' with their babies (Harrington, Van Deusen, & Ladge, 2010). When fathers spend less time with their infants, they are less likely to recognize their infants' cues (Bader & Phillips, 2002) and feel less competent as caregivers, which, in turn, diminishes fathers' involvement in their infant's care (Harrington et al., 2013). Thus, although men may not particularly value being involved in day-to-day childcare tasks, perhaps practitioners (e.g., pediatricians) could inform fathers that doing routine childcare tasks helps to build relationships with their children and confidence in their parenting skills.

Unlike gender role beliefs which facilitated father involvement with firstborns in dual-earner families only, work-family conflict was a crucial deterrent to both dual-earner and single-

earner fathers' initial involvement with their infants, and, in turn, involvement with the firstborn over the year. Greater conflict between managing family responsibilities with the demands of work meant that fathers were less involved in the care of their newborns in the month following the birth. Even though work hours were significantly correlated with work-family conflict in both types of families, it was not the amount of time spent at work, but the conflict in managing the stress between family and work that predicted fathers' involvement in infant care. These results suggest that inflexible workplace policies, rather than long work hours, may prevent fathers from being actively involved in family life following an infant's birth. Our findings corroborate previous work on work-family conflict and involvement with preschool-aged and older children (Hart & Kelley, 2006; Radcliffe & Cassell, 2015), suggesting that work-family conflict is a pervasive problem that prevents fathers from being involved throughout their children's lives. Indeed, fathers reporting high levels of work-family conflict described demanding jobs, overbearing bosses, and a competitive office culture at the crux of work-family problems (Harrington et al., 2010). Given that men increasingly value work-life balance as a criteria for employer selection (Harrington et al., 2016), employers may want to consider adopting flexible work arrangements and paternity leave policies to accommodate men's childrearing responsibilities and family roles.

### **Wider Birth Intervals and Increased Father Involvement**

Firstborn children were older in dual-earner than single-earner families when the second child was born, indicating that families with two working parents were spacing their children farther apart, probably, in part, to meet the demands of their workplace and the demands of small children. Further, when firstborn children were older, dual-earner fathers were more likely to be involved in infant care in the first month and maintain their involvement in infant care over the year, suggesting that a wider birth interval was beneficial for dual-earner fathers and their abilities to be engaged in the care of their secondborn infants. Firstborn age did not appear to make much difference in whether single-earner fathers were involved in infant or firstborn care, most likely because single-earner fathers became less involved over time with both children, leaving child care responsibilities primarily to the mother. Because older firstborn children at the time of the infant's birth were more autonomous and required less hands-on care and direct supervision, dual-earner fathers were available to provide more infant care immediately following birth and over the year after the birth. Increased father involvement with the infant may help dual-earner couples adjust as they balance both work and childcare responsibilities during the transition. Thus, if greater equity in childcare is a goal for couples, one recommendation may be to increase the birth interval between the births of first and second children so that dual-earner fathers can be more involved with both children.

### **Study limitations**

Despite the unique focus on balancing care of two children after the birth of a second child, there are several limitations to the current study that must be noted. First, the sample was mostly white and middle-class, limiting the generalizability of our results to families from other ethnic and racial backgrounds. Our results can also only be generalized to other families with two children, as division of labor between parents may differ in families with only one child or more than two children, or in families with wider birth intervals (more than

5 years). Our measure of father involvement reflected division of labor in the family, rather than as a multidimensional construct. Future research could use alternative measurements that capture the multidimensional nature (e.g., accessibility, engagement) of father involvement instead. Further, because of our interest in gender roles and father involvement after the birth of a second child, we only included heterosexual couples. Given evidence that the division of childcare in same-sex couples is more egalitarian than heterosexual couples (Chan, Brooks, Raboy, & Patterson, 1998; Patterson, Sutfin, & Fulcher, 2004), different dynamics may describe the division of child care responsibilities for same-sex couples. Another limitation is that we measured gender role beliefs at only the prenatal timepoint, assuming that beliefs are often very stable over time (Brooks & Bolzendahl, 2004). It is possible that gender role beliefs may have changed in tandem with changes in childcare responsibilities after the birth of the second child (Katz-Wise, Priess, & Hyde, 2010); thus, measuring gender role beliefs at more than one time point may have provided a more nuanced understanding of the role of parents' gender role beliefs on childcare responsibilities across this transition. Finally, because we excluded couples in which the fathers were not working full-time, our results about single-earner families can only be applied to families in which the father is the primary breadwinner. More research is needed to understand trajectories of father involvement among single-earner families headed by mothers.

### Study Implications

Men's movement towards sensitive, expressive fatherhood will take collective effort from individuals, families, clinicians, workplaces, and communities. Despite men's desires to share childcare equally, the birth of a child often creates environments where pressures from work and from spouses can push men to emphasize their jobs over involvement at home (McKelley & Rochlen, 2016). Notably, adherence to traditional gender norms also increases during the transition to second-time parenthood (Katz-Wise et al., 2010), which further crystalizes gender roles within families and potentially moves fathers further away from sensitive, expressive fatherhood. Our findings show that in both dual- and single-earner families, fathers who are more involved with infant care immediately after the birth of the second child are better able to maintain their involvement with their firstborns. Clinical psychologists and other mental health professionals that work with fathers and families could encourage men to become more involved with the infant soon after the birth, rather than later. If couples are fighting about division of labor, it may be helpful for therapists to orient family discussions toward each parent's contributions in all areas (work, childcare per individual child).

### Conclusions

Traditional gendered expectations of work and family portray fathers as breadwinners and mothers as caregivers (Coltrane, 1996), but changing gender norms are dictating expectations for a more involved fatherhood (Duckworth & Buzzanell, 2009). Indeed, men are increasingly facing the same pressures as women to "have it all" (Harrington et al., 2016). Regardless of whether men were single-earner or dual-earner fathers, these two roles (breadwinner, caregiver) were difficult to manage and work-family conflict limited father involvement in infant care in the first month as well as throughout the year following the

birth of their second child. Further, initial levels of fathers' involvement in infant care predicted their continued involvement in the care of the firstborn over time. Whereas previous work on the division of childcare responsibilities focused either on a single child in the family or aggregated across children, we uncovered different patterns of father involvement when examining individual children. Fathers appeared to specialize in the care of the firstborn in the month following the birth, but trajectories diverged as time went on. These findings suggest that future work on the division of labor after the birth of an infant, may need to consider how involved fathers are with all children in the family, not just the infant, in order to accurately portray the fathers' childcare contributions. Dual-earner fathers increased their child care involvement and single-earner fathers decreased their involvement, in line with the gendered roles of a single breadwinner father and stay-at-home caregiver mother. Based on findings from the current study, future research should consider the differing family ecologies of dual- and single-earner families, how father involvement may differ initially and over time, and what predicts how involved men are in their families. Finally, because work-family conflict deterred both dual- and single-earner fathers from being actively involved, we advocate for greater workplace flexibility and paternal leave policies for men, particularly after the birth of an infant.

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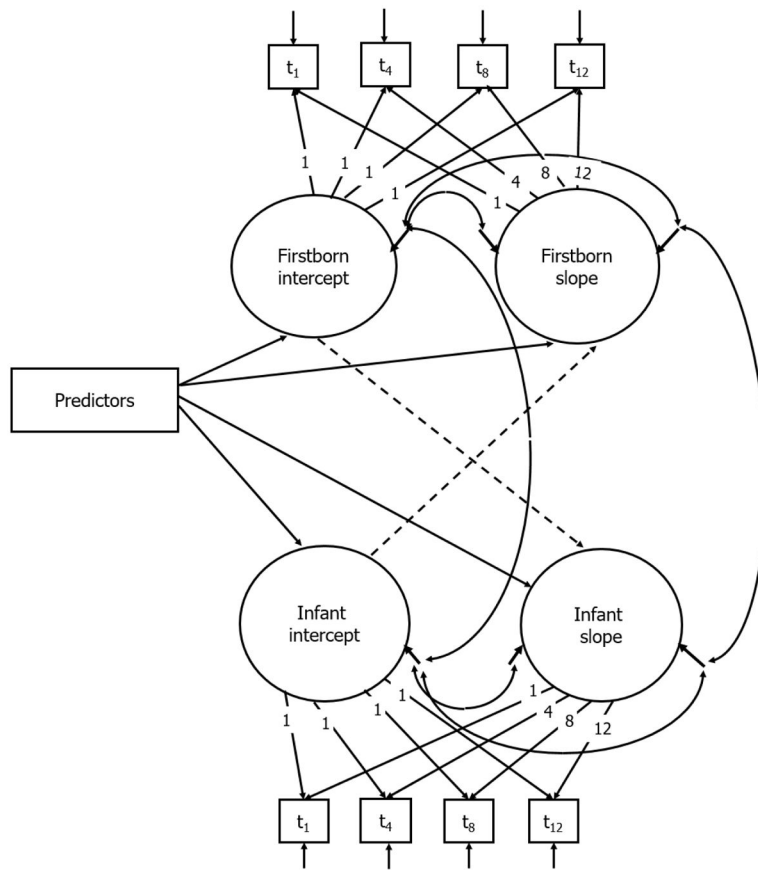
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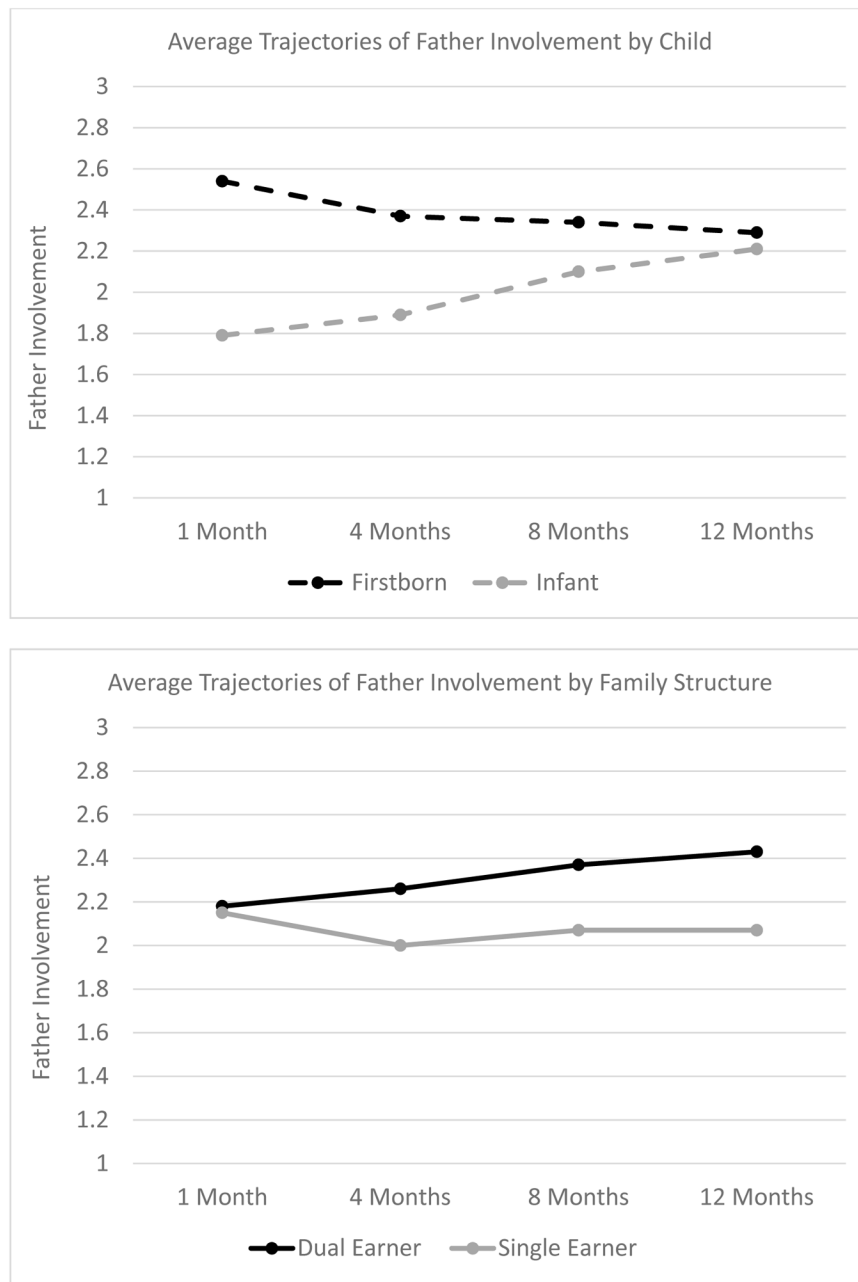
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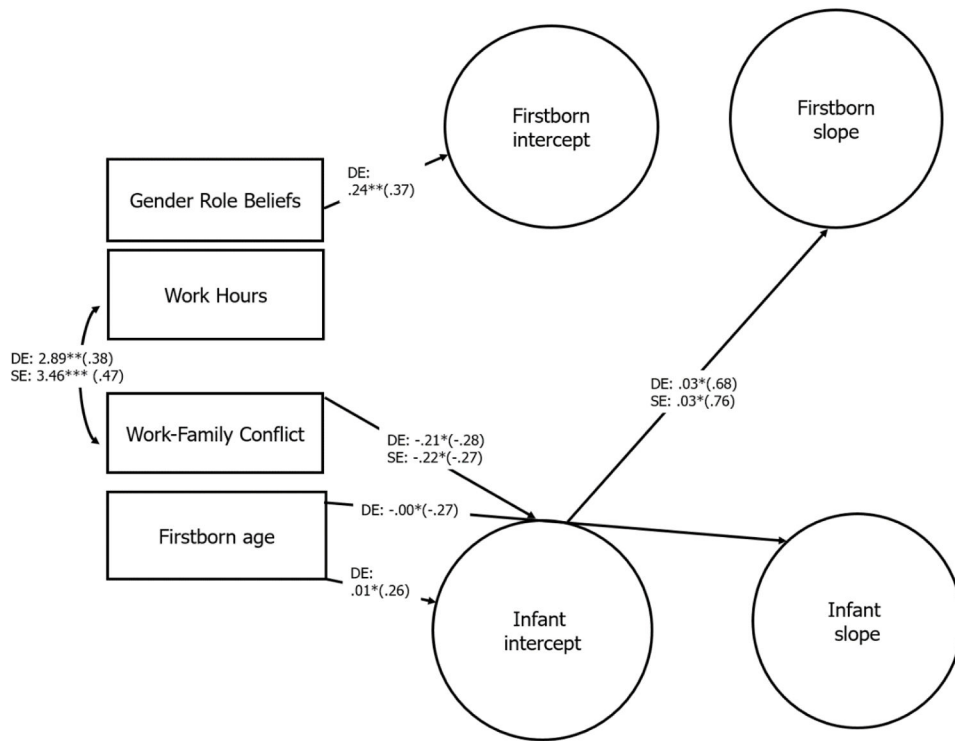
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**Figure 1.** Hypothesized paths in conceptual model. Dashed lines between growth factors depict the ‘juggling’ process. Individual paths between all exogenous predictors (gender role beliefs, work-family conflict, work hours, and firstborn age) onto growth parameters and correlations between exogenous predictors not depicted for graphical ease. Correlations between error variances on time points (e.g., time 1 from infant with time 1 from firstborn) not depicted for graphical ease.



**Figure 2.** Average trajectories of father involvement by child and family structure.



**Figure 3.** Model results illustrating significant paths and unstandardized (standardized estimates in parentheses) coefficients. For ease of presentation, only significant paths and corresponding estimates are depicted. Estimates for dual-earners are labeled DE, estimates for single-earners are labeled SE. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

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**Table 1**

Correlation Matrix and Descriptive Statistics for Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Work-Family Conflict	–	.01	.41**	–.03	–.17	–.14	–.23*	–.11	–.28**	–.20*	–.14	–.21*
2. Gender Role Beliefs	.04	–	–.14	.08	.08	.04	–.02	.08	–.04	.08	.06	.09
3. Work Hours	.34**	–.16	–	–.10	–.29**	–.07	–.12	–.22*	–.24*	–.13	–.11	–.22*
4. Firstborn age	–.05	–.12	–.12	–	.02	.07	–.04	.13	.04	.07	–.01	.17
5. 1 Month Firstborn Care	–.18	.26**	–.28**	–.08	–	.56**	.45**	.51**	.28**	.08	.04	.12
6. 4 Month Firstborn Care	–.20	.31**	–.23*	–.06	.57**	–	.77**	.71**	.23*	.41**	.33**	.31**
7. 8 Month Firstborn Care	–.18	.25*	–.22*	–.01	.58**	.79**	–	.74**	.23*	.34**	.44**	.33**
8. 12 Month Firstborn Care	–.28	.20	–.28**	.08	.43**	.66**	.73**	–	.32**	.44**	.39**	.51**
9. 1 Month Infant Care	–.20	–.08	–.07	.27**	–.02	.09	.20*	.27**	–	.71**	.58**	.52**
10. 4 Month Infant Care	–.16	–.03	.06	.05	–.11	.23*	.24*	.38**	.64**	–	.71**	.64**
11. 8 Month Infant Care	–.20	–.02	–.01	–.01	.03	.40	.41**	.42**	.49**	.77**	–	.81**
12. 12 Month Infant Care	–.14	.04	–.05	–.04	.10	.37**	.41**	.55**	.45**	.66**	.76**	–
Dual-Earner M(SD)	1.85 (.56)	5.56 (.61)	43.31 (13.40)	31.78 (10.79)	2.59 (.57)	2.53 (.42)	2.49 (.47)	2.46 (.43)	1.78 (.47)	1.98 (.53)	2.25 (.52)	2.39 (.52)
Single-Earner M(SD)	1.87 (.54)	5.11 (.73)	45.19 (13.52)	28.34 (9.25)	2.49 (.54)	2.20 (.46)	2.18 (.46)	2.11 (.47)	1.81 (.46)	1.78 (.54)	1.96 (.56)	2.02 (.54)

Note. Correlations for Dual-Earner presented below the diagonal, Single-Earner presented above diagonal.

\*  $p < .05$

\*\*  $p < .01$

**Table 2**

Means and Standard Errors of Father Involvement for the Child x Time and Earner x Time Interactions

<b>Child</b>	<b>1 Month</b>	<b>4 Months</b>	<b>8 Months</b>	<b>12 Months</b>
Firstborn	2.54 <sub>a</sub> (.04)	2.37 <sub>b</sub> (.03)	2.34 <sub>bc</sub> (.04)	2.29 <sub>c</sub> (.03)
Infant	1.79 <sub>a</sub> (.04)	1.89 <sub>b</sub> (.04)	2.10 <sub>c</sub> (.04)	2.21 <sub>d</sub> (.03)
Dual-Earner	2.18 <sub>a</sub> (.04)	2.26 <sub>a</sub> (.04)	2.37 <sub>b</sub> (.04)	2.43 <sub>b</sub> (.04)
Single-Earner	2.15 <sub>a</sub> (.04)	2.00 <sub>b</sub> (.04)	2.07(.04)	2.07(.04)

Note. Standard Errors presented in parentheses. Unique subscripts indicate significant pairwise differences between timepoints within group at  $p < .05$ . All pairwise comparisons are Bonferroni corrected.

**Table 3**

Growth parameters in father involvement for dual and single earner families.

	Dual-Earners		Single-Earners	
	Means M(SE)	Variance M(SE)	Means M(SE)	Variance M(SE)
Firstborn Intercept	2.570 ***(.048)	.157 ***(.034)	2.348 ***(.049)	.145 ***(.033)
Firstborn Slope	-.008 *(.004)	.001 <sup>a</sup> (.001 <sup>a</sup> )	-.021 ***(.004)	.001 <sup>a</sup> (.001 <sup>a</sup> )
Infant Intercept	1.754 ***(.048)	.180 ***(.034)	1.710 ***(.050)	.186 ***(.035)
Infant Slope	.054 ***(.005)	.001 ***(.001 <sup>a</sup> )	.026 ***(.005)	.001 ***(.001 <sup>a</sup> )

Note.

\*  
 $p < .05$ ,\*\*\*  
 $p < .001$ ,<sup>a</sup>Estimated value is  $< .001$ .



**Table 4**

Unstandardized and standardized regression coefficients in final model

Outcome	Firstborn Intercept			Firstborn Slope			Infant Intercept			Infant Slope		
	Dual-Earner	Single-Earner	Single-Earner	Dual-Earner	Single-Earner	Single-Earner	Dual-Earner	Single-Earner	Single-Earner	Dual-Earner	Single-Earner	Single-Earner
Gender Role Beliefs	.24** (.37)		.02(.04)	-.01(-.26)	.00(.11)		-.02(-.03)	-.01(-.02)		-.00(-.05)		.01(.15)
Work-Family Conflict	-.11(-.15)		-.16(-.24)	.01(.15)	.01(.20)		-.21*(-.28)	-.22*(-.27)		.01(.16)		.00(.01)
Work Hours	-.01(-.19)		-.00(-.02)	.00(-.04)	.00(-.09)		.00(.12)	.00(-.02)		.00(-.00)		.00(-.04)
Firstborn Age	-.00(-.10)		.00(.01)	.00(.05)	.00(.04)		.01*(.26)	.00(.00)		-.00*(-.27)		.00(.07)
Firstborn Intercept												
Infant Intercept				.03*(.68)	.03*(.76)					.04(.40)		.02(.19)

Note.

\*  $p < .05$ ,

\*\*  $p < .01$ ,

standardized coefficients presented in parentheses. Greyed out boxes represent error covariances between growth parameters.