Fathers' Paternity Leave-Taking and Children's Perceptions of Father-Child Relationships

Richard J. Petts, Ball State University
Chris Knoester, The Ohio State University
Jane Waldfogel, Columbia University

Abstract

Paternity leave-taking is believed to benefit children by encouraging father-child bonding after a birth and enabling commitments to father engagement. Yet, no U.S. studies have directly focused on the associations between paternity leave-taking and children's subsequent reports of father-child relationships. This study uses five waves of data on 1,319 families from the Fragile Families and Child Wellbeing Study to analyze the associations between paternity leave-taking and nine-year-old children's reports of father-child relationships. We also assess the extent to which these associations are mediated by father engagement, coparenting quality, parental relationship satisfaction, and father identities. Results indicate that leave-taking, and particularly taking two weeks or more of leave, is positively associated with children's perceptions of father involvement, father-child closeness, and father-child communication. These associations are at least partially explained by father engagement, parental relationship satisfaction, and father identities. Overall, the results of this study highlight the linked lives of fathers and their children and suggest that paternity leave-taking can lead to improved father-child relationships.

Keywords: family policy; family roles; father-child relations; fatherhood; paternity leave; parental leave

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Parental leave has received increased attention in the U.S. as more states have adopted paid family leave policies, and research suggests that increased access to, and usage of, parental leave provides numerous benefits to families and the larger society. Although paternity leave per se has received a lesser focus, its benefits seem to include alleviating work-family conflict, assisting mothers in their childbirth recovery and return to the labor market, encouraging father involvement, and improving parents' relationships (Bratberg & Naz, 2014; Johansson, 2010; Petts & Knoester, 2018b; Pragg & Knoester, 2017; Redshaw & Henderson, 2013).

Paternity leave may also help to nurture high-quality father-child relationships. Paternity leave-taking may influence subsequent father-child relationships by providing fathers with time to bond with their child from birth, enabling fathers to learn how to be an engaged parent, and encouraging commitments to nurturing father identities (Almqvist & Duvander, 2014; Bünning, 2015; Haas & Hwang, 2008; Huerta et al., 2014; Pragg & Knoester, 2017; Rehel, 2014). These processes seem to encourage fathers to become sensitive and responsive parents – two parenting attributes that are fundamentally important to child development and for establishing good parent-child relationships (Carlson, 2006; Waldfogel, 2006). Paternity leave may also enable fathers and mothers to learn to share in the meaningful time following a birth together as well as establish patterns of coparenting, which may strengthen parental relationships (Almqvist & Duvander, 2014; Kotsadam & Finseraas, 2011; Petts & Knoester, 2018b). As such, paternity leave-taking may provide early benefits to children that may accumulate over time, leading to enhanced father-child relationship quality later in childhood that may ultimately promote greater child well-being (Huerta et al., 2014; Kotsadam & Finseraas, 2011; McLanahan & Beck, 2010; Petts & Knoester, 2018b; Pragg & Knoester, 2017).

Despite numerous studies linking paternity leave-taking to father involvement (e.g., Haas & Hwang, 2008; Huerta et al., 2014; Nepomnyaschy & Waldfogel, 2007; Petts & Knoester, 2018a; Pragg & Knoester, 2017), researchers have yet to show convincing evidence of the implications of paternity leave-taking for children's perceptions of their relationships with their fathers. The current study seeks to address this gap in the literature by analyzing the associations between paternity leave-taking and children's reports of father-child relationships when they are approximately 9 years old. As part of this analysis, we consider whether associations between paternity leave-taking and father-child relationships are mediated by father engagement, coparenting support, parental relationship satisfaction, and father identities.

Beyond the focus of the study, our research is unique because it uses a national sample of relatively disadvantaged families, who may be more likely to benefit from paternity leave-taking than families who are better off (Knoester & Petts, 2018; Lichtman-Sadot & Bell, 2017; McKay, Mathieu, & Doucet, 2016; Winston, 2014). The use of children's reports of father-child relationships is also unique, offering insight into how children perceive fathering behaviors and their own father-child relationships. The use of children's reports also minimizes concerns with same-source bias that accompany a reliance on only parents' reports. Moreover, the current study contributes to our understanding of the potential implications of paternity leave within the context of the United States, which is important given the lack of a national paid parental leave policy in the U.S. Thus, the findings of this study may be particularly important in considering the potential benefits of more widely available paternity leave-taking opportunities

Conceptual Framework

The conceptual framework for this study builds upon previous presentations of the relevance of father identities for paternity leave-taking and subsequent fathering activities (Goldberg, 2015; Pragg & Knoester, 2017). This work emphasizes that expectations for fathering

have changed in recent decades such that fathers are increasingly expected to be more involved in their children's lives, beyond contributing as breadwinners. Relatedly, father identities shape, and are responsive to, fathering expectations and experiences.

We also utilize life course and cumulative advantage frameworks to better understand the implications of paternity leave-taking for children. These are distinct, but complementary, frameworks that focus on the importance of social contexts; statuses, structures, and events early in life have implications for later life outcomes, and advantages early in life may accumulate and result in additional advantages later in life (DiPrete & Eirich, 2006; Elder, 1998; Merton, 1968).

Three main aspects of these frameworks are relevant for this study. First, it is important to acknowledge that individual experiences occur within a particular sociohistorical context (Elder, 1994). As such, any examination of the potential benefits associated with paternity leave should consider the current social and historical context of paternity leave opportunities and patterns within the U.S. Second, although these frameworks often focus on structural advantages, they also acknowledge that positions within the structure, and access to potential advantages, are shaped by individual actions (Elder, 1994; Ferraro, Shippee, & Schafer, 2009). Consequently, a focus on paternity leave should consider both access to leave as well as an individual's choice of whether to take leave and for how long. Third, the life course perspective highlights the importance of linked lives – the idea that individuals are embedded within the lives of their family members (Elder, 1994; Gilligan, Karraker, & Jasper, 2018). This concept highlights that any potential benefits associated with paternity leave will not just matter for fathers, but may also have consequences for family members that fathers are linked to – including mothers and children. In sum, these consequences may result in fathering behaviors that offer accumulating advantages and/or disadvantages (McLanahan, 2004; Petts & Knoester, 2018a). Thus, the life

course and cumulative advantage frameworks are useful in theorizing whether and how contexts early in life may shape later childhood outcomes, such as the quality of father-child relationships. We utilize these frameworks to consider whether access to, and commitments to take, paternity leave in the current U.S. context may provide advantages for families that may be borne out in father-child relationship quality. In the process, we consider the extent to which paternity leave-taking may be linked to father-child relationship quality because of patterns of father engagement, parental relationship dynamics, and father identities.

The Social and Historical Context of Paternity Leave in the U.S.

It is important first to consider the current structure of paternity leave in the United States. The U.S. is unusual in that it is the only high-income country, and one of only a handful of countries in the world, that does not have a statutory paid parental leave entitlement (Blum et al., 2018). Most OECD countries also guarantee paid leave to fathers (Blum et al., 2018; Raub et al., 2018). Instead, the Family and Medical Leave Act (FMLA) provides up to 12 weeks of unpaid leave to parents after childbirth for U.S. employees who meet eligibility requirements (Blum et al., 2018). There are also four states that currently have paid family leave policies (California, Rhode Island, New Jersey, and New York), with similar policies being implemented in the future in other places (Washington in 2020, Washington, D.C. in 2020, and Massachusetts in 2021). These policies vary in their level of wage replacement, amount of time offered, and job protection (National Partnership for Women and Families, 2018). In addition, 16% of workers have access to paid family leave from their employers (Bureau of Labor Statisics, 2018).

Furthermore, more advantaged fathers (i.e., high-income fathers, highly educated fathers, and fathers in professional occupations) are more likely to have access to paternity leave from their employers than less advantaged fathers (Klerman, Daley, & Pozniak, 2012; Winston, 2014).

As such, access to paid paternity leave may be a form of cumulative advantage offered primarily to fathers who are already relatively privileged in the labor market.

In addition to structural barriers, cultural barriers to leave-taking also exist for American fathers. Traditional norms of masculinity and the ideal worker norm both emphasize that men should prioritize work and always be available to work (Acker, 1990; Marsiglio & Roy, 2012; Williams, 2000). Pressure to adhere to these norms lead men to be fearful that taking paternity leave may result in workplace stigmatization, and evidence suggests that requesting leave is associated with lower performance ratings, lower future earnings, and workplace stigmas (Rege & Solle, 2013; Rudman & Mescher, 2013; Williams, Blair-Loy, & Berdahl, 2013). As such, even if fathers have access to paid leave from their employers, they may not use it.

Despite the lack of access and cultural barriers to paid paternity leave in the U.S., as much as 88% of fathers take some time off after the birth of a child (Petts & Knoester, 2018a; Pragg & Knoester, 2017). However, less than half of fathers take paid leave and few workers take leave under FMLA (Klerman et al., 2012; Petts, Knoester, & Li, 2018). Thus, many fathers may rely on other ways of taking time off such as sick and personal days (Harrington et al., 2014). Perhaps not surprisingly, fathers in the U.S. take relatively short periods of leave with average leaves lasting one week or less, and more advantaged fathers take longer periods of leave, on average (Harrington et al., 2014; Petts, Knoester, & Li, 2018; Pragg & Knoester, 2017).

Overall, the structure of paternity leave in the U.S. contributes to inequality such that only those who have access to (and are willing to take) leave may experience the potential benefits of paternity leave. Given that access to leave varies by socioeconomic status, the current structure may contribute to accumulating advantages or disadvantages by further dividing families by whether they are parental-leave rich or parental-leave poor (McKay et al., 2016;

McLanahan, 2004; O'Brien, 2009). This divide may be particularly consequential today given the challenges that modern parents face (Marsiglio & Roy, 2012; Waldfogel, 2006).

Paternity Leave and Father-Child Relationships: Linked Lives and Accumulating Advantages

According to both the life course and cumulative advantage frameworks, experiences early in life are important, and access to potential advantages can begin even before birth due to variations in prenatal care and father involvement during pregnancies, for example (Gilligan et al., 2018). Furthermore, parenting practices after birth are important for child development and often have long-term implications for children's well-being (Carlson, 2006; DiPrete & Eirich, 2006; Gilligan et al., 2018; Waldfogel, 2006). These parenting practices may vary by parents' levels of financial, human, and social capital, which may result in cumulating advantages or disadvantages over time (Coleman, 1998; McLanahan, 2004). For example, parents with higher levels of financial, human, and social capital may maintain stronger parental and coparenting relationships that help to promote more favorable outcomes for children. In contrast, parents with fewer resources may experience strains and stresses that pose relationship challenges and contribute to lower child well-being (Elder, 1994; DiPrete & Eirich, 2006; McLanahan, 2004; McLanahan & Beck, 2010; O'Rand, 2006). Thus, access and exposure to resources early in life, typically through one's parents, contribute to accumulating advantages throughout the life course (DiPrete & Eirich, 2006; McLanahan, 2004; 2009; McLanahan & Beck, 2010).

Access to paternity leave may be one potential resource for families. Because family members are interdependent, or linked, children may benefit from any advantages that paternity leave-taking provides to families (Elder, 1994; McLanahan, 2004). One potential benefit of paternity leave is the opportunity for fathers to have a dedicated period of time off work to bond

with and learn about their new child. Spending time with a child increases the likelihood that a father will know how to meet his child's needs, enabling fathers to become sensitive and responsive parents (Lamb & Lewis, 2010; Waldfogel, 2006). As such, leave-taking may help to promote fathers' sensitivity and attachment by allowing fathers to spend time with their children from birth. Although periods of paternity leave are relatively short in the U.S., shorter leaves (i.e., leaves of less than two weeks) have been found to be associated with father-child bonding and fathers' family behavior in other cultural contexts (Pailhé, Solaz, & Tô, 2018). Furthermore, spending time with a newborn child can provide fathers with joy, encourage feelings of generativity, and help fathers to establish identities as caring, engaged fathers (Lamb & Lewis, 2010; McKeering & Pakenham, 2000). As part of this process, fathers may become more confident and committed to fathering roles (Pragg & Knoester, 2017; Rehel, 2014).

By providing time for fathers to develop paternal sensitivity and attachment to their child, paternity leave may also help to promote better father-child relationships. Parental sensitivity and responsiveness are important, as these characteristics help to facilitate children's attachments to their parents and often lead to fewer behavior problems and more positive social, emotional, and cognitive development throughout childhood (Carlson, 2006; Lamb & Lewis, 2010; Rothbaum & Weisz, 1994; Sroufe, Carlson, & Shulman, 1993; Waldfogel, 2006). Fathers who are attached to children early in life are also more likely to have closer relationships with their child later in life (Brown, Mangelsdorf, & Neff, 2012; Cabrera, Fagan, & Ferrie, 2008; Lamb & Lewis, 2010), and the benefits of paternity leave may be particularly important within a population that has high rates of partnership instability (Knoester & Petts, 2018; McLanahan, 2009). Thus, early experiences in children's lives – including fathers' leave-taking behaviors – may be associated with father-child relationships later in childhood. We expect:

Hypothesis 1: Paternity leave-taking will be positively associated with nine-year-old children's perceptions of father-child relationship quality, and this association will be particularly likely if fathers take relatively long leaves (i.e., two or more weeks).

Father Engagement, Parental Relationships, and Father Identities as Mediators

Associations between paternity leave-taking and subsequent father-child relationship quality are thus expected to be due to family processes that occur throughout the life course. For example, the advantage of having access to, and the ability to take, [longer] paternity leaves may lead to reinforcing patterns of father engagement, coparenting support, parental relationship satisfaction, and "good father" identities (i.e., that fathers identify themselves as good fathers), and these cumulative advantages may be associated with stronger father-child relationships later in childhood, particularly among disadvantaged populations (McLanahan, 2009; McLanahan & Beck, 2010; Knoester & Petts, 2018; Petts & Knoester, 2018b; Pragg & Knoester, 2017).

One frequently studied benefit of paternity leave is the potential for leave to increase father engagement. Increasingly, fathers express a desire to be actively engaged in their children's lives but struggle to find time to meet their desired level of involvement (Doucet, 2013; McGill, 2014). By providing time off from work, paternity leave not only allows fathers to establish early bonds with their child but also enables fathers to gain valuable experience as a parent. This experience may increase fathers' confidence in parenting tasks, strengthen father identities, and lead fathers to perceive themselves (and be viewed by others) as competent, engaged parents (Pragg & Knoester, 2017; Rehel, 2014). In turn, the early experiences offered by paternity leave may be associated with more frequent father engagement during infancy, and may also increase the likelihood that fathers remain highly engaged in their child's life throughout childhood (Cabrera et al., 2008; Roggman et al., 2002). Indeed, longer periods of

paternity leave are associated with more frequent father engagement shortly after birth as well as during the first few years of a child's life (Haas & Hwang, 2008; Huerta et al., 2014; Neponmyaschy & Waldfogel, 2007; Petts & Knoester, 2018a; Pragg & Knoester, 2017). Children are also more likely to report good relationships with their fathers if they had a highly engaged father while growing up (Flouri & Buchanan, 2002; Lamb & Lewis, 2010). As such, the associations between longer paternity leaves and father-child relationships may be at least partially mediated by father engagement.

Paternity leave-taking may also be associated with parental relationship dynamics. Individuals increasingly favor egalitarian relationships (Gerson, 2010; Pedulla & Thébaud, 2015), and egalitarianism is associated with higher quality romantic relationships (Carlson, Hanson, & Fitzroy, 2016; Carlson, Miller, & Sassler, 2018; Frisco & Williams, 2003). Taking time off work when a child is born may symbolize fathers' commitments to being an engaged parent that shares coparenting responsibilities. Moreover, paternity leave-taking may provide time for parents to be together during a meaningful time in their lives, and parents may work together to face the challenges of raising a child as well as establish expectations about how childcare will be divided (Almqvist & Duvander, 2014; Bünning, 2015; Rehel, 2014). Through this collaboration, parents may be more likely to perceive the division of labor as equitable and have fewer conflicts (Almqvist & Duvander, 2014; Bünning, 2015; Nomaguchi, Brown, & Leyman, 2017). As such, paternity leave-taking may be positively associated with coparenting support and relationship satisfaction (Kotsadam & Finseraas, 2011; Petts & Knoester, 2018b).

Parents' relationship quality is also associated with father-child relationship dynamics. Two mechanisms may explain this association. First, there is evidence of a spillover effect; a positive, supportive relationship between parents may lead parents to be more supportive in other

relationships such as those with children (Cox, Paley, & Harter, 2001; Erel & Burman, 1995). Conversely, parents' relationship problems may spillover into parent-child relationships (Cox et al., 2001). Second, higher quality parental relationships may help children to feel secure within their families (Davies & Cummings, 1994). Increased emotional security may help children to feel more attached to their parents, which may be associated with their perceptions of parent-child relationships (Cox et al., 2001; Davies & Cummings, 1994; Erel & Burman, 1995; Grych & Fincham, 1990). Thus, parents' coparenting support and relationship satisfaction may partially mediate the association between paternity leave-taking and father-child relationship quality.

Paternity leave-taking may also help to strengthen and promote "good father" identities. That is, fathers may be more likely to consider themselves as fulfilling fathering expectations and acting as a good father if they take paternity leave. Furthermore, having time off work may enable fathers to bond with their child and become more confident in their responsibilities as a parent (Pragg & Knoester, 2017; Rehel, 2014). Having opportunities to parent and committing to fathering behaviors may further increase the likelihood that men develop "good father" identities (Pasley et al., 2014; Rane & McBride, 2000). Moreover, identities that entail having positive attitudes towards fathering are associated with greater father involvement (Goldberg, 2015; Pragg & Knoester, 2017). Similarly, fathers who embrace involved father identities and more nurturing, engaged roles for fathers are more likely to be engaged in their children's lives and provide emotional support to their children (Petts, Shafer & Essig, 2018; Rane & McBride, 2000). Thus, it seems likely that paternity leave-taking may encourage the development and strengthening of "good father" identities, which may reinforce patterns of positive fathering activities. These cumulative advantages of fathering commitments may promote better father-child relationships. Overall, we expect:

Hypothesis 2. The associations between paternity leave-taking and children's perceptions of father-child relationship quality will be at least partially mediated by father engagement, co-parenting support, parental relationship satisfaction, and father identities.

Other Factors

A number of factors may confound the association between paternity leave and father-child relationship quality. As noted earlier, fathers with higher SES are more likely to have access to leave and take longer periods of paternity leave than less advantaged fathers (Huerta et al., 2014; Petts, Knoester, & Li, 2018; Winston, 2014). Father-child relationships may also be more tenuous in disadvantaged populations (Edin & Nelson, 2013; McLanahan, 2004). Fathering attitudes at the time of the child's birth may also influence fathers' leave-taking as well as relationship dynamics with their child (Duvander, 2014; Lamb, 2010; Petts, Knoester, & Li, 2018). Moreover, other contextual factors such as child age and gender, religious participation, and relationship status with the child's mother may each influence patterns of leave-taking (e.g., married fathers may take longer leaves than unmarried fathers) as well as father-child relationships (e.g., father-child relationships are stronger when parents remain together) (McLanahan, 2009; Petts, Knoester, & Li, 2018).

Method

Data

Data for this study come from the Fragile Families and Child Wellbeing Study (FFCW). The FFCW is a longitudinal birth cohort study that follows 4,898 children born between 1998 and 2000 and their parents. Fragile families are defined as unmarried parents and their children, and these data consist of an urban sample with high percentages of low-income, minority, and unmarried parents (although married parents were also included). Parents were interviewed

shortly after birth (W1), and then approximately one (W2), three (W3), five (W4), nine (W5), and fifteen years later (W6). Starting at W5, children were also interviewed. For this study, we utilize data from W1 (information about parents at birth), W2 (paternity leave indicators), W4 (mediating variables) and W5 (children's reports of father-child relationships).

Participants

The sample is restricted to families in which fathers were employed at the time of the child's birth (to be eligible to take paternity leave) and returned to work following the birth, families who were asked questions about paternity leave, and families in which fathers were interviewed at W2, mothers and fathers were interviewed at W4, and children were interviewed at W5. To reduce endogeneity problems, fathers who reported not having access to leave were omitted (N = 29) to focus on fathers who presumably were able to take time off after having a child (results including these fathers are similar to those presented). These restrictions result in a sample size of 1,319 families.

Paternity Leave-Taking

For this study, we define paternity leave-taking as taking time off for the birth of a child, regardless of whether fathers utilized a paternity leave policy (as this information is not included in the data). Fathers reported on whether they took any time off of work after the birth of the focal child, and how many weeks of leave (paid or unpaid) they took, in the W2 survey. *Paternity leave-taking* is categorized as (a) no leave (used as reference category), (b) one week, and (c) two or more weeks of leave. A categorical measure is used because supplemental analyses suggested that the associations between length of paternity leave and the outcome measures were not always linear (this approach also allows for a direct comparison to the selection models). Supplementary analyses suggest that the categories for two weeks of leave

and more than two weeks of leave were not substantively different from one another, and are combined in this study due to the relatively small number of fathers who took more than two weeks of leave (less than 7% of fathers in this sample).

Father-Child Relationships

Children reported on the quality of their relationships with their fathers at W5. *Father involvement* measures children's perceptions of how often (0 = *never* to 3 = *always*) their fathers spend enough time with them. *Father-child closeness* indicates how close children feel to their fathers (1 = *not very close* to 4 = *very close*). *Father-child communication* reflects children's reports of how well the they share ideas or talk about things that really matter with their father (1 = *not very well* to *4 = extremely well*) as well as how often (0 = *never* to 3 = *always*) their fathers (a) talk over important decisions with them and (b) listen to their side of an argument. These three items were standardized ($M = 0$; $SD = 1$) and the mean is used as the indicator ($\alpha = .73$).

Mediating Variables

Measures for each of the mediating variables are taken from the W4 survey that occurred approximately 5 years after the child's birth. *Father engagement* is based on how many days per week fathers reported engaging in eight activities such as playing with toys, reading, and singing songs to their child ($\alpha = .88$). Mean responses are used. *Coparenting support* is taken from mothers' responses to questions about how often (1 = *rarely true* to 3 = *always true*): (a) father acts like the father you want for your child, (b) you can trust father to take good care of child, (c) father respects the schedules and rules you make for child, (d) father supports you in the way you want to raise child, (e) you and father talk about problems that come up with raising child, and (f) you can count on father for help when you need someone to look after child for a few hours ($\alpha = .81$). The mean response is used. *Relationship satisfaction* indicates mothers' ratings of their

relationship with the child's father (1 = *poor* to 5 = *excellent*). The indicator of a *"good father" identity* is taken from fathers' responses to the question "what kind of father do you think you are?" Responses were not very good, good, very good and excellent. Due to a small number of fathers responding "not very good" (N = 16), the final variable ranges from 0 = *good or not very good* to 2 = *excellent*.

Control Variables

Control variables are taken from the W1 survey. These include mothers' and fathers' age, educational attainment (1 = *did not complete high school* to 4 = *college degree*), and race/ethnicity (White, Black, Latino, or other race/ethnicity, with White used as reference category). Parents' work hours is categorized as (a) part-time (less than 35 hours a week) or (b) full-time (35 a week or more, used as reference category). An additional category of does not work is included for mothers. Relationship status with the mother is categorized as (a) married (used as reference category), (b) cohabiting, and (c) nonresident. Controls are also included for fathers' (0 = *less than $10,000* to 8 = *$75,000 or more*) and mothers' income (0 = *less than $5,000* to 6 = *$30,000 or more*), number of other children, whether focal child is father's first child, child age (at W5), child gender (1 = *male*) father's religious participation (0 = *never* to 4 = *once a week or more*), whether fathers did not establish paternity in the hospital, and mother's self-reported health (0 = *poor* to 4 = *great*). Change scores for key control variables (income, work hours, relationship status with mother) were included in supplementary models to assess whether changes in these factors accounted for the associations between paternity leave-taking and father-child relationships. The substantive conclusions were similar in these models (models available from the authors, upon request).

Variables that reflect fathers' attitudes at W1 are also included. *Positive father attitudes* measure fathers' mean level of agreement (1 = *strongly disagree* to 4 = *strongly agree*) on whether (a) being a father and raising children is one of the most fulfilling experiences for a man, (b) I want people to know that I have a new child, and (c) not being a part of my child's life would be one of the worst things that could happen to me ($\alpha = .70$). In the FFCW, fathers were also asked to identify which fathering role (provide financial support, teach child about life, provide direct care, show love and affection, provide protection, or serve as an authority figure and discipline) was most important. *Engaged father attitudes* indicates fathers who identified either providing direct care or showing love and affection as most important. *Traditional gender attitudes* is a dichotomous variable indicating whether fathers agree that it is much better for everyone if the man earns the main living and the woman takes care of the home and family.

Analytic Strategy

To test the first hypothesis regarding whether paternity leave-taking is associated with father-child relationship quality, we use different regression techniques. Ordinary least squares (OLS) regression models are used to estimate children's perceptions of father-child communication at W5, and generalized ordered logistic regression models are used to estimate children's perceptions of father involvement and father-child closeness. Generalized ordered logistic regression is used for these variables because they are ordinal dependent variables, and numerous control variables within these models violate the proportional odds assumption (i.e., that the relationship between all pairs of ordered groups – not very close vs. other options, quite close vs. other options, etc. – is the same, resulting in only one set of coefficients for the model). For example, in the model predicting father involvement, the proportional odds assumption was violated by mother's age, mother's income, mother's work hours, relationship status, child

gender, and whether the child was the father's first child. Generalized ordered logistic regression models allow the proportional odds assumption to be relaxed for variables that violate this assumption, resulting in one set of coefficients for variables that do not violate the assumption, and separate coefficients for each pair of ordered groups for variables that violate the assumption (Williams, 2016). Only coefficients for paternity leave-taking are presented in the tables to simplify the presentation of results and provide a direct comparison to the selection models that we use, but full results can be found in the supplementary materials.

To test the second hypothesis regarding mediation effects, the KHB method is used to assess whether associations between paternity leave-taking and each indicator of father-child relationship quality are mediated by father engagement, coparenting quality, parental relationship satisfaction, and "good father" identities. The KHB method decomposes the overall effect (paternity leave-taking on father-child relationships) into direct and indirect effects using the same scale, and allows for the inclusion of multiple mediators which allows for a comparison of indirect effects across multiple mediators (Breen, Karlson, & Holm, 2013; Kohler, Karlson, & Holm, 2011). Unlike many mediation models, the KHB method is suitable for both linear and nonlinear models (Kohler et al., 2011). Given that nonlinear models are used in this study (ordered logistic regression), the KHB method is an appropriate technique to use.

Most variables have few, if any, missing values (less than 2% missing), with the exception of father's income (10% missing). Regression-based imputation was used to preserve the sample size for all analyses. Results are largely consistent when multiple imputation is used, but these results are not reported because the command used to conduct the KHB analyses (*khb* in Stata 15) only reports total indirect effect in multiply imputed models and does not report coefficients for specific mediating variables.

Selection

We also utilized augmented inverse propensity weighted (AIPW) estimators to assess whether the associations between paternity leave-taking and father-child relationship quality may be due to selection effects. Selection effects are primarily a concern if fathers' reports of leave-taking are driven by unobservable factors (e.g., access to a leave policy, fathers' personality) that are also associated with the outcomes. AIPW estimation is similar to propensity score matching (PSM), which attempts to approximate an experiment where groups are matched on observed covariates such that any difference between the matched groups should be attributed to the treatment. Because PSM is only applicable when there is a single treatment (e.g., did/did not take leave), AIPW estimators are used because there are multiple treatments (i.e., lengths of paternity leave) (Cattaneo, 2010). The process involved using W1 control variables to simultaneously predict paternity leave-taking and the outcome variables (in separate models) in order to estimate the average treatment effects of length of paternity leave. We then omitted cases in which the common support assumption (that propensity scores overlap between the treatment and control groups) was not met. We also assessed whether balance was achieved in each model (i.e., covariates did not differ statistically between the treatment and control groups), and pre- and post-tests suggested that balance was largely achieved (there was less balance on variables with little variance, but results are similar in models that omit these variables). We then ran the final models and include the findings in the reported results.

Finally, we considered whether our analyses may be biased by attrition. Of the fathers who were employed at the time of the child's birth, 33% experienced attrition by W4. Fathers who dropped out of the sample were more disadvantaged at the time of the child's birth than fathers who were interviewed at W4 (e.g., lower income and education, and less likely to be

married, white, and work in a professional occupation). Yet, there was not a statistically significant difference in leave-taking patterns between fathers who remained and dropped out of the sample. To account for attrition bias, Heckman's (1979) two-stage method was used in sensitivity analyses. Because the Heckman procedure did not change the results (results not shown, but available upon request), we present our findings without the Heckman procedure applied.

Results

Summary statistics for all variables are reported in Table 1, and separate mean values are reported by length of leave taken. Results show that fathers in this sample take about a week off after the birth of a child, on average. Only 21% of all fathers (and 27% of fathers who take leave) take two or more weeks off. On average, fathers who take leave have higher levels of father engagement when children are approximately 5 years old compared to fathers who do not take leave, mothers report higher coparenting support and relationship satisfaction if fathers take leave, and fathers rate themselves as better fathers if they take leave. There is also evidence that father engagement is higher and mothers report being more satisfied in their relationships with fathers, on average, when fathers take two weeks or more of leave compared to when fathers take one week of leave. Moreover, children reported more frequent involvement by fathers, greater closeness, and better communication with fathers if fathers took leave, on average. Among families in which fathers took leave, children reported greater closeness and better communication with fathers if fathers took two or more weeks of leave.

We first analyze the associations between paternity leave-taking and children's reports of father-child relationships at age 9 to test our first hypothesis. Results are reported in Table 2. As shown in the first column, taking one ($b = 0.31$, $p < .05$) or two or more weeks ($b = 0.37$, $p < .05$) of leave is positively associated with father involvement. The positive association between

taking two or more weeks of leave and father involvement persists in the selection models, but the association between taking one week of leave is no longer significant, suggesting that this association is likely due to selection effects. Similarly, results indicate that taking one week (b = .33, $p < .05$) or two or more weeks of leave (b = 0.49, $p < .01$) is positively associated with father-child closeness. These results persist in the corresponding selection model. Finally, the results from predicting father-child communication show that taking two or more weeks of leave (b = 0.21, $p < .01$) is positively associated with father-child communication, and this association persists in the selection model. However, taking one week of leave is not associated with father-child communication. Overall, the results in Table 2 largely support the first hypothesis that paternity leave-taking, and especially leaves lasting two or more weeks, is positively associated with nine-year-old children's perceptions of father-child relationship quality.

Results from KHB analyses that are designed to assess the second hypothesis regarding whether the associations between paternity leave-taking and father-child relationships are mediated by father engagement, co-parenting support, relationship satisfaction, and "good father" identities are presented in Table 3 (note that coefficients in Table 3 are slightly different than those in Table 2 because KHB analyses rescale the coefficients to allow these to be directly compared to each other). Consistent with the results from Table 2, the total effect estimates for taking one as well as for taking two or more weeks of leave are positively associated with each aspect of father-child relationship quality (with the exception of the association between taking one week of leave and father-child communication). Furthermore, as expected, there is evidence that the direct effect estimates for the extent to which leave-taking predicts father-child relationship quality become lower and less significant compared to the total effect estimates (often becoming statistically insignificant), after the mediating variables are considered.

There is modest support for our expectations regarding mediation in explaining the associations between one week of leave-taking and father-child relationship quality. Although the total indirect effect estimates for each aspect of father-child relationship quality are not statistically significant, there is evidence that approximately 10-15% of the associations between taking one week of leave and perceptions of father-child relationship quality are explained by "good father" identities. Thus, fathers who take one week of leave may be more likely to identify as a good father five years later compared to fathers who do not take leave, and this in turn is associated with nine-year-old children's perceptions of father-child relationship quality.

As shown in the second panel of Table 3, results for the associations between taking two or more weeks of paternity leave and father-child relationship quality consistently support our hypothesized expectations for mediation. The total indirect effect estimate is statistically significant for each indicator of father-child relationship quality, and the mediating variables collectively explain about one-third of the associations between taking two or more weeks of leave and father-child relationship quality. Furthermore, the results suggest that portions of the associations between taking two or more weeks of leave and father involvement, father-child closeness, and father-child communication when children are 9 years old are explained by patterns of father engagement (11-15% of the total effects explained), mothers' relationship satisfaction (around 13% of the total effects explained), and "good father" identities (9-12% of the total effects explained).

Discussion

Paternity leave-taking is believed to be beneficial to families, but research on these potential benefits is limited—especially within the U.S. context. The current study draws from life course and cumulative advantage frameworks to build upon theories about how father

identities matter for paternity leave-taking and fathering behaviors. We focus on analyzing the extent to which paternity leave-taking is associated with children's reports of father-child relationships nine years after their birth. By utilizing children's reports and longitudinal data, this study advances our understanding of the potential implications of paternity leave-taking. The results suggest that paternity leave-taking, and especially taking two or more weeks of paternity leave, seems to enhance father-child bonds throughout childhood, at least in part because it encourages father engagement, parents' relationship satisfaction, and "good father" identities. Consequently, paternity leave-taking appears to be positively associated with nine-year-old children's perceptions of father involvement, father-child closeness, and the quality of father-child communication.

First, we found support for our hypothesis that paternity leave-taking, and especially relatively long lengths of leave-taking in the U.S. context (i.e., two weeks or more), would be positively associated with father-child relationship quality. Consistent with life course and cumulative advantage frameworks, these findings suggest that early family experiences are important in shaping later family outcomes (DiPrete & Eirich, 2006; Elder, 1998; Gilligan et al., 2018). Specifically, when fathers have the ability to take time off of work after the arrival of a new child– and commit to taking more time off than most fathers typically do in the U.S.– they may be able to more effectively nurture better relationships with their child. Fathers and their children are inextricably linked (Elder, 1994), and having a relatively long period of time (within the context of the U.S.) together immediately following birth may enable fathers and their children to bond (Petts & Knoester, 2018a). This bonding period may increase the likelihood that fathers engage in sensitive, responsive parenting (Lamb & Lewis, 2010; McKeering & Pakenham, 2000). Children may also be more likely to develop secure attachments to their father

(Cabrera et al., 2008; Waldfogel, 2006). As such, paternity leave-taking may help to facilitate a family environment that promotes positive child development and fosters better relationships between fathers and their children.

In addition, we found support for our hypothesis that father engagement, parental relationship dynamics, and father identities would mediate at least some of the relationship between paternity leave-taking and father-child relationship quality. That is, we found evidence that part of the reason why paternity leave-taking may lead to nine-year-old children expressing greater satisfaction with father involvement, feeling relatively closer to one's father, and reporting better father-child communication seems to be that paternity leave-taking links to father engagement, parental relationship satisfaction, and father identities. These results further highlight the interdependence of family relationships, as the linked lives of fathers, children, and mothers are bound to each other (Elder, 1994; McLanahan, 2004). Moreover, these mediating processes suggest that paternity leave-taking patterns may provide advantages to children that accumulate over time. In addition to providing time for fathers and children to bond, leave-taking may also help to strengthen parental relationships and encourage fathers to be, and identify as, engaged and overall "good fathers" (Almqvist & Duvander, 2014; Bünning, 2015; Kotsadam & Finseraas, 2011; Rehel, 2014; Petts & Knoester, 2018b; Pragg & Knoester, 2017). Consistent with previous research and our hypothesized mediation processes, parental relationship dynamics and father identities appear to have implications for the quality of father-child relationships (Cox et al., 2001; Erel & Burman, 1995; Lamb, 2010). Thus, children may benefit both from the initial time with fathers that paternity leave offers as well as from the accumulating benefits from fathering commitments that may add up over time.

Limitations and Future Research Directions

This study has some limitations to acknowledge. First, these data do not contain specific information about what paternity (or parental) leave programs that fathers had access to or what type of leave they took. We define paternity leave as taking time off work for the birth of a child, but fathers who take leave may be using a parental leave policy (time off through the Family and Medical Leave Act or a paid or unpaid workplace parental leave policy) or other forms of leave such as sick, vacation, or personal days (which could be paid or unpaid). We examined variations between paid and unpaid leave in supplementary analyses, and there was some evidence that the observed associations between taking two or more weeks of leave and father-child relationships were stronger when fathers took paid leave. However, these results are not presented given endogeneity and selection concerns. Future studies should focus on type of leave to assess whether certain types of leave are more/less likely to provide benefits to families.

Second, this study does not fully account for potential issues related to selection and endogeneity. It is possible that unobserved factors (e.g., whether fathers have access to paternity leave from their employer, workplace support for taking leave, or differences among fathers in unmeasured factors such as relevant personality characteristics) may be influencing the associations highlighted in this study. To the extent we were able, we accounted for selection due to observed characteristics by using augmented inverse propensity weighted estimators as well as including control variables to minimize selection effects on key variables. We also limited our sample to fathers who did not specify that they lacked access to leave. Although we are not able to fully eliminate selection and endogeneity issues, utilizing children's reports of father-child relationships as well as examining longitudinal associations between paternity leave-taking and father-child relationships in the U.S. provide important contributions to the literature.

Third, although we theorize that the associations between paternity leave-taking and father-child relationship quality may be due, in part, to the processes of developing paternal sensitivity and secure attachments, these data do not contain information on these processes. Future research should focus on the specific family processes that occur during periods of leave to better understand how fathers utilize their time while on leave and what consequences this may have for families.

Practice Implications

The findings of this study have implications for families and policymakers who aim to strengthen families and promote responsible fatherhood. Most notably, it is important to revisit the context of leave-taking in the U.S. The current structure of paternity leave in the United States provides limited opportunities for fathers to take leave and, in fact, often deters fathers from taking leave (Albiston & O'Connor, 2016; Williams et al., 2013). Furthermore, access and ability to take leave is often limited to high-SES families (Klerman et al., 2012; Winston, 2014). Thus, a lack of a national paid family leave policy limits access to important benefits for American families. Consequently, the current structure may be exacerbating inequalities. That is, the inequalities that exist in access to leave (e.g., see McKay et al., 2016; O'Brien, 2009; Petts, Knoester, & Li, 2018) may accumulate over time such that fathers who are able to take [longer] paternity leaves may be better able to bond with infant children (perhaps helping to develop secure attachments) and have more satisfying parental relationships that then promote stronger father-child relationships compared to fathers with less access to paternity leave. Providing more equitable access to paternity leave, and encouraging fathers to take longer periods of paternity leave, may help to change these patterns and strengthen family relationships. Results from this study suggest that there are long-term benefits of leave-taking for families even if this leave is

relatively short compared to countries with more generous leave policies. Consistent with research in other cultural contexts, implementing even short periods of [paid] leave can provide important benefits to families (Pailhé et al., 2018).

Conclusion

Overall, this study is the first to assess the associations between paternity leave-taking and children's perceptions of father-child relationship quality in the U.S. The study is also novel in its focus on disadvantaged families, its use of longitudinal data, and its consideration of children's reports of relationships with fathers. Results suggest that paternity leave-taking, and especially relatively long leave-taking, is positively associated with children's satisfaction with father involvement, their feelings of father-child closeness, and the quality of father-child communication– and these associations are at least partially explained by father engagement, parental relationship satisfaction, and father identities. Future work should further examine the consequences of parental leave-taking for families within the U.S. and seek to consider whether and how expansions of family leave opportunities may matter to American families.

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Table 1. Summary Statistics

	M or %	*SD*	*Min*	*Max*	*M or % (no leave)*	*M or % (one week)*	*M or % (2 weeks or more)*
Paternity leave-taking (W2)							
No leave	20%	-	0	1	-	-	-
One week	59%	-	0	1	-	-	-
2 weeks or more	21%	-	0	1	-	-	-
Dependent variables (W5)							
Father involvement	1.57	1.15	0	3	1.30	1.93[a]	2.08[a]
Father-child closeness	2.25	1.10	0	3	1.96	2.28[a]	2.43[ab]
Father-child communication	0.00	0.81	-1.42	1.20	-0.19	0.01[a]	0.15[ab]
Mediating variables (W4)							
Father engagement	3.42	1.66	0	7	3.07	3.44[a]	3.70[ab]
Coparenting support	2.75	0.34	1	3	2.66	2.75[a]	2.79[a]
Relationship satisfaction	3.47	1.30	1	5	3.06	3.49[a]	3.76[ab]
"Good Father" identity	1.21	0.77	0	2	1.07	1.23[a]	1.29[a]
Controls (W1)							
Mother age	25.95	6.06	16	44	24.68	25.96[a]	27.08[ab]
Father age	28.41	7.13	16	57	27.76	28.46	28.87
Mother is white*	30%	-	0	1	15%	0.31[a]	0.41[ab]
Mother is black	43%	-	0	1	67%	0.40[a]	0.31[ab]
Mother is latina	23%	-	0	1	16%	0.25[a]	0.22
Mother is other race/ethnicity	4%	-	0	1	2%	0.04	0.06[a]
Father is white*	27%	-	0	1	10%	0.28[a]	0.40[ab]
Father is black	45%	-	0	1	67%	0.42[a]	0.34[ab]
Father is latino	24%	-	0	1	19%	0.26[a]	0.21
Father is other race/ethnicity	4%	-	0	1	3%	0.04	0.05
Mother education	2.37	1.03	1	4	2.07	2.35[a]	2.71[ab]
Father education	2.33	1.00	1	4	2.08	2.30[a]	2.66[ab]
Father income	3.35	2.19	0	8	2.69	3.48[a]	3.96[ab]
Mother income	2.04	2.07	0	8	1.77	1.94	2.62[ab]
Mother does not work	34%	-	0	1	34%	36%	28%[b]
Mother works part-time	21%	-	0	1	19%	22%	21%
Mother works full-time*	45%	-	0	1	47%	42%	51%[b]
Father works part-time	11%	-	0	1	16%	9%[a]	10%[a]
Father works full-time*	89%	-	0	1	83%	90%[a]	89%[a]
Professional occupation*	17%	-	0	1	11%	16%[a]	25%[ab]
Labor occupation	49%	-	0	1	53%	51%	39%[ab]
Sales occupation	8%	-	0	1	7%	10%	6%[b]
Service occupation	24%	-	0	1	28%	21%[a]	26%
Other occupation	2%	-	0	1	1%	1%	3%[a]
Married*	35%	-	0	1	17%	36%[a]	50%[ab]
Cohabiting	40%	-	0	1	41%	41%	34%[a]
Nonresident father	25%	-	0	1	42%	23%[a]	16%[ab]
Number of other children	1.03	1.20	0	5	1.37	1.01[a]	0.78[ab]
Religious participation	1.95	1.35	0	4	1.83	1.98	1.99
Child is male	51%	-	0	1	52%	51%	52%
Child age (W5)	9.30	0.31	8.83	11.08	9.30	9.31	9.30
First child	42%	-	0	1	34%	43%[a]	46%[a]
Father did not establish paternity	14%	-	0	1	27%	12%[a]	7%[ab]
Positive father attitudes	3.77	0.39	1	4	3.75	3.76	3.84[ab]
Traditional gender attitudes	37%	-	0	1	35%	39%	31%[b]
Engaged father attitudes	66%	-	0	1	64%	66%	70%
Mother's health	2.96	0.91	0	4	2.87	2.92	3.15[ab]
N		1319			262	774	283

*Used as reference category. [a]Indicates significant difference from no leave. [b]Indicates significant difference from one week of leave. Significant differences determined by two-tailed *t*-tests ($p < .05$)

Table 2. Associations between Paternity Leave-Taking and Children's Perceptions of Father-Child Relationship Quality

	Father Involvement				Father-Child Closeness				Father-Child Communication			
	Regression Model		Selection Model		Regression Model		Selection Model		Regression Model		Selection Model	
Variable	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Paternity leave-taking												
One week	0.31*	0.14	0.16	0.09	0.33*	0.15	0.19*	0.09	0.11	0.06	0.04	0.06
2 or more weeks	0.37*	0.17	0.22*	0.11	0.49**	0.19	0.29**	0.10	0.21**	0.07	0.19*	0.08

N = 1319. Generalized ordered logistic regression is used to predict father involvement and father-child closeness; OLS regression is used to predict father-child communication. Each model controls for age (mother and father), race/ethnicity (mother and father), education (mother and father), income (mother and father), hours worked (mother and father), father occupation, parental relationship and resident status, father's religious participation, number of other children, whether father established paternity at birth, father attitudes (positive father attitudes, traditional gender attitudes, and engaged father attitudes), child gender, child age, and mother's self-reported health at birth. Full results from regression models can be found in the supplementary materials.
*p < .05. **p < .01. ***p < .001.

Table 3. Mediation Analyses of Paternity Leave-Taking and Father-child Relationship Quality using the KHB Method

	Father Involvement			Father-Child Closeness			Father-Child Communication		
Variable	*b*	*SE*	Mediation Effect (%)	*b*	*SE*	Mediation %	*b*	*SE*	Mediation Effect (%)
One week of leave									
Total Effect	0.36*	0.14	-	0.36*	0.15	-	0.11	0.06	-
Direct Effect	0.27	0.14	-	0.26	0.15	-	0.07	0.06	-
Indirect Effect	0.09	0.07	24.20%	0.10	0.08	27.06%	0.04	0.03	36.53%
Father Engagement	0.03	0.03	8.04%	0.03	0.03	9.10%	0.01	0.01	11.08%
Coparenting Support	-0.01	0.01	-2.30%	-0.01	0.01	-3.07%	-0.00	0.00	-1.03%
Relationship Satisfaction	0.03	0.02	7.66%	0.04	0.03	10.24%	0.01	0.01	12.59%
"Good Father" Identity	0.04*	0.02	10.79%	0.04*	0.02	10.78%	0.02*	0.01	15.48%
Two or more weeks of leave									
Total Effect	0.40*	0.17	-	0.54**	0.19	-	0.20**	0.07	-
Direct Effect	0.25	0.17	-	0.37*	0.19	-	0.14	0.07	33.06%
Indirect Effect via:	0.15*	0.07	36.97%	0.17*	0.08	30.70%	0.07*	0.03	33.06%
Father Engagement	0.06*	0.04	15.22%	0.07*	0.04	12.52%	0.02*	0.01	11.08%
Coparenting Support	-0.01	0.01	-3.48%	-0.02	0.02	-3.37%	-0.00	0.01	-0.93%
Relationship Satisfaction	0.05*	0.03	13.18%	0.07*	0.03	12.80%	0.03*	0.01	12.59%
"Good Father" Identity	0.05*	0.02	12.05%	0.05*	0.02	8.76%	0.02*	0.01	10.33%

N = 1319. Ordered logistic regression is used to predict father involvement and father-child closeness; OLS regression is used to predict father-child communication. Each model controls for age (mother and father), race/ethnicity (mother and father), education (mother and father), income (mother and father), hours worked (mother and father), father occupation, parental relationship and resident status, father's religious participation, number of other children, whether father established paternity at birth, father attitudes (positive father attitudes, traditional gender attitudes, and engaged father attitudes), child gender, child age, and mother's self-reported health at birth.
*p < .05. **p < .01. ***p < .001.